COURSE ON FINANCE IN THE GREEN ECONOMY SECTOR

Activity 1.5.3

This publication on finance in the green economy sector is designed for a targeted audience of public and private financiers, public authorities, green enterprises and green and social project developers. It aims at enhancing knowledge and understanding of different concepts, evolutions and trends of the green economy with a particular focus on improving green finance in the partner regions of the GIMED project.

About the project

Green Impact MED - Positive Investments for Positive Impacts (GIMED) is a project funded by the ENI CBC Mediterranean Sea Basin Programme. The project has a budget of 2.6 million euros of which 90% (2.3 million) is EU contribution. For more information on the project visit: www.enicbcmed.eu/projects/gimed

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This publication has been produced with the financial assistance of the European Union under the ENI CBC Mediterranean Sea Basin Programme. The contents of this document are the sole responsibility of GIMED partners and can under no circumstances be regarded as reflecting the position of the European Union or the Programme management structures.

GIMED Project Partnerhip :

SUMMARY

BRICK 1: GLOBAL SCENARIOS

1. FUTURE WORLD CLIMATE SCENARIOS

Climate Change is the defining issue of our time and we are at a defining moment. From shifting weather patterns that threaten food production, to rising sea levels that increase the risk of catastrophic flooding, the impacts of climate change are global in scope and unprecedented in scale. Without drastic action today, adapting to these impacts in the future will be more difficult and costly.

"Each degree matters, each year matters, and each decision matters: not acting today is adding to the burden of the next generations (…). Limiting global warming to 1.5°C is not impossible but requires strong and immediate policies" Valérie Masson-Delmotte, Co-chair of the IPCC's WG I, 08/10/2018

Greenhouse gases occur naturally and are essential to the survival of humans and millions of other living things, by keeping some of the sun's warmth from reflecting into space and making Earth liveable. But after more than a century and a half of industrialization, deforestation, and large-scale agriculture, quantities of greenhouse gases in the atmosphere have risen to record levels not seen in three million years. As populations, economies and standards of living grow, so does the cumulative level of greenhouse gas (GHGs) emissions.

There are some basic well-established scientific links and evidences:

- The concentration of GHGs in the earth's atmosphere is directly linked to the average global temperature on Earth.
- The concentration has been rising steadily, and mean global temperatures along with it, since the time of the Industrial Revolution.
- The most abundant GHG, accounting for about two-thirds of GHGs, carbon dioxide (CO2), is largely the product of burning fossil fuels.

Even if one could immediately stop all CO2 emissions the global temperature would stabilize but NOT DECLINE. It takes centuries to millennia for the CO2 already present in the atmosphere to be removed by natural processes. THEREFORE, in order to bring global temperature back down to what is was in pre-industrial times, CO2 must be ACTIVELY removed from the atmosphere. IF the objective is to reach the limit of 1.5°C to global warming, CO2 emissions MUST be reduced to ZERO over the next few decades through LARGE, SUSTAINED emission reduction efforts across all global regions and economic sectors.

1.1 The UN Intergovernmental Panel on Climate Change (IPCC)

The IPCC is the leading world body for assessing the science related to climate change, its impacts and potential future risks, and possible response options. It is composed by IPCC working groups. Working Group I assesses the physical science basis of climate change; Working Group II addresses impacts, adaptation and vulnerability; and Working Group III deals with the mitigation of climate change. IPCC Assessment Reports consist of contributions from each of the three working groups and a Synthesis Report. Special Reports undertake an assessment of cross-disciplinary issues that span more than one working group and are shorter and more focused than the main assessments.

The Intergovernmental Panel on Climate Change (IPCC) was set up in 1988 by the World Meteorological Organization (WMO) and United Nations Environment to provide an objective source of scientific information. In 2013 the IPCC provided more clarity about the role of human activities in climate change when it released its Fifth Assessment Report AR5. It is categorical in its conclusion: climate change is real and human activities are the main cause. For the first time it gave alarming evidence that important

tipping points, leading to irreversible changes in major ecosystems and the planetary climate system, may already have been reached or passed. Ecosystems as diverse as the Amazon rainforest and the Arctic tundra, may be approaching thresholds of dramatic change through warming and drying. Mountain glaciers are in alarming retreat and the downstream effects of reduced water supply in the driest months will have repercussions that transcend generations.

On October 2018 the IPCC issued a special report on the impacts of global warming of 1.5°C, finding that limiting global warming to 1.5°C would require rapid, far-reaching and unprecedented changes in all aspects of society. While previous estimates focused on estimating the damage if average temperatures were to rise by 2°C, this report shows that many of the adverse impacts of climate change will come at the 1.5°C mark.

The report finds that limiting global warming to 1.5°C would require "rapid and far-reaching" transitions in land, energy, industry, buildings, transport, and cities. Global net human-caused emissions of carbon dioxide (CO2) would need to fall by about 45 percent from 2010 levels by 2030, reaching 'net zero' around 2050. This means that any remaining emissions would need to be balanced by removing CO2 from the air.

In 2018, IPCC highlighted the unprecedented scale of the challenge required to keep warming to 1.5°C. Five years later, that challenge has become even greater due to a continued increase in greenhouse gas emissions. The pace and scale of what has been done so far, and current plans, are insufficient to tackle climate change. More than a century of burning fossil fuels as well as unequal and unsustainable energy and land use has led to global warming of 1.1°C above pre-industrial levels. This has resulted in more frequent and more intense extreme weather events that have caused increasingly dangerous impacts on nature and people in every region of the world. Every increment of warming results in rapidly escalating hazards. More intense heatwaves, heavier rainfall and other weather extremes further increase risks for human health and ecosystems. In every region, people are dying from extreme heat. Climate-driven food and water insecurity is expected to increase with increased warming. When the risks combine with other adverse events, such as pandemics or conflicts, they become even more difficult to manage. Climate resilient development becomes progressively more challenging with every increment of warming. This is why the choices made in the next few years will play a critical role in deciding our future and that of generations to come.

1.2 United Nations legal instruments

United Nations Framework Convention on Climate Change

The UN is at the forefront of the effort to combat global warming and climate change. In 1992, its "Earth Summit" produced the United Nations Framework Convention on Climate Change (UNFCCC) as a first step in addressing the climate change problem. Today, 197 countries that have ratified the Convention are Parties to the Convention. The aim of the Convention is to prevent "dangerous" human interference with the climate system.

Kyoto Protocol

By 1995 the UNFCCC signing countries launched negotiations to strengthen the global response to climate change, and, two years later, adopted the Kyoto Protocol. The Kyoto Protocol legally binds developed country Parties to emission reduction targets. The Protocol's first commitment period started in 2008 and ended in 2012. The second commitment period began on 1 January 2013 and will end in 2020. There are now 197 Parties to the Convention and 192 Parties to the Kyoto Protocol.

United Nation Sustainable Development Goals are a universal call to action to end poverty, protect the planet and improve the lives and prospects of everyone, everywhere. The 17 Goals were adopted by all

UN Member States in 2015, as part of the 2030 Agenda for Sustainable Development which set out a 15-year plan to achieve the Goals. SDG 13 is specifically about Climate action.

Paris Agreement

At the 21st Conference of the Parties in Paris in 2015, Parties to the UNFCCC reached a landmark agreement to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future. The Paris Agreement builds upon the Convention and – for the first time – brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping the global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. There are now 186 countries that have ratified the Paris Agreement.

On 12 December 2015, 196 Parties/Nations to the UN Framework Convention on Climate Change (UNFCCC) adopted the Paris Agreement, a new LEGALLY-BINDING framework for an internationally coordinated effort to tackle climate change. The agreement establishes a global warming goal well below 2°C on pre-industrial averages. It establishes the OBLIGATION of all Parties to contribute to Climate Change mitigation and adaptation. All countries will develop voluntary plans (National Determined Contributions NDC's) on how to contribute to climate mitigation. It recognizes the different starting points and responsibilities of countries meaning that developed countries have to take the lead and support actions taken by developing counties. The agreement foresees a process that evaluates the progress of individual parties. It stresses the significant role of public funds in climate finance, with an ongoing mobilization goal of USD 100 billion/year.

Further achievements at the last Conferences of the parties:

Coop 26 -2021: 4 key achievements

- **adaptation** to the impacts of climate change, which is now deemed to be equally important as reducing emissions. Following COP26, a work programme exists to define the global goal on adaptation, which will help address the climate impacts already happening in all regions of the world
- on the critical issue of **finance**, governments at COP26 agreed on the need for much greater support to developing countries
- on the urgent issue of **bringing down emissions**, the collective agreement by governments to explore ways of increasing actions to close the current emissions gap
- the **finalization of guidelines** for the full implementation of the Paris Agreement; the compromise reached on Article Six relating to carbon markets, which will ensure a level playing field for everyone; and the finalization of negotiations on the Enhanced Transparency Framework, which allows countries to continue building trust.

Coop 27-2022

- The United Nations Climate Change Conference COP27 closed with a breakthrough agreement to provide "loss and damage" funding for vulnerable countries hit hard by climate disasters. This determined a way forward on how to address the impacts on communities whose lives and livelihoods have been ruined by the very worst impacts of climate change.

1.3 New findings from the 2023 IPCC Report (Sixth Assessment Report - AR6)

Global warming will continue to increase in the near term (2021-2040) mainly due to increased cumulative CO2 emissions in nearly all considered scenarios and modelled pathways. In the near term, global warming is more likely than not to reach 1.5°C even under the very low GHG emission scenario (SSP1-1.9) and likely or very likely to exceed 1.5°C under higher emissions scenarios. In the considered scenarios and modelled pathways, the best estimates of the time when the level of global warming of 1.5°C is reached lie in the near term. Global warming declines back to below 1.5°C by the end of the 21st century in some scenarios and modelled pathways. The assessed climate response to GHG emissions scenarios results in a best estimate of warming for 2081–2100 that spans a range from 1.4°C for a very low GHG emissions scenario (SSP1-1.9) to 2.7°C for an intermediate GHG emissions scenario (SSP2-4.5) and 4.4°C for a very high GHG emissions scenario (SSP5-8.5), with narrower uncertainty ranges than for corresponding scenarios in the previous Assessment Report (AR5).

Risks and projected adverse impacts and related losses and damages from climate change will escalate with every increment of global warming (very high confidence). They are higher for global warming of 1.5°C than at present, and even higher at 2°C (high confidence). Compared to the AR5, global aggregated risk levels (Reasons for Concern) are assessed to become high to very high at lower levels of global warming due to recent evidence of observed impacts, improved process understanding, and new knowledge on exposure and vulnerability of human and natural systems, including limits to adaptation (high confidence). Due to unavoidable sea level rise, risks for coastal ecosystems, people and infrastructure will continue to increase beyond 2100 (high confidence).

With additional global warming, limits to adaptation and losses and damages, strongly concentrated among vulnerable populations, will become increasingly difficult to avoid (high confidence). Above 1.5°C of global warming, limited freshwater resources pose potential hard adaptation limits for small islands and for regions dependent on glacier and snow melt (medium confidence). Above that level, ecosystems such as some warm-water coral reefs, coastal wetlands, rainforests, and polar and mountain ecosystems will have reached or surpassed hard adaptation limits and as a consequence, some Ecosystem-based Adaptation measures will also lose their effectiveness (high confidence).

Evidence of observed adverse impacts and related losses and damages, projected risks, levels and trends in vulnerability and adaptation limits, demonstrate that worldwide climate resilient development action is more urgent than previously assessed in AR5. Climate resilient development integrates adaptation and GHG mitigation to advance sustainable development for all. Climate resilient development pathways have been constrained by past development, emissions and climate change and are progressively constrained by every increment of warming, in particular beyond 1.5°C. (very high confidence).

Government actions at sub-national, national and international levels, with civil society and the private sector, play a crucial role in enabling and accelerating shifts in development pathways towards sustainability and climate resilient development (very high confidence). Climate resilient development is enabled when governments, civil society and the private sector make inclusive development choices that prioritize risk reduction, equity and justice, and when decision-making processes, finance and actions are integrated across governance levels, sectors, and timeframes (very high confidence). Enabling conditions are differentiated by national, regional and local circumstances and geographies, according to capabilities, and include: political commitment and follow-through, coordinated policies, social and international cooperation, ecosystem stewardship, inclusive governance, knowledge diversity, technological innovation, monitoring and evaluation, and improved access to adequate financial resources, especially for vulnerable regions, sectors and communities (high confidence).

Deep, rapid, and sustained mitigation and accelerated implementation of adaptation actions in this decade would reduce future losses and damages related to climate change for humans and ecosystems (very high confidence). As adaptation options often have long implementation times, accelerated implementation of adaptation in this decade is important to close adaptation gaps (high confidence). Comprehensive, effective, and innovative responses integrating adaptation and mitigation can harness synergies and reduce trade-offs between adaptation and mitigation (high confidence).

Adaptation and mitigation actions, that prioritise equity, social justice, climate justice, rights-based approaches, and inclusivity, lead to more sustainable outcomes, reduce trade-offs, support transformative change and advance climate resilient development. Redistributive policies across sectors and regions that shield the poor and vulnerable, social safety nets, equity, inclusion and just transitions, at all scales can enable deeper societal ambitions and resolve trade-offs with sustainable development goals. Attention to equity and broad and meaningful participation of all relevant actors in decision making at all scales can build social trust which builds on equitable sharing of benefits and burdens of mitigation that deepen and widen support for transformative changes (high confidence).

There is sufficient global capital and liquidity to close global investment gaps, given the size of the global financial system, but there are barriers to redirect capital to climate action both within and outside the global financial sector and in the context of economic vulnerabilities and indebtedness facing developing countries. Reducing financing barriers for scaling up financial flows would require clear signalling and support by governments, including a stronger alignment of public finances in order to lower real and perceived regulatory, cost and market barriers and risks and improving the risk-return profile of investments. At the same time, depending on national contexts, financial actors, including investors, financial intermediaries, central banks and financial regulators can shift the systemic underpricing of climate-related risks, and reduce sectoral and regional mismatches between available capital and investment needs.

Here you can download the Summary for policy makers.

1.4 Projected climate change, potential impacts and associated risks

The IPCC, in its several researches, states that the global climate has changed relative to the pre-industrial period, and there are multiple lines of evidence that these changes have had impacts on organisms and ecosystems, as well as on human systems and well-being. The increase in global mean surface temperature (GMST), which reached 0.87°C in 2006–2015 relative to 1850–1900, has increased the frequency and magnitude of impacts, strengthening evidence of how an increase in GMST of 1.5°C or more could impact natural and human systems (1.5°C versus 2°C or more).

Human-induced global warming has already caused multiple observed changes in the climate system. Changes include increases in both land and ocean temperatures, as well as more frequent heatwaves in most land regions. Global warming has resulted in an increase in the frequency and duration of marine heatwaves. Further, there is substantial evidence that human-induced global warming has led to an increase in the frequency, intensity and/or amount of heavy precipitation events at the global scale, as well as **an increased risk of drought in the Mediterranean region.**

There is no single 1.5°C warmer world. Overshooting poses large risks for natural and human systems, especially if the temperature at peak warming is high, because some risks may be long-lasting and irreversible. The strongest warming of hot extremes is projected to occur in central and eastern North America, central and southern Europe, **the Mediterranean region**. Limiting global warming to 1.5°C instead of 2°C could result in around 420 million fewer people being frequently exposed to extreme heatwaves, and about 65 million fewer people being exposed to exceptional heatwaves. Limiting global warming to 1.5°C is expected to substantially reduce the probability of extreme drought, precipitation

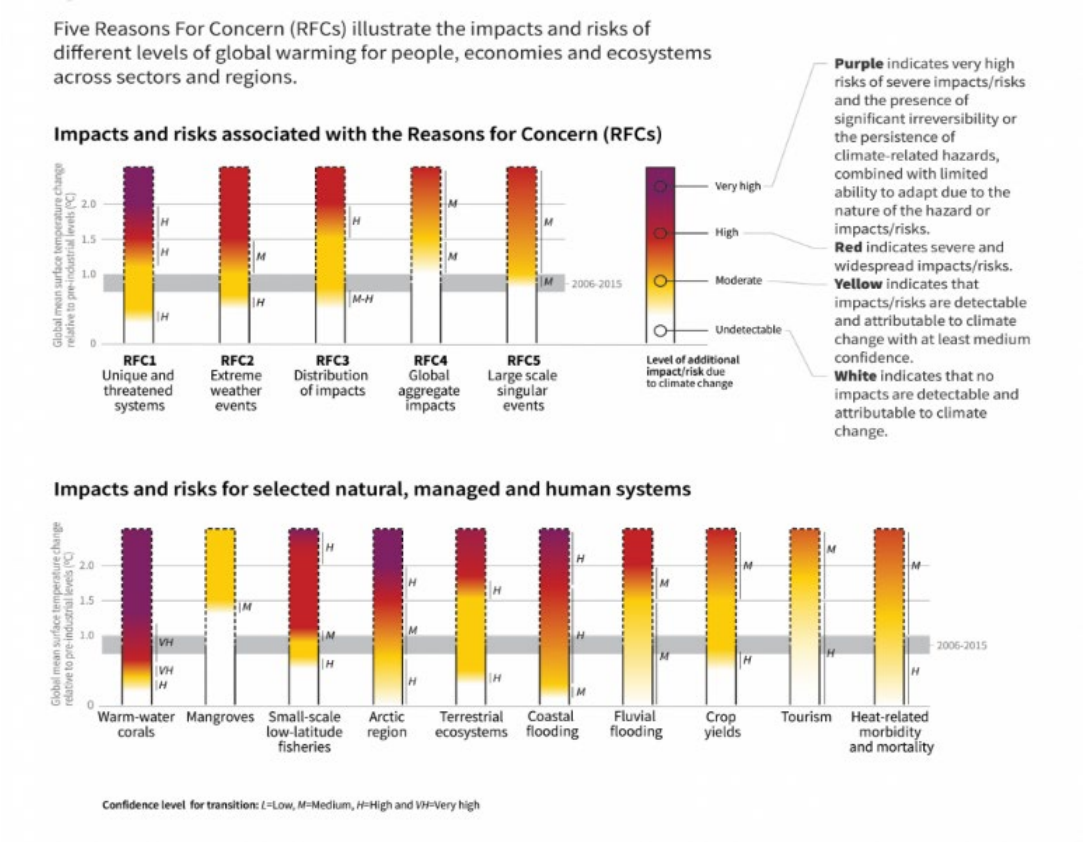
deficits, and risks associated with water availability (i.e., water stress) in some regions. Risks to natural and human systems are expected to be lower at 1.5°C than at 2°C of global warming. Lower rates of change enhance the ability of natural and human systems to adapt, with substantial benefits for a wide range of terrestrial, freshwater, wetland, coastal and ocean ecosystems, as well as food production systems, human health, and tourism.

The ocean has absorbed about 30% of the anthropogenic carbon dioxide, resulting in ocean acidification and changes to carbonate chemistry that are unprecedented for at least the last 65 million years. There are multiple lines of evidence that ocean warming and acidification corresponding to 1.5°C of global warming would impact a wide range of marine organisms and ecosystems, as well as sectors such as aquaculture and fisheries. Risks of local species losses and, consequently, risks of extinction are much less in a 1.5°C versus a 2°C warmer world.

Risks associated with other biodiversity-related factors, such as forest fires, extreme weather events, and the spread of invasive species, pests and diseases, would also be lower at 1.5°C than at 2°C of warming. Risks of water scarcity are projected to be greater at 2°C than at 1.5°C of global warming in some regions. Depending on future socio-economic conditions, limiting global warming to 1.5°C, compared to 2°C, may reduce the proportion of the world population exposed to a climate change-induced increase in water stress by up to 50%.

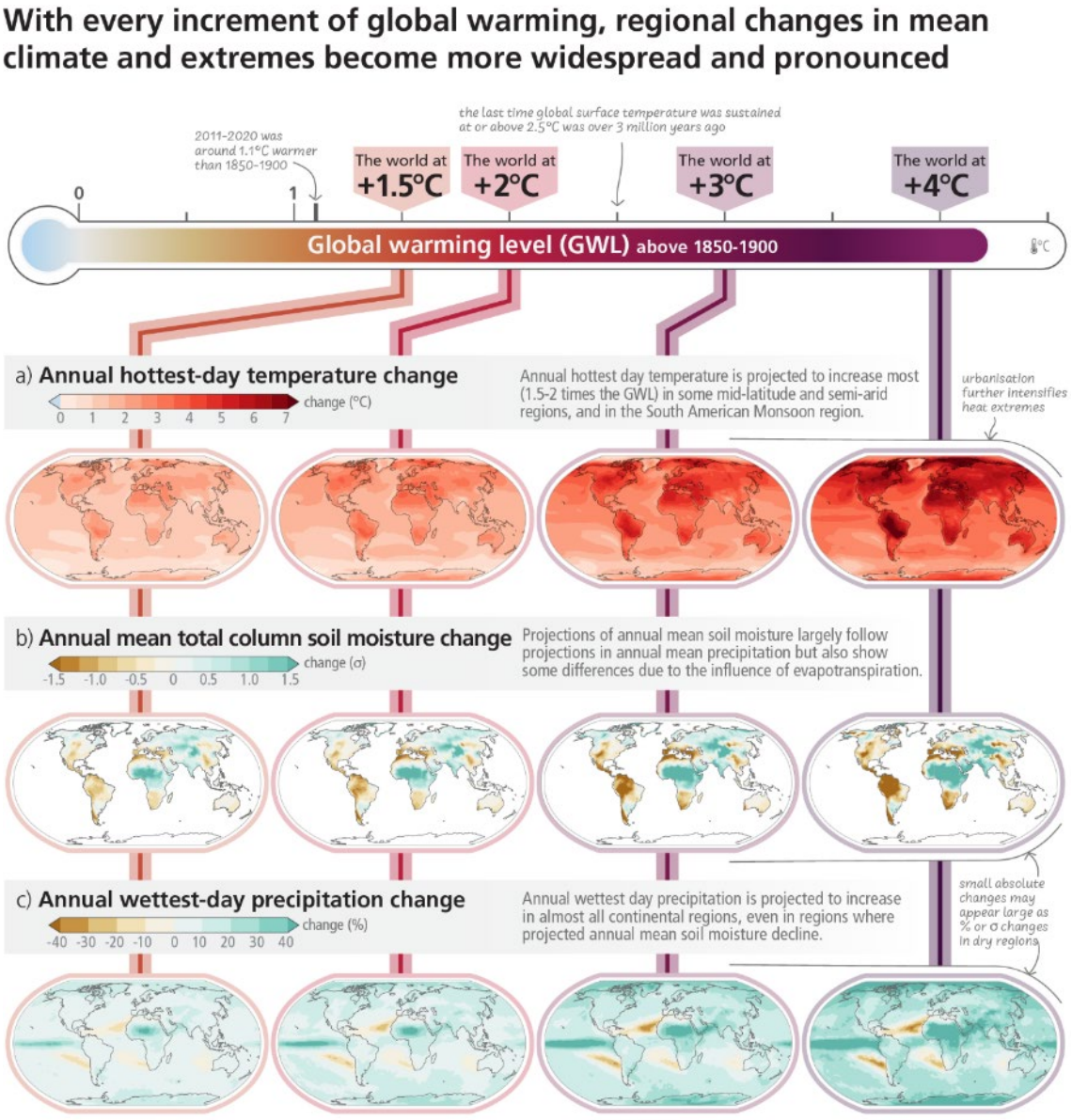
Poverty and disadvantage have increased with recent warming (about 1°C) and are expected to increase for many populations as average global temperatures increase from 1°C to 1.5°C and higher. Outmigration in agricultural- dependent communities is positively and statistically significantly associated with global temperature. Risks to global aggregated economic growth due to climate change impacts are projected to be lower at 1.5°C than at 2°C by the end of this century. The largest reductions in economic growth at 2°C compared to 1.5°C of warming are projected for low- and middle-income countries and regions (the African continent, Southeast Asia, India, Brazil and Mexico). Countries in the tropics and Southern Hemisphere subtropics are projected to experience the largest impacts on economic growth due to climate change should global warming increase from 1.5°C to 2°C. Impacts associated with sea level rise and changes to the salinity of coastal groundwater, increased flooding and damage to infrastructure, are projected to be critically important in vulnerable environments, such as small islands, low-lying coasts and deltas, at global warming of 1.5°C and 2°C.

The following figure from the IPCC special report on the impacts of global warming of 1.5 °C (SR15, figure SPM.2) shows how the level of global warming affects impacts and/or risks associated with the Reasons for Concern (RFCs) and selected natural, managed and human systems



Source: IPCC, SR15, figure SPM.2

The following figure from AR6 shows the projected changes of annual maximum daily temperature, annual mean total column soil moisture and annual maximum 1-day precipitation at global warming levels of 1.5 °C, 2 °C, 3 °C and 4 °C relative to 1850-1900.



Source: IPCC, AR6, figure SPM.2

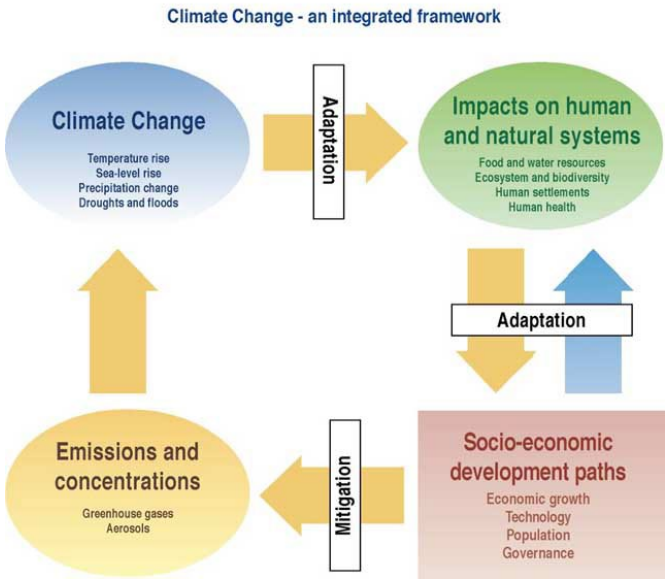
1.5 Mitigation and Adaptation pathways to CO_2 Neutrality

Climate change is one of the most complex issues facing us today. It involves many dimensions – science, economics, society, politics and moral and ethical questions – and is a global problem, felt on local scales, that will be around for decades and centuries to come. Carbon dioxide, the heat-trapping greenhouse gas that has driven recent global warming, lingers in the atmosphere for hundreds of years, and the planet (especially the oceans) takes a while to respond to warming. So even if we stopped emitting all greenhouse gases today, global warming and climate change will continue to affect future generations. In this way, humanity is "committed" to some level of climate change.

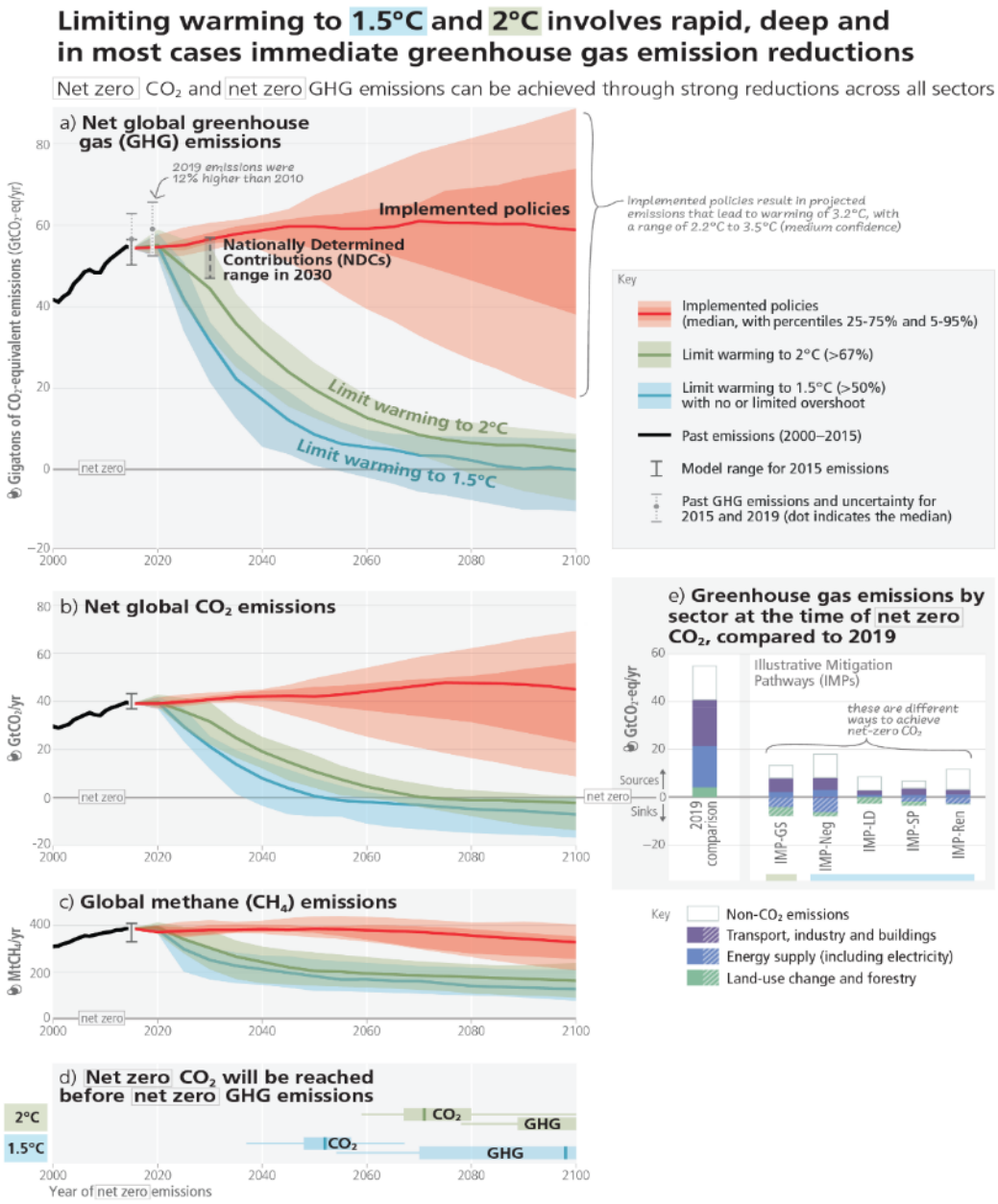
How much climate change? That will be determined by how our emissions continue and exactly how our climate system responds to those emissions. Despite increasing awareness of climate change, our emissions of greenhouse gases continue a relentless rise. Because we are already committed to some level of climate change, responding to climate change involves a two-pronged approach:

Mitigation – reducing climate change – involves reducing the flow of heat-trapping greenhouse gases into the atmosphere, either by reducing sources of these gases (for example, the burning of fossil fuels for electricity, heat or transport) or enhancing the "sinks" that accumulate and store these gases (such as the oceans, forests and soil). The goal of mitigation is to avoid significant human interference with the climate system, and stabilize greenhouse gas levels in a timeframe sufficient to allow ecosystems to adapt naturally to climate change, ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

Adaptation – adapting to life in a changing climate – involves adjusting to actual or expected future climate. The goal is to reduce our vulnerability to the harmful effects of climate change (like sea-level encroachment, more intense extreme weather events or food insecurity). It also encompasses making the most of any potential beneficial opportunities associated with climate change (for example, longer growing seasons or increased yields in some regions). Adapting to the effects of climate change, and reducing vulnerabilities to it, can support sustainable development. It can ensure food and water security, lower the risks of disasters, improve health and reduce poverty and inequality. Adaptation measures that also lower emissions, such as low-carbon buildings that are efficiently cooled, can help sectors go green at a lower cost. Throughout history, people and societies have adjusted to and coped with changes in climate and extremes with varying degrees of success. Climate change (drought in particular) has been at least partly responsible for the rise and fall of civilizations. Earth's climate has been relatively stable for the past 12,000 years and this stability has been crucial for the development of our modern civilization and life as we know it. Modern life is tailored to the stable climate we have become accustomed to. As our climate changes, we will have to learn to adapt. The faster the climate changes, the harder it could be.



The following figure from the IPCC AR6 shows global emissions pathways consistent with implemented policies and mitigation strategies:



Source: IPCC, AR6, figure SPM.5

Panel (a), (b) and (c) show the development of global GHG, CO2 and methane emissions in modelled pathways, while panel (d) shows the associated timing of when GHG and CO2 emissions reach net zero. The red ranges depict emissions pathways assuming policies that were implemented by the end of 2020. Ranges of modelled pathways that limit warming to 1.5°C (>50%) with no or limited overshoot are shown in light blue (category C1) and pathways that limit warming to 2°C (>67%) are shown in green (category

C3). Panel (e) shows the sectoral contributions of CO2 and non-CO2 emissions sources and sinks at the time when net zero CO2 emissions are reached in illustrative mitigation pathways (IMPs).

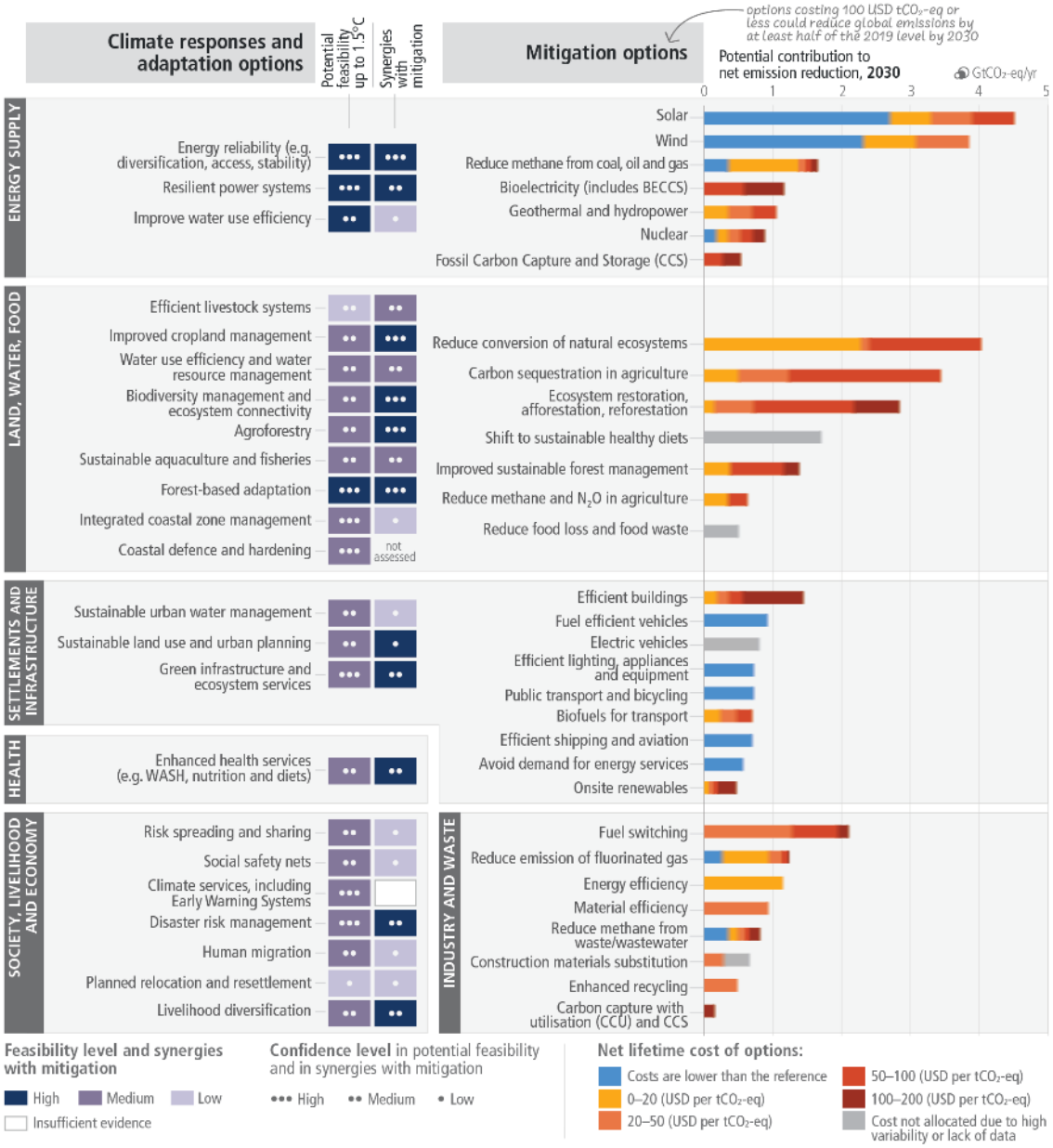
The AR6 report by IFCC also states that “Rapid and far-reaching transitions across all sectors and systems are necessary to achieve deep and sustained emissions reductions and secure a liveable and sustainable future for all. These system transitions involve a significant upscaling of a wide portfolio of mitigation and adaptation options. Feasible, effective, and low-cost options for mitigation and adaptation are already available, with differences across systems and regions. (high confidence)”.

In the following figure the IPCC presents selected mitigation and adaptation options across different systems (panel a). The left hand side of panel a shows climate responses and adaptation options assessed for their multidimensional feasibility at global scale, in the near term and up to 1.5°C global warming. As literature above 1.5°C is limited, feasibility at higher levels of warming may change, which is currently not possible to assess robustly. The term response is used here in addition to adaptation because some responses, such as migration, relocation and resettlement may or may not be considered to be adaptation. Forest based adaptation includes sustainable forest management, forest conservation and restoration, reforestation and afforestation. WASH refers to water, sanitation and hygiene. Six feasibility dimensions (economic, technological, institutional, social, environmental and geophysical) were used to calculate the potential feasibility of climate responses and adaptation options, along with their synergies with mitigation. For potential feasibility and feasibility dimensions, the figure shows high, medium, or low feasibility. Synergies with mitigation are identified as high, medium, and low. The right hand side of Panel a provides an overview of selected mitigation options and their estimated costs and potentials in 2030.

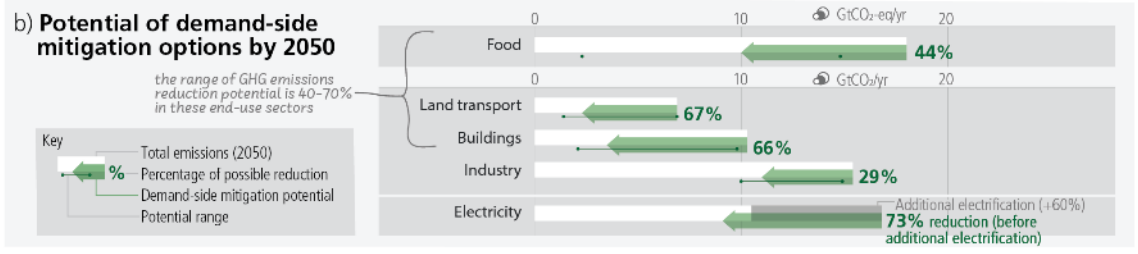
Panel (b) displays the indicative potential of demand-side mitigation options for 2050. Potentials are estimated based on approximately 500 bottom-up studies representing all global regions.

There are multiple opportunities for scaling up climate action

a) **Feasibility of climate responses and adaptation, and potential of mitigation options in the near-term**



b) **Potential of demand-side mitigation options by 2050**



Source: IPCC, AR6, figure SPM.7

1.6 Action to combat climate change and financial requirements for the 1.5°C goal

To keep to 1.5C, CO2 emissions would have to decline by about 45% between 2010 and 2030 and hit net zero in 2050. That's significantly faster than what is needed for 2C – a reduction of around 20% by 2030 and net zero by 2075.

Methane and black carbon, both more potent greenhouse gases, will need to be cut by at least 35% by 2050, compared to 2010. But cuts in non-CO2 emissions must be made carefully. If more bioenergy is used to replace fossil fuels, it could push up climate-warming nitrous oxide pollution from agriculture.

Estimates of the carbon budget vary depending on which measure of warming you use. If you are going by the average temperature over land, it is 420Gt CO2 to give a 66% chance of staying below 1.5C. If you factor in sea surface temperatures, which are rising more slowly, it's 570Gt. Either way, we are using up the budget at a rate of 42Gt a year.

The biggest polluting industries will have to make radical changes. In energy, renewables will need to supply 70% to 85% of power by 2050. There is still room for fossil fuel generation combined with technology to catch and store CO2 emissions, but it's small: around 8% for gas and close to zero for coal by 2050.

Energy-intensive industries will have to slash their CO2 by 75% to 90% by 2050, compared to 2010, in order to stick to 1.5C. A 2C limit would require a 50% to 80% decline. This can be done with new and existing technologies that are technically proven – but they have yet to be deployed on a large scale, and are limited by costs and other constraints.

Buildings and transport will also need to shift heavily towards (newly green) electricity Buildings should use power for 55% to 75% of their total energy by mid-century, while the transport sector should boost its low-emission sources to 35% to 65% of its energy supply, from less than 5% in 2020.

There will be tough choices around how to use land. A lot of scenarios rely heavily on bioenergy and/or expansion of forests, potentially conflicting with demand for pasture and arable land. Sustainable intensification of farming and "less resource-intensive diets" – code for eating less meat – can help ease the competing pressures.

Tools to remove CO2 from the atmosphere, such as carbon capture and storage and forests, will be needed to suck out 100 to 1,000 gigatons over the century, for a 1.5C limit. If material consumption is kept in check, it minimises the need for carbon removal.

Carbon removal measures could help return temperatures to 1.5C above pre-industrial levels if the world overshoots the threshold, but they may have significant impacts on land, energy, water and nutrients if used on a large scale. Governments will have to limit the trade-offs and make sure the CO2 is removed permanently.

Directing finance towards infrastructure that lowers emissions and adapts to climate change can help meet the 1.5C goal in a way that supports sustainable development and lowers poverty. This includes private funds from institutional investors, asset managers and development or investment banks, as well as public funds. Governments can help with policies that lower the risk of investment in low-emission and adaptation projects.

Mitigating energy emissions for the 1.5C goal will require around $900 billion of investment per year between 2020 and 2050. That pushes the total investment needed for energy supply to $1.6-3.8 trillion,

and for energy demand at $700bn to $1trn over the 35 years. The investment needed is around 12% higher than for 2C.

Looking at the investment requirements, the IPCC see that large-scale financial action is needed to enable the deployment of low carbon energy systems. According to their analysis, around $2.4 trillion would need to be invested between 2020 and 2035. This would be tantamount to 2.5% of global GDP. The IPCC estimates that between 2020 and 2050, the average energy-related mitigation investment needed to stay within 1.5°C target would need to be around $900 billion per year. In its analysis, the panel considers six different pathways to reach this target, for which the investments differ within the range of $180 billion to $1,800 billion. This corresponds to total annual average energy supply investments of $1,600 billion to $3,800 billion and total annual average energy demand investments of $700 billion to $1000 billion for the period 2020 to 2050.

The IPCC estimates that this would result in a 12% hike in energy-related investments, in the range of 3% to 23%, depending on different pathways, and relative to the investments necessary for meeting the 2°C target. Furthermore, the report stipulates that the average annual investment on low-carbon and energy efficiency ought to be upscaled by a factor of four to five by 2050, compared to 2020 levels.

The report identifies that solar PV and wind have experienced “dramatic” growth trajectories and highlights the significant cost reduction of solar PV. Thus, the technology is considered a key driver and enabler of the 1.5°C target. Furthermore, especially solar PV in combination with battery systems are lauded as a cheap, easy to use and flexible energy resource. The authors laud its versatility, citing 19 million installations in Bangladesh, to demonstrate how this technology could be installed with relative ease in low-income areas and is simple enough to be used by the masses. Additionally, the IPCC sees that scientific advancements in solar PV made the technology viable for use in areas of low solar irradiation, such as north-western Europe. Growth in storage technologies is also considered a key driver of this development.

Finally, it’s difficult to quantify the finance needed for adaptation measures that fit with a 1.5C limit, and how that compares with 2C. The data on investments that boost resilience to climate change is insufficient. That said, the cost of adapting to 1.5C **WILL BY SURE** be lower than for 2°C or MORE.

BUT we are NOT on track to limit warming to 1.5°C, in fact, current emission reduction pledges made by the PARIS AGREEMENT would lead to warming of 3-4°C by the end of the century.

Global warming of 1.5°C is NOT SAFE, the physical risks and impacts, - heat waves, severe weather conditions, sea level rise, acidification of oceans, impact on human activities and on biodiversity -, will be significant. HOWEVER, these risks and impacts will be substantially higher at 2°C or more increase in global temperature. This is also underlined by the AR6.

2. PORTFOLIO RISKS DUE TO CLIMATE CHANGE AND SCARCITY OF RESOURCES

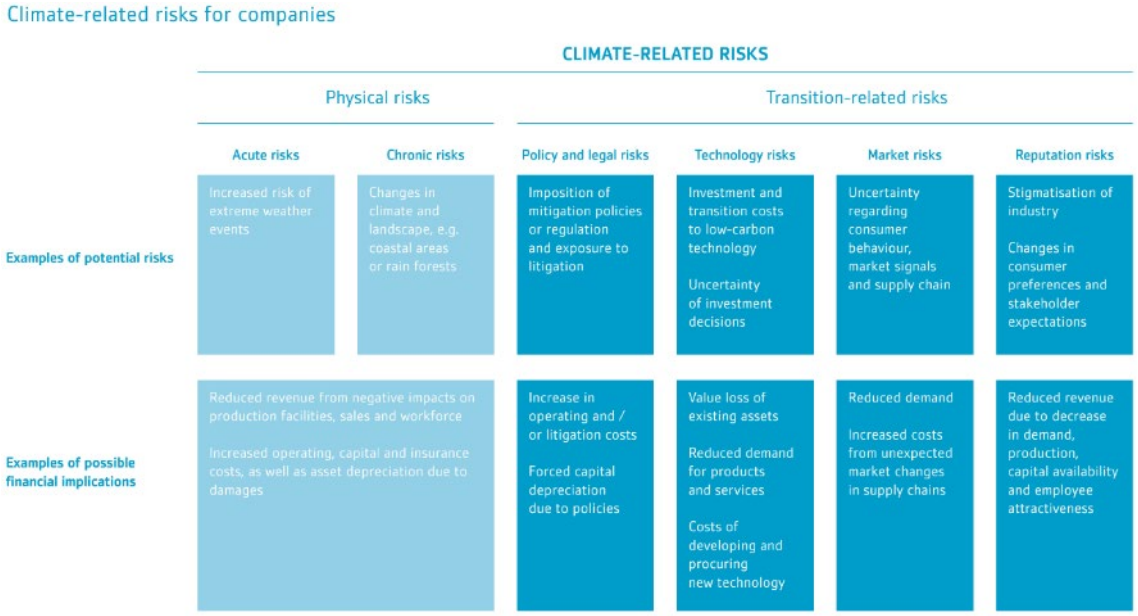
2.1 Portfolio risks due to climate change

The performance of an investment portfolio and its risk-return profile are closely linked to the value of its underlying assets. This value is increasingly affected by climate-related risks and opportunities resulting from the effects of climate change and the adaptation and mitigation measures that are taken to respond to these effects and to prevent their further intensification. For investors, the assessment of climate-

related risks and opportunities is therefore crucial, given their potential effect on a portfolio's valuation.

There are mainly two categories of **climate-related risks that may have financial implications** for a company that need to be considered in investment decisions: physical and transition-related risks. Such risks have been deeply analysed by the Taskforce on Climate-related Financial Disclosures and summarised by the Bank for International Settlements and the Swiss Sustainable Finance association:

- **Physical risks** represent the economic costs and financial losses due to increasing frequency and severity of climate-related weather events (eg storms, floods or heat waves) and the effects of long-term changes in climate patterns (eg ocean acidification, rising sea levels or changes in precipitation). For instance:
    - The destruction of capital and the decline in profitability of exposed firms could induce a reallocation of household financial wealth. For instance, rising sea levels could lead to abrupt repricing of real estate.
    - As natural catastrophes increase worldwide, non-insured losses can threaten the solvency of households, businesses and governments, and therefore financial institutions.
- **Transition risks** are associated with the uncertain financial impacts that could result from a rapid low-carbon transition, including policy changes, reputational impacts, technological breakthroughs or limitations, and shifts in market preferences and social norms.
    - In particular, a rapid and ambitious transition to lower emissions pathways means that a large fraction of proven reserves of fossil fuel cannot be extracted, becoming "stranded assets", with potentially systemic consequences for the financial system. an archetypal fire sale might result if these stranded assets suddenly lose value, potentially triggering a financial crisis. Moreover, the value added of many other economic sectors dependent on fossil fuel companies will probably be impacted indirectly by transition risks.



Source : Swiss Sustainable Finance

Physical and transition risks can materialise in terms of financial risk in five main ways, with many second-round effects and spillover effects among them:

- **Credit risk**: climate-related risks can induce, through direct or indirect exposure, a deterioration in borrowers' ability to repay their debts, thereby leading to higher probabilities of default (PD) and a higher loss-given-default (LGD). Moreover, the potential depreciation of assets used for collateral can also contribute to increasing credit risks
- **Market risk**: Under an abrupt transition scenario (eg with significant stranded assets), financial assets could be subject to a change in investors' perception of profitability. This loss in market value can potentially lead to fire sales, which could trigger a financial crisis. The concept of climate value-at-risk (VaR) captures this risk and will be further discussed in the next chapter.
- **Liquidity risk**: although it is covered less in the literature, liquidity risk could also affect banks and non-bank financial institutions. For instance, banks whose balance sheet would be hit by credit and market risks could be unable to refinance themselves in the short term, potentially leading to tensions on the interbank lending market.
- **Operational risk**: this risk seems less significant, but financial institutions can also be affected through their direct exposure to climate-related risks. For instance, a bank whose offices or data centres are impacted by physical risks could see its operational procedures affected, and affect other institutions across its value chain.
- **Insurance risk**: for the insurance and reinsurance sectors, higher than expected insurance claim payouts could result from physical risks, and potential underpricing of new insurance products covering green technologies could result from transition risks.

However, **integrating climate-related risk analysis is particularly challenging** because of the distinctive features of climate change impacts and mitigation strategies. These comprise physical and transition risks that interact with complex, far-reaching, nonlinear, chain reaction effects. As underlined by the Bank for International Settlements, climate change could therefore lead to "green swan" events (both physical and transition risks are characterised by deep uncertainty and nonlinearity, their chances of occurrence are not reflected in past data, and the possibility of extreme values cannot be ruled out) and be the cause of the next systemic financial crisis. In this context of deep uncertainty, traditional backward-looking risk assessment models that merely extrapolate historical trends prevent full appreciation of the future systemic risk posed by climate change.

2.2 Portfolio risks due to scarcity of resources

Human societies and economic activities rely on biodiversity in fundamental ways. The World Economic Forum estimates that $44 trillion of economic value generation – more than half of the world's total GDP – is moderately or highly dependent on nature and its services and is therefore exposed to nature loss.

It is unsurprising that the World Economic Forum's annual Global Risks Report (GRR) has, for the past five years, identified biodiversity loss and ecosystem collapse as a mid- to high-level global risk in terms of impact and likelihood.

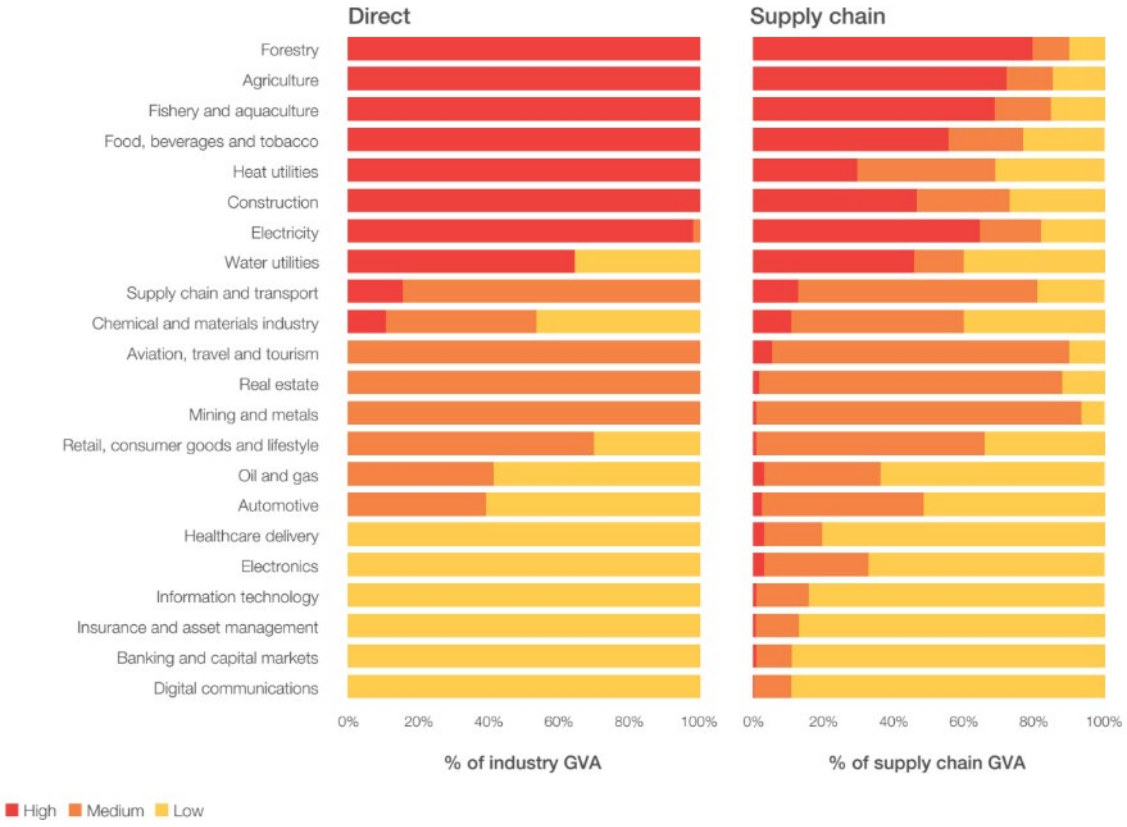
Nature risks become material for businesses in the following three ways:

1. When businesses depend directly on nature for operations, supply chain performance, real estate asset values, physical security and business continuity.

   The three largest sectors that are highly dependent on nature generate close to $8 trillion of gross value added. These are construction ($4 trillion), agriculture ($2.5 trillion) and food and beverages.

Such sectors rely on either the direct extraction of resources from forests and oceans or the provision of ecosystem services such as healthy soils, clean water, pollination and a stable climate. As nature loses its capacity to provide such services, these sectors could suffer significant losses.

Percentage of direct and supply chain GVA with high, medium and low nature dependency, by industry



Source: World Economic Forum, Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy (2020)

2. When the direct and indirect impacts of business activities on nature loss can trigger negative consequences, such as losing customers or entire markets, legal action and regulatory changes that affect financial performance. For instance, a variety of new regulatory levers are anticipated after the Paris Agreement, including strict rules on the commercial use of specific land areas, subsidy reforms, taxes and fines, science-based targets and trade directives. As regulation intensifies, the chance of businesses holding "stranded assets" [1] increases.

[1] A stranded asset is a resource that once had value or produced income but no longer does, due to some kind of external change, including changes in technology, markets and societal habits.

3. When nature loss causes disruption to society and the markets within which businesses operate, which can manifest as both physical and market risks. Besides their contribution to economic activities, nature's assets and services – clean air, plentiful fresh water, fertile soils, a stable climate, to name a few – provide vital public goods on which human societies rely for their functioning. Consequently, the loss of nature can contribute to systemic geopolitical risk and, in some cases, destabilize the environments in which businesses operate.

Accurately managing and mitigating such risks requires a fundamental shift in thinking about the value of nature, including accounting for natural capital and the costs of ecosystem degradation within economic development.

BRICK 2: CIRCULAR ECONOMY, SUSTAINABLE CONSUMPTION AND PRODUCTION AND SUSTAINABLE BUSINESS CONCEPTS

1. CONCEPTUAL FRAMEWORK TO GUIDE THE DEVELOPMENT OF SUSTAINABLE BUSINESS MODELS

Material consumption continues to be taken as a proxy for progress and development. Equity and environmental considerations have been dealt with 'after the event' rather than as integral to economic policy.

Over the last few decades, these dominant patterns of production and consumption have led to significant environmental degradation and rising inequalities.

Indeed, our "take-make-waste" production and consumption models have had devastating impacts on our planet. The IRP's Global Resources Outlook 2019 has found that 90 percent of biodiversity loss and water stress are caused by resource extraction and processing.

The rise in resource use has been coupled with growth in waste and emissions, contributing to a series of pressure points including climate change, reduced food security, water scarcity and air pollution.

A modern lifestyle based on current patterns of consumption and production requires a large amount of natural resources, i.e., 25-30 tonnes of materials per capita, per annum.

Few countries would be able to satisfy their material needs with domestic resources, and the current level of national material consumption has only been made possible through a record increase in international trade. With respect to environmental impacts associated with resource extraction, however, it is the net-exporting countries that are at the receiving end.

Moreover, the benefits of this type of resource use remain limited to but a few.

Inequalities in the material footprint of countries, i.e., in the quantity of materials that must be mobilized globally to meet the consumption of an individual country, are stark. High-income countries maintain levels of per capita material footprint consumption that are 60 per cent higher than upper-middle-income countries and more than 13 times the level of low-income countries (IRP, 2019).

Consequently, in order to prevent permanent impacts on the sustainability of natural ecosystems and societies, an urgent shift towards Sustainable Consumption and Production (SCP) models is required. In fact, this need was first highlighted at the Rio Earth Summit in 1992; reiterated in the outcomes of the Rio+20 summit, with the adoption of the 10-Year Framework of Programmes; and integrated into the 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015 (Sustainable Development Goal 12).

1.1 Sustainable consumption and production strategies

As illustrated in figure 1, SCP involves a wide set of strategies to be implemented by various categories of stakeholders:

- Policy-makers should adopt regulatory frameworks enabling SCP
- Industries must adopt resource efficiency, cleaner production and circular economy approaches
- Public and private financial actors have to deploy financial instruments that support SCP

- Civil society ought to promote sustainable consumption solutions and demand sustainable products and services
- Knowledge of SCP should be developed and disseminated
- New companies and start-ups should adopt green and circular innovative business models

Various strategies and stakeholders involved in SCP.

Most products and services are provided by the private sector.

Businesses therefore play a pivotal role in society's shift towards SCP. While consumers typically have limited knowledge of the full life-cycles of the products they buy, producers are in a much better position to apply a life-cycle perspective.

Medium-sized and large companies in particular generally have the capacity to scrutinise their value chains from a sustainability perspective, to compile relevant data, to engage with actors upstream (suppliers) and downstream (waste managers and recyclers) and to initiate improvements.

Hence, **sustainability can't be achieved without a radical transformation of production processes and industries in all sectors of activities**.

Given the central role played by the private sector in managing product life-cycles, policymakers need to encourage and incentivise companies to adopt a life-cycle perspective.

Working Definition of SCP

> "The use of services and related products, which respond to basic needs and bring a better quality of life while minimising the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life-cycle of the service or product so as not to jeopardise the needs of future generations."
>
> Norwegian Ministry of Environment,
>
> Oslo Symposium, 1994
>
> (UNEP, 2010)

Among private sector actors, particular attention must be paid to new companies and start-ups.

The transition towards SCP requires a radical shift from the current linear economic model to a sustainable model based on principles of pollution prevention and resource preservation.

As concluded by the International Resource Panel (IRP, 2019), resource efficiency alone, however, is not enough. What is needed is a move from linear to circular flows through a combination of extended product life-cycles; intelligent product design and standardization; and reuse, recycling and remanufacturing.

In this sense, making existing companies and industries more efficient is far from sufficient given the extent of the change that is required. Doing things better, improving production processes, increasing energy and resource efficiency is indispensable, but not enough.

New business models and new economic structures are needed to enable the sustainability transition.

Hence, new companies and start-ups are crucial to shaping and exploring future economic models. They are not only open to doing things better but also exploring how to do things differently.

Eco-innovation is the cornerstone of the change that is needed. New companies and start-ups are the main drivers of the new and emerging business models needed for the transition towards sustainability.

Moreover, business model development is a crucial step which greatly determines a company's future environmental performance (for example, it is usually estimated that over 80% of a product's environmental impacts are determined during the design phase). Current, "business-as-usual" models both shape and are shaped by the linear, "take-make-waste" economic model, which follows the dominant logical series of steps: material extraction, production, consumption and disposal. This model externalizes and hides the environmental and social costs, undermining the environmental and social sustainability of the economic system.

Considering the critical environmental and social challenges and crises we are facing, the current linear economic model is no longer viable, and since only 9% of the global economy is circular at present (Wit et al., 2020), a radical shift of the business models that shape our economic system is urgently needed.

The more environmentally unsustainable the linear economic model becomes, the greater the risk faced by linear business models and the greater the advantages offered by circular business models.

2. THREATS TO LINEAR BUSINESS MODELS

Companies operating under linear business models face significant threats linked with environmental crises. Even if some companies don't presently perceive it, "business as usual" jeopardizes the future viability of linear models in all sectors. The following are among the most significant risks:

Resource constraints and scarcity

Under the pressure of the linear economy model, key raw materials are becoming increasingly scarce: resource scarcity and exhaustion will shape the future of the global economy. In terms of energy supply, peak oil (the maximum rate of extraction of petroleum) has already been reached or will be reached in the coming years according to different estimates. From this point forward, the demand for oil consumption will exceed oil production. The shortage will affect raw materials which are critical and strategic for all major economic sectors. Many extractable reserves of key finite minerals will be exhausted within the next decades. The European Union, for instance, establishes a list of critical raw materials that identifies the highest risks for the supplies of European companies (EU Commission, 2017). Within a context of scarcity and exhaustion of key resources, if we consider that a linear economy simply disposes of 80 to 99% of the raw materials that products are made of, "business as usual" companies are doomed to fail.

Fluctuating and increasing resource and energy prices

Resource and energy scarcity inevitably leads to fluctuating and increasing prices. The costs of raw materials and energy are unstable, are rising and will continue to rise in the future. Under these circumstances, current "take-make-waste" models condemn companies to rising costs and a loss in competitiveness. Waste management costs are also expanding.

Environmental regulatory requirements and standards

Public authorities are progressively adopting and implementing increasingly demanding environmental regulations and standards in all industrial sectors. Linear economic models are gradually being questioned and challenged to shift towards sustainable production processes. Adoption of new environmental regulatory requirements can be expected to increase significantly in the coming years, driven, for example, by the EC's Circular Economy Action Plan and policies. Companies trapped in "business as usual" models will face legal barriers to their activities and complex and expensive adaptation processes to comply with emerging environmental regulations.

Changing markets demanding sustainable products and services

The demand for sustainable products and services is increasing among the different stakeholders envisaged by an SCP approach: consumers willing to purchase green products (the number of which has increased; more than a quarter of EU citizens buy environmentally friendly products on a regular basis); the public sector (through green public procurement, regulations, etc.); private companies (demanding sustainable suppliers along the value chain, etc.); and financial actors (impact investment, ethical banking, etc.).

Companies relying on linear models are missing out on expanding green markets.

Environmental degradation impacts

Finally, impacts resulting from the increasing pressure that the economic system is putting on the environment, such as climate change and the increasing frequency of natural disasters, are threatening the long-term viability of most companies.

Given the risks we have just laid out, sustainable business models, in contrast, can bring significant competitive advantages and opportunities:

- *Mitigated risks stemming from resource and energy scarcity as well as increased company resilience. Increased resource and energy efficiency and productivity*
- *Reduced costs throughout the whole product life-cycle and increased company profitability and competitiveness*
- *Compliance with increasingly demanding environmental regulatory requirements and standards*
- *Access to the growing markets of the future offering unique and innovative value propositions*
- *Creation of environmental value and consideration of ecological impacts*
- *Access to investments and public subsidies*
- *Increased internal capacities for innovation*

But which are the sustainable business models that should make possible the transition from the linear "take-make-waste" economic model to the circular economy model? What is a sustainable business model?

3. THE SUSTAINABLE BUSINESS MODELS

Which are the sustainable business models that should make possible the transition from the linear "take-make-waste" economic model to the circular economy model? What is a sustainable business model[2]?

3.1 Definition of a business model

Before digging into the concept of a circular business model, let's briefly define first what a business model is. Following Osterwalder and Pigneur, 2010, a business model consists of several elements – building blocks – which describe how value is created and distributed. The different components answer the main questions which define the nature of the business model:

- *Why? Mission, vision and objectives of the company*
- *Who? Key stakeholders and customer segments*
- *What? The value proposition*

[2] Although slight differences between the concepts of a sustainable business model, circular business model and green business model can be argued, for the sake of simplicity, we will use them interchangeably in this article and we will refer to the sector as a whole using the term "Green and Circular Economy".

- *How? Key activities and resources; customer relationships and channels; cost structure; and revenue streams*

Figure 2. Business Model (adapted from Osterwalder and Pigneur, 2010).

A business model essentially describes the value proposition of the company and how value is created, delivered to the customers and captured by the company.

3.2 Definition of a sustainable business model

Now, what about sustainable business models? What is a circular business model?

In recent years, academic interest in sustainable business models has grown to such an extent that it has become a new field, currently emerging and institutionalizing within academic research (Lüdeke-Freund et al., 2017; Nußholz, 2017).

Given the advantages that circular business models provide to companies when compared with linear business models, some authors even "argue that these advantages will make the concept of non-sustainable business models obsolete and sustainable business models will eventually supersede the notion of business models" (Geissdoerfer et al., 2018).

The fundamental difference between a business model and a green business model is that **in addition to economic value, a sustainable business model includes environmental and social value creation and distribution**. A triple bottom line approach is inherent to circular business models, which are built on the basis of interdependency between the environment, society and the economy.

Sustainable entrepreneurship is not only about reducing the negative environmental impacts of a business with regards to its previous practices and/or when compared to other companies within the sector.

The main purpose of green entrepreneurship is to create environmental value and produce positive ecological and social impacts.

Thus, sustainable business models not only create economic value, through the creation of green businesses and employment, but **also ecological value by addressing environmental challenges, and social value by addressing social needs**.

This changes the nature of the business model and its building blocks. For circular business models, environmental and social challenges and value define the objectives of the company and are therefore **embedded in its mission and vision**. The value proposition development is driven by **eco-innovation**. The value proposition targets not only customers but also nature and society. In this sense, circular business models broaden the conventional concept of stakeholders within the business model, taking into account structural interaction between the business, customers, society and the environment. Within the green business model, the environment and **society are unequivocally considered stakeholders**.

Finally, life-cycle thinking and eco-design shape the activities and resources required in order to deliver the value in the most sustainable manner possible. For more in-depth information, the SCP/RAC's step-by-step methodology for developing green business models can be found online, in a handbook and workbook.

Definition of sustainable business

Brief definition: *A sustainable business provides commercial solutions to environmental challenges which are economically viable and socially empowering.*

Comprehensive definition: *Based on the interdependency between the environment, society and economy, a sustainable business provides innovative viable products and services which create environmental value (addressing ecological challenges and reducing environmental impacts) and social value (addressing social needs) by applying eco-innovation, life cycling thinking and eco-design approaches.*

In short, a green business model provides a business solution to environmental challenges which is economically viable and socially empowering (SCP/RAC, 2015a).

How does a sustainable business model create environmental value? Two main means of ecological value creation characterize circular business models: they 1) transform ecological challenges into economic opportunities to create environmental value and 2) reduce environmental impacts. In order to make this happen, the main approaches to be deployed are eco-innovation, eco-design and life-cycle thinking.

3.2.1 Eco-innovation

Eco-innovation consists in providing new and alternative solutions, which allow a company to reduce its environmental impacts and/or create environmental value. Three forms of eco-innovation can be differentiated (see figure 3):

- *Process eco-innovation*

  Production processes are cleaned up to significantly improve resource and energy efficiency, which saves resources and prevents pollution. Existing processes and technologies are improved without transforming what is done. For instance, in the automotive industry, a car could be manufactured using less raw materials and energy and producing less waste.

- *Product eco-innovation*

  The innovated solution changes the main characteristics of the product or service. New processes and technologies transform what is being done, for example, shifting from the production of conventional cars to electric cars.

- *System eco-innovation*

  At this stage, eco-innovation implies transformations at the system level in the value chain and regarding consumption patterns. This is where radical business model innovation is required. System eco-innovation embraces complex changes, usually involving non-technological transformations and various stakeholders; it "is more likely to take place beyond the boundaries of one company or organisation as it often requires the transformation, replacement or establishment of complementary infrastructures" (OECD, 2012).

  Continuing with the same example, system eco-innovation within the car industry could shift the production and sale of cars towards offering mobility services through car sharing systems. Even better, bicycle sharing systems could substitute vehicles to cover mobility needs.

Figure 3. Three forms of eco-innovation.

As these three stages indicate, environmental value creation grows progressively with each eco-innovation step.

Generally speaking, we cannot expect process and product eco-innovations alone to make the fundamental shift from the linear economy model to the circular economy model, which is required to address the current environmental crisis.

Energy and resource efficiency, cleaner production processes, resource-saving products, etc., are necessary but insufficient strategies. Ultimately, a radical transformation is needed at the system level (involving relationships among the stakeholders in the value chain, infrastructures, consumption patterns, etc.) in order to ensure a shift in functionality or modality (e.g. mobility) from an unsustainable solution (e.g. car) to a sustainable option (e.g. bicycle) and to enable a shift to services that dematerialise as much as possible (e.g. telework).

Under this perspective, business model innovation is an essential step in jumping from the process/product level to the system level that could potentially lead to more environmental value creation.

Circular business models could be the missing link between change at a company level and systemic change, particularly as various companies adopting green business models become linked. Systemic change can thus be fostered and new sustainable systems can emerge and be structured around

ecosystems of companies interlinked through complementary sustainable business models (for example, Bocken et al., 2014, section 1.3).

Complementing the overall eco-innovation approach, life-cycle thinking and eco-design assist green business model development in reducing businesses' environmental impacts.

3.2.2 Eco design and Life-cycle thinking

Life-cycle thinking goes beyond the linear "take-make-waste" economic model and reduces resource use and emissions throughout the entire life-cycle of a product: extraction of raw materials; design and production; packaging and distribution; use and maintenance; and reuse and recycling.

Most of the environmental impacts and costs of products and services are determined at the design stage.

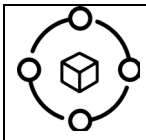
Eco-design is an approach to the design of products and services that gives special consideration to environmental impacts during the whole lifecycle of a product and the full process of delivering a service.

It can be defined as the design that considers the environmental aspects and/or impacts associated with products, processes or systems, together with other traditional aspects, such as costs, quality, safety, ergonomics, etc.

Eco-designing a product or a service is about the application of strategies that allow to reduce the negative impact of products and services related to the activities and resources needed to produce the product or to provide the service, while generating additional value for customers and stakeholders.

Eco-design also brings in a supply chain perspective, as in many occasions the sustainability of a product or service depends on the sustainability of the resources used.

So, persuading suppliers to be more aware and encouraging them to incorporate sustainability strategies may impact positively on your final product or service.

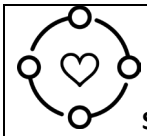


Product

A product is an article or substance that is manufactured or refined for sale. So**, it is the object or item that a business conceives, produce and sell**.

A product is tangible and physical, and it can either be natural or artificial. Thus, it is the key element a customer is willing to pay for.

Some examples of products are an item -car, bag, or T-shirt…-; a crop - fruit, vegetables…- or an animal –cow, ship…-.



Service

Action of helping or doing work for someone.

A service is about generating, delivering and exchanging value throughout the performance of certain tasks. This value can be information, emotions or material.

For instance, one can deliver a service in a: restaurant or hotel (serving food or providing rooms); shop or market (selling items); car rental office (renting cars), a laundry facility (cleaning clothes); museum, or in nature (providing knowledge or leisure), etc.

Sometimes the delivery of a service involves the use of a key asset: the product with which the service is provided. It is the case of a car, bike or electric mobility item in rental businesses, washing and drying machines in a laundry shop, or solar panels in a renewable energy provider. Regardless of whether you manufacture or purchase the key asset, you are still delivering a service.

Eco-design strategies are strategies that can be followed to improve the sustainability of a product or service, which can include a wide range of approaches: efficiency, optimisation, consumption reduction, sensitisation, communication, etc.

Some useful concepts:

WASTE TREATMENT HIERARCHY

Generated waste can be treated by means of different ways, some are better than the others. The waste treatment hierarchy (from best to worst) is as follows: preparing for re-use; recycling (material recovery); other recovery (energy recovery) and disposal.

DEMATERIALISATION

Dematerialisation literally means the use of fewer materials. It often refers to the process by which physical securities such as share certificates and other physical documents are converted into electronic format. However, it is defined by UNEP as “the reduction of total material and energy throughput of any product and service, and thus the limitation of its environmental impact. This includes reduction of raw materials at the production stage, of energy and material inputs at the use stage, and of waste at the disposal stage.”

Dematerialisation strategies include:

- the design and manufacture of a smaller product e.g. smaller homes, miniaturisation
- the design and manufacture of lighter products e.g. using alternative construction
- the replacement of material goods by non-material substitutes (for instance a letter on paper replaced by an email)
- the reduction in the use of material systems or of systems requiring large infrastructures (for instance using telecommunications instead of using a car to go to work)

REUSE

It is using a product as-it-is (example: selling books online or in a retail thrift store)

REMANUFACTURE

It is the process of recovering, disassembling, repairing and sanitizing components for resale at "new product" performance, quality and specifications. By remanufacturing products, components or parts, a company contributes to the circular economy by extending the lifetime of those elements and creating value. Remanufactured products or parts should be considered "like new," as the typical process of remanufacturing is thorough to ensure "like new" quality:

- Collection
- Identification and inspection
- Disassembly
- Reconditioning and replacement (when needed)
- Reassembly
- Quality assurance and testing

Remanufactured products should not be understood as "used," "refurbished," "repaired" or "reused." Remanufacture is taking an item and turning it into something else (example: clean materials from a discarded mattress used to make a dog or cat bed)

RECYCLE

It implies sending raw materials to a secondary market for remanufacture (example: collecting large appliances and selling the scrap metal)

REFURBISHING

It means collecting discarded products or materials that can be refinished and sanitized to serve their original functions. Refurbishment is often aesthetic in nature and results in a product that, although in good condition, may not be comparable with new or remanufactured products. This process is typically less intensive than remanufacturing, which results in a final product comparable to a brand-new product.

INDUSTRIAL SYMBIOSIS

It is the process by which wastes or by-products of an industry or industrial process become the raw materials for another. Application of this concept allows materials to be used in a more sustainable way and contributes to the creation of a circular economy.

Industrial symbiosis creates an interconnected network which strives to mimic the functioning of ecological systems, within which energy and materials cycle continually with no waste products produced. This process serves to reduce the environmental footprint of the industries involved. Virgin raw materials are required to a lesser degree, and the need for landfill waste disposal is reduced. It also allows value to be created from materials that would otherwise be discarded and so the materials remain economically valuable for longer than in traditional industrial systems.

SERVITISATION

In its simplest terms, servitization refers to industries using their products to sell "outcome as a service" rather than a one-off sale.

In recent years, more and more manufacturers are competing through a portfolio of integrated products and services. This is a conscious and explicit strategy for manufacturers, with the provision of product-centric services providing a main differentiating factor in the marketplace. And it's this which has become known as the servitization of manufacturing. The move from making products to delivering product-centric services is no small shift – it means transforming both your organisational structure and processes.

Pioneering companies that were excelling in servitization -Rolls Royce, Xerox and the London Underground- followed a common competitive strategy, with greater emphasis placed upon customer intimacy.

In fact, the strategy aimed to push performance in three key areas:

- Customer Intimacy. Combining detailed customer knowledge with operational flexibility, to create the best total solution for the customer.
- Operational Excellence. Controlling processes to effectively deliver best total cost to the customer.
- Product Leadership. Selling the best product on the market.

PLANNED OBSOLESCENCE

Or built-in obsolescence, in industrial design and economics is a policy of planning or designing a product with an artificially limited useful life, so that it becomes obsolete (i.e., unfashionable, or no longer functional) after a certain period of time. The rationale behind this strategy is to generate long-term sales volume by reducing the time between repeat purchases (referred to as shortening the replacement cycle).

The producer has to know that the consumer is at least somewhat likely to buy a replacement from them. In these cases of planned obsolescence, there is an information asymmetry between the producer, who knows how long the product was designed to last, and the consumer, who does not. When a market becomes more competitive, product lifespans tend to increase.

The Centennial Light is often pointed to as evidence for the supposedly planned obsolescence. Lightbulbs and various other technologies could easily last for decades, many believe, but it's more profitable to introduce artificial lifespans so that companies get repeat sales.

3. SUSTAINABLE BUSINESS STRATEGIES

A combined adoption of eco-innovation and life-cycle thinking approaches can lead to alternative, sustainable business models for the companies of the future. These business models can be grouped into five main business strategies (see figure 4):

1. Prevent pollution and save resources
2. Recover resources after disposal
3. Extend resource use and reduce disposal
4. Increase resource utilisation rate
5. Shift to circular supplies and design

The strategies are numbered one through five in order of resource value retention as well as difficulty of implementation and coordination within value chains, with five being the greatest retention value and effort required for implementation and coordination, and one being the lowest. Retention of resource value means the conservation of resources closest to their original state (Reike et al., 2018).

From the producers' perspective, the value of finished, marketed and sold products can be retained as long their functionality is maintained and they can be reused and given successional lives. Keeping a product's value high over a long period of time requires a shift at the managerial, organisational, political and mindset levels as well as high-level coordination within product value chains. Hence, the strategies at the higher end of the list would normally come at a higher cost and with extended responsibilities for traditional companies and businesses operating in a linear economy (see the table at the end of the article for a elaborated comparison).

From the consumers' perspective, the business strategies at the higher end of the list would provide a different customer experience compared to the traditional product purchase, with an emphasis on the functionality and the intangible value behind the product.

Studies proposing long-term targets for lifestyle carbon footprints comparable with the Paris Agreement's aspirational target of 1.5°C characterise these as most preferable yet more challenging to implement (Lettenmeier et al., 2019).

Higher numbered strategies would require higher degree of orchestration and more complex partnerships. Keeping the materials circulated in production and consumption systems at their highest value calls for entrepreneurial solutions for registering, keeping track of materials, collection, separation as well as consumers' high-level engagement and awareness.

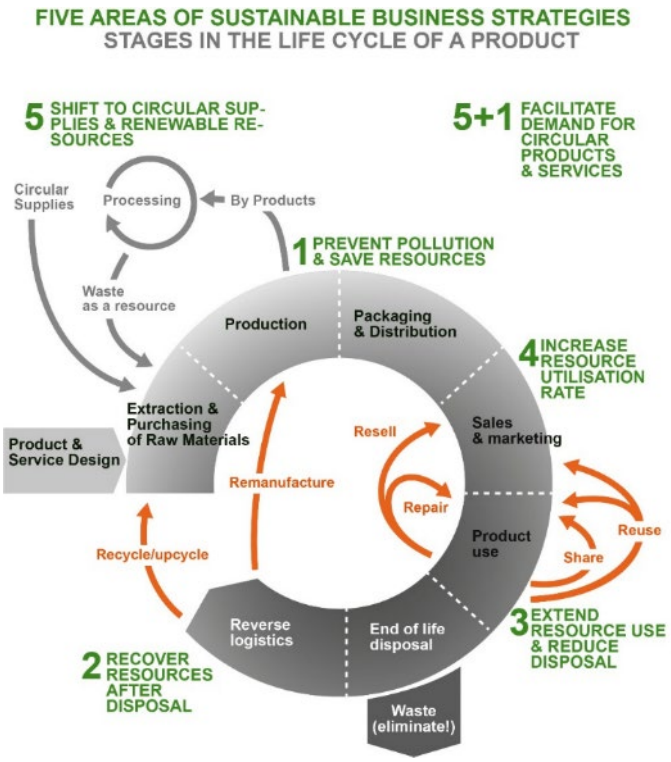


Figure 4. Five areas of sustainable business strategies.

3.1 Prevent pollution and save resources

The business models to implement this strategy:

- Cleaner and Resource Efficient Production - Zero-waste production

The first strategy is principally related with the manufacturing stage and aims at saving resources (i.e. raw material, water, energy) and preventing pollution. Usually, this strategy is linked with eco-innovations that affect production processes, including making those processes cleaner and more efficient (e.g. recycling on-site scraps, recycling wastewater inside the factory) so that they generate less waste and need fewer resource inputs, i.e. water, energy, chemicals (UNIDO, 2019).

On the one hand, products and services are designed and production processes are organized in order to minimize all sources of waste and emissions. The aim is to eliminate air, water and ground pollution linked with production processes. The most common pollutants that industries release are CO_2, petroleum hydrocarbons and petrochemicals, solvents, agrochemicals (pesticides, fertilizers, etc.), heavy metals, microplastics, sulphur and nitrogen oxides, and persistent organic pollutants (POPs), etc.

On the other hand, the strategy seeks a maximum reduction in the materials and energy needed to produce something. The intention is to produce the same product/service using significantly less raw materials and energy, or transform the product/service to maximise resource and energy efficiency in the production process (reduce the use of resources, reduce diversity of materials used, design smaller and lighter products, reduce steps in production processes, reduce packaging, etc.).

The major tools linked with this strategy are eco-design, resource efficiency and energy efficiency measures, and cleaner production processes and technologies. Eco-design is key in order to ensure in the conception stages that the product can be made through the most efficient processes available in terms of resource and energy use and through zero waste and emissions production.

Among current trends, 3D printing technologies can help save resources and energy and bring production closer to the end consumer. To ensure that these new technologies contribute to a positive environmental impact, they should use renewable or recycled raw material and avoid mixing multiple components.

3.2 Recover resources after disposal

The business models to implement this strategy: - Design for disassembly, reassembly and recycling - Collection and Recycling - Upcycling

The second strategy seeks to prevent resources from being discarded during the life-cycle of a product, especially at the end of its life. The end-of-life goal is to systematically replace disposal and landfill with reuse and recycling.

At this level, synergies and complementarities between companies and sectors become critical. Applying industrial symbiosis strategies can cover companies' complementary needs, matching and harmonizing their production processes: the waste management requirements of one firm meet the resource needs of another company. Thus, the by-products, wastes and emissions of a production process become the inputs for another process.

Regarding the end-of-life stage, the conceptual aim is to put an end to the idea of waste, a concept that doesn't exist in nature. Biomimetics, or biomimicry, would have us shape our business models after nature's strategies to solve complex problems and meet needs in a sustainable way.

"Waste is material without an identity": products should be seen as deposits of raw materials which, properly identified, can be valued and available for future use (see http://turntoo.com). Once a product ceases to be functional, all the materials are identified and properly valued and integrated into new production processes. Nothing is wasted.

Often, leak of resources occurs while the product is used by consumers. Often, the materials that make up a product are not easily identifiable and as a result are wasted at the end of the product's like. Product-as-a-service business models (see strategy number four, increasing resource utilisation rate) can successfully help to identify the raw materials in products and ensure a closed-loop management of resources.

3.3 Extend resource use and reduce disposal

The business models to implement this strategy:
- Design for Durability, Long Lasting and Modularity
- Collection and Recycling
- Repairing and Upgrading
- Reuse and Reselling

The third strategy aims, to the greatest possible extent, to extend a product's lifetime and avoid disposal. This strategy is primarily linked with the use and maintenance stage, and with eco-innovations related to product conception.

A wide set of measures can help us to achieve this goal, among them the following:

- Eliminating or reducing packaging or implementing returnable packaging schemes
- Offering a product that is reusable
- Offering maintenance and repair services
- Promoting reuse and reselling (second-hand commerce, etc.)
- Remanufacturing/refurbishing (restoring the product to its initial functionality)
- Upgrading (upgrading an older product, for instance, by replacing a component)

Again, eco-design is crucial to boosting this strategy since product life is essentially determined by the conception stage. Modular design, for instance, can facilitate the repair and substitution of a product's components, extending its life. All products should be easily disassembled and all the materials that it contains should be identified and easy to separate.

3.4 Increase resource utilisation rate

The business models to implement this strategy:
- Rental - subscriptions

- Leasing - subscriptions - Servitization - selling the functionality

The fourth strategy's main objective is to increase the utilisation rate of resources. Thus, it is essentially linked with the use and maintenance stage. This strategy can involve process-level and product-level eco-innovations, but its greatest potential lies at the system level: it is the green business models focused on increasing their resource utilisation rate that have the greatest capacity for transforming and substituting existing solutions, giving birth to new and alternative sectors based on the shift from ownership to functionality.

The most effective way to increase resource utilisation rate is to focus on functionality instead of the product. In fact, one of the fundamental elements which distinguish a circular economy from a linear economy is precisely that – placing emphasis on functionality. In the linear economic model, the source of value creation itself is the product, while for the circular economic model, it is functionality/performance (EEA, 2017).

One essential strategy for selling functionality instead of ownership of products is servitization. Companies evolve from selling products towards "product as service" models which provide functionality through a combined delivery of products and services.

To implement servitization, firms must shift from product-oriented business models to use-oriented. As an example, a value proposition may sell lighting services instead of lamps and electricity, or clothes washing instead of washing machines. Such use-oriented business models are diverse and known by different names, such as performance business models, result-based business models or access-based business models.

These kinds of models offer significant environmental improvements as well as competitive advantages in attracting customers.

In a linear economic model, in order to maximise profits, companies are motivated to sell the maximum amount of products. They don't have an incentive to maintain and repair these products, and in its most perverse form, this thinking leads to planned obsolescence at the product or even system level. Profit and waste of resources are thus often deeply intertwined.

Instead, if the value proposal is focused on functionality/performance, profits will increase while product lifetime is extended; there is an economic incentive to extend the life of a product which is owned by the firm. In this case, the economic viability of the company relies on the environmental sustainability of the products.

A service-based business model encourages the companies, which maintain ownership of the products and assets, to eco-design their products, guaranteeing maximum efficiency in the production processes, closed loops in resource management and the longest possible life for the products.

This kind of business model can also offer a competitive advantage in attracting customers. Users only pay for the functionality they need, avoiding initial investment and costs and inconveniences linked with maintenance and repair. These models have the potential to expand their initial markets since a larger number of consumers could afford a monthly subscription rather than investing in expensive products.

One tool often used to implement business models that seek to increase resource utilisation rate is sharing. Inefficient ownership is avoided, making the products available to customers according to their

needs and guaranteeing the maximum use of resources. Shared use or shared ownership is often made possible through on-line platforms.

A large and growing number of products and services are shared among multiple users, a phenomenon which is referred to as the sharing economy or collaborative economy.

The ownership model is completely transformed: customers don't need to buy and own the products anymore, paying instead per use according to the service functionality which the company provides.

3.5 Shift to circular supplies and design

The business models to implement this strategy:

- Alternative low impact fibre or recycled material driven value chains
- Slow living products and services with full control over the value chains (eco-design brands, slow food brands, slow fashion brands, slow cities)

The fifth strategy aims at shifting from finite resources and energy to renewable resources and energy, respecting natural regeneration cycles. It concerns not only the raw material extraction stage but also all other life-cycle stages of a product/service. The strategy is linked with eco-innovation at all stages and, if ambitious enough, can lead to significant system-level transformation towards sustainability.

The objective is for all of the life-cycle stages of products and services to use renewable energies and bio-based, local and fully recyclable materials in closed loops, not just at the extraction of raw materials and production stages but also at the use and maintenance stage.

The strategy seeks to ensure renewable use of biological materials at all of these life-cycle stages, in accordance with the rhythms of natural processes as well as the management of technical materials in closed loops.

The five main strategies for developing sustainable business models that we have reviewed need a complementary ***5+1*** strategy, which is a condition for their viability: the ***demand for circular products and services*** should be facilitated and increased. Without a radical change in consumers' behaviours and lifestyles, most of the green business models will not be viable. More fundamentally, the transition towards sustainability cannot rely on the transformation of the business models and economic models alone, but will also require a reduction of consumption and increasing self-sufficiency at community and personal levels, especially in countries with the greatest footprint indexes.

Of course, supporting policies and regulations are also imperative to the progressive implementation of sustainable business models and the shift from a linear to a circular economy model. Encouraging examples can be identified and must be mainstreamed (such as the strong impulse by the EU Strategy for Circular Economy, or specific regulations, such as the Swedish tax system which promotes business models focused on maintenance and repair).

Finally, public and private financial investments should support the implementation and scaling-up of all forms of sustainable business models.

Rebound effects

It is important to bear in mind that rebound effects are a constant threat to the different strategies for sustainable business model development which have been reviewed in this article. A rebound effect is

an unexpected negative environmental impact which counters the desired ecological benefit (see EEA, 2017), as the following examples illustrate:

- Resource and energy efficiency measures are always endangered by potential unexpected environmental impacts which can exceed the estimated savings (for example, the increased energy efficiency of a vehicle can lead to increased use and distances which could increase the total use of fuel)
- A product as a service business model can attract new users which were previously using more sustainable alternatives (a car-sharing system, for example, has an environmental positive impact if new users are forgoing their private cars, but the ecological impact is negative if new users were already using public transport or bicycles)
- A product as a service business model can unexpectedly increase resource use due to the user-intensive pattern
- A collaborative/sharing economy business model can unexpectedly increase consumption and impacts (couchsurfing, for example, could result in more long-distance travel due to increased access to low-price accommodation)
- Any business model which reduces prices and increases accessibility to products and services incurs the risk of increasing consumption and therefore resource and energy use and waste production

A circular business model's vulnerability to rebound effects is inversely correlated to the number of strategies it uses. That is, the most effective antidote to unexpected negative environmental impacts is to implement as many of the previously outlined strategies as possible, and to thoroughly apply system-level eco-innovations and life-cycle thinking, to as many life-cycle stages of its products and services as possible.

We have proposed and examined the main strategies for developing business models aimed at reducing environmental impacts and maximising ecological value creation. However, creating environmental value is not enough. As said previously, a sustainable business model should also create and distribute social value.

As such, sustainable business models should place social challenges and social impacts at the core of their missions and value propositions, just as they would with nature. Social impacts and social value creation should therefore be systematically analysed similarly to how life-cycle thinking addresses environmental aspects.

The following table proposes key aspects and guiding questions to systemically assess the social value creation potential and expected social impacts of each building block of the business model.

The final objective is to maximise social value creation and to avoid and mitigate any negative social impacts.

Building blocks of the business model	**Social value of sustainable businesses:** **aspects to be considered / guiding questions**
Why?	

Mission and vision	● The company's mission and vision solve social challenges and enhance human wellbeing. How? ● The creation of environmental and social value is at the core of company's mission and vision. Environmental and social missions come before profit, which is not the primary goal of the project ● The company contributes to creating value and benefits for society as a whole and for local communities, beyond its key stakeholders. How?
Objectives	● The objectives of the company directly tackle societal challenges and promote social value creation. Which ones? ● How is the achievement of environmental and social objectives be measured?
Who?	
Key stakeholders	● The sustainable business model is co-created with key stakeholders and local communities and their active engagement ● Relationships with all stakeholders are based on the principles of reciprocity and cooperation ● Transparency: what information about the company (e.g. environmental and social performance) is publicly available and how? Providers and suppliers: ● In working with providers and suppliers, priority is given to sustainable and social businesses and non-profit organizations ● The company's needs are essentially outsourced locally, prioritising local providers and suppliers ● How does the business model promote social responsibility among suppliers and the fair distribution of benefits along the value chain? Local community and society: ● The project creates local job opportunities ● The project has the potential to create job opportunities for people at risk of social exclusion ● The project contributes to a healthy environment (for example, improving air quality, reducing impacts from pollution and waste, reducing the presence of toxic chemicals, etc.) ● The company is involved in the local community and social initiatives and/or promotes the engagement of the local community in environmental and social causes ● The business model doesn't affect local communities' access to material resources (such as water and other natural resources) ● The project contributes to the promotion of and brings added value to local culture, traditions and knowledge

Customer segments	● The value proposition covers the social needs of various customer segments, adopting equality and equity perspectives (for example, targeting groups at risk of social exclusion) ● Potential clients representing a variety of segments have been engaged and/or consulted for the development of the business model
What?	
Value proposition	● The value proposition directly creates social value, solving social challenges, addressing social needs and/or empowering communities ● E.g. contributing to a healthier and safer environment by reducing air, water and soil pollution, etc.; contributing to meeting basic life needs by offering affordable and sustainable basic supplies such as water or energy, etc. ● The value created will be fully or partly available as public domain (for example, through Creative Commons licences)
How?	
Key activities and resources	Workers: ● The business model's calculated cost of human resources takes into account fair and equitable working conditions (salaries, working time, salary scales, etc.) ● The business model is based on production processes which guarantee safe and healthy working conditions and environment ● The business model is rooted in a labour perspective, favouring integration (guaranteeing gender equality, integrating workers at risk of social exclusion, etc.). Particular attention should be paid to any elements of the business model that risk employment discrimination in terms of sex, age, etc. Production processes: ● Production processes reduce health impacts from pollution and waste ● Materials used do not endanger health and safety (avoiding toxic materials, etc.) ● Priority is given to local resources within production processes and operations Organizational and governance structure: ● The legal form and the organizational structures of the sustainable business enhance democratic and horizontal governance and ownership (adopting, for example, cooperative forms, integrating the social and solidarity economy sphere, being a non-profit organization, or being established as a social or green enterprise when recognized by the legal frameworks)
Customer relationships and channels	● Sales is not the only objective in engaging the customers. In addition to sales, customer engagement meets the initiative's environmental and social mission. How? ● Communication and relationship channels have positive social impacts. What are they?

	● Communication and relationship channels consider customers with special needs. How?
Cost structure	● Estimations of the personnel needed and the human resources cost do not result in significant wage disparities and foresee equality of salaries for women and men ● Social negative impacts and costs have been assessed. If any, how will they be remedied? ● Potential social negative costs have been weighed against the social benefits of the initiative
Revenue streams	● The company generates important environmental and social value in addition to economic revenues ● The initiative plans to invest part of the profits for the benefit of the workers/members, the community's wellbeing and/or the environment ● The company plans to invest any economic surplus or benefits in ethical finances ● The company's legal form promotes the investment of profits and surplus according to social and environmental criteria (cooperative, social and solidarity economy entity, non-profit organization, social or green enterprise, etc.).

As we have seen throughout this article, the systematic application of eco-innovation and life-cycle thinking to all stages of a product or service can help us to identify and assess their environmental, social and economic impacts as well as to create and deliver environmental, social and economic value. The main strategies for the development of sustainable business models are summarized in the following table.

Direction of increase for production and consumption system change

Direction of increase for value retention and business responsibility

Eco-innovation stages / Circular business strategies	Process-level eco-innovation	Product-level eco-innovation	System-level eco-innovation
Prevent pollution and save resources	*More efficient production processes in terms of resource/energy use and waste/emissions*	*New product/service maximises resource/energy efficiency and reduces waste/emissions*	*Business model eco-innovations linked with saving resources and preventing pollution in the supply chains while taking no responsibility after sales.*
Recover resources after disposal	*By-products and waste are reintegrated as inputs in production processes*	*Product/service eco-designed to ensure closed-loop management of resources*	*Industrially symbiotic, complementary business models. Business models promoting recycling infrastructures and systems and taking responsibility for materials after sales.*
Extend resource use and reduce disposal	*New processes and technologies facilitate the production of long-lasting products*	*Product/service eco-designed, produced and maintained to ensure its longest possible life*	*Business model eco-innovations favour the emergence of infrastructure and systems for repair, reuse and remanufacture hence taking responsibility for product performance after sales.*
Increase resource utilisation rate	*Resource utilisation rate is maximised in production processes*	*Product/service eco-designed to facilitate servitization and sharing of functionality/performance*	*Functionality based eco-innovative business models hence taking full product responsibility and ownership after sales.*
Shift to circular supplies and design	*Production processes rely on renewable resources and energy*	*Product/service eco-designed to use renewable energies as well as bio-based and recyclable materials in closed loops*	*Business models allowing renewable management of biological materials and closed loop management of non-organic raw materials at system level hence taking responsibility to achieve full circularity.*

BRICK 3: SUSTAINABLE FINANCE

1. SYNERGIES OF ECO-INNOVATION WITH THE FINANCIAL SECTOR

The potential rewards of the transition to the circular economy are clear for businesses, and they include:

- The opportunity for enhanced resource productivity
- Improved asset utilisation
- Strengthened customer relationships and greater revenue visibility
- Margin stability and improvement in quality of earnings
- Enhanced return on capital invested

Intrinsically linked to these is a positive impact on both environmental and social capital. The potential economic rewards of the circular economy combined with the associated positive impact make this an attractive investment theme for both private and institutional capital and across the capital structure, from debt to equity.

Indeed, the financial sector is not just a lender, it is a true partner for companies to overcome some of the barriers to eco-innovation. In the way it can help business gain access to technical information (e.g. on efficiency gaps and solutions) and capacity to adequately

The financial sector can also increase the evidence on profitability, growth rates, payoff of eco-innovative projects and thus identifying and benchmarking them within firms, by e.g. promoting companies reporting and cross sectorial studies.

Furthermore, the financial sector is better positioned to develop accounting schemes for non-monetary benefits (e.g. on human health and natural capital) by incorporating externalities when assessing cost-effectiveness of an investment. Non-monetary benefits are benefits that are intangible and cannot be directly measured in terms of monetary units.

Eco-innovation involves several stakeholders and the financial sector can be a true partner for companies to overcome some of the barriers to eco-innovation.

Since 1985, the market value attribute to intangible aspects has grown from 17 to 84%. These include reputation, brand, innovation, people, strategy, stakeholder engagement, new metric, etc.

The financial sector has been using sustainability as a measure of risk and investment value for several years (Dow Jones Index since 1999, Financial Times FTSE4 Good index since 2001, etc.).

At least, 3 factors are driving investors interest on sustainability:

1. The growth of analytics and sophisticated modelling that shows how and when sustainability investments create shareholder value (e.g. Natural Capital Framework). These meet the growing demand for data on corporate sustainability and benchmarking.
2. Research from academic institutions and investment firms that links effective management of material sustainability issues to strong financial performance (e.g. Bloomberg, Thompson Reuters of Black Rock).
3. Shift in the attitude within the investor community about the connection between strong sustainability performance, value creation, and risk reduction.

Puma & BNP Paribas

Driving sustainability through the supply chain hand in hand with the financial sector

The sports company **Puma** has measured the environmental impact coming from all their operations as well as those from key suppliers since 2005. In doing so, they created awareness on their own resource consumption and also encouraged the agreement of ambitious targets to reduce their impact on the environment.

Now Puma, which works with more than 300 external manufacturing partners (mainly from Asia) and distributes its products in more than 120 countries, aims to support its suppliers worldwide in the implementation of Puma's social and environmental standards. According to the study Beyond Supply Chains making greener supply chains can increment the brand value a 30% and save 16% on related costs.

To achieve their targets Puma teams up with the European bank **BNP Paribas** to offer a supplier financing program to those Puma suppliers that improve their environmental, health and social performance. The corporation can provide attractive financing options to its suppliers thanks to the corporation's credit rating. Discounts in supplier's receivables are offered depending on their social and environmental performance. The rate at which the bank discounts the suppliers' invoices depends not only on PUMA's credit standing but also on PUMA's supplier rating, that is applied after PUMA has monitored a supplier's adherence to the company's social and environmental standards through an auditing process. The program is implemented through the support of the IT platform provider GT Nexus.

Puma monitors its manufacturing partners worldwide on a regular basis to ensure their compliance with environmental standards. According to the results of such monitoring, the best performing suppliers are upgraded and can access to better funding conditions. Furthermore, as a second level of compliance evaluation, BNP Paribas only funds suppliers that have successfully passed its own Know Your Suppliers checks.

Nevertheless, finance is highlighted as a critical barrier in the transition towards a circular economy. Therefore, understanding how sustainable business models differ from traditional business models and what their barriers to financing are is highly relevant for financiers.

2. THE DIFFERENT APPROACH TO FINANCING SUSTAINABLE BUSINESS MODELS

Generally speaking, all financial products offered on the market are based on the underlying principle that the financier will be able to recoup their capital back with a premium (interest or dividend) that is commensurate with the risk profile of the counterparty. Circular businesses or projects are considered more complex, thus resulting in higher risks compared to standard investment deals. This implies that investors would demand a higher premium on the capital they provide, a premium proportionate to the risk profile of the company or the project. The relevant focus is therefore the risk measurement.

When measuring risk, two main factors have to be taken into account. The first is the creditworthiness of the borrower (or the risk profile of the project), while the second is the value of the collateral (e.g. underlying assets or contracts).

A few guidelines have been drafted by the European Commission and Circle Economy for financial decision makers to help them understand how they can change their operations and decision-making process in order to overcome the current barriers for financing circular business models.

1. RECALIBRATE RISK ASSESMENT

Assessing circular business models requires a different way of looking at risk and security. Circular economy business models and projects face a wide range of risks ranging from market/value

chain risks (e.g. supply of feedstock, volume and price, demand for products such as secondary raw materials), to technological risk (e.g. unproven technologies), operational risks, cash flow risks (e.g. delayed cash flows as a result of pay-per-use models), legal risks (e.g. maintenance and/or take back obligations, responsibilities in case of damage) and client risks (e.g. change in client base and behaviour).

The financial industry's tools to assess credit risk:

- are often less sensitive to the specific nature of the risks posed by the circular component of projects or entire projects;
- for the linear industry, they do not always identify the risks of remaining in the linear model (e.g. climate, societal, regulatory, tax, etc.), while for the circular industry, they fail to value the benefits/risk mitigants of circularity, often resulting in penalising effects.

The different risks in linear and circular business models have been summarised by Circle Economy as follows, and risk measurement methodologies should be recalibrated accordingly:

Circular risk	Linear risk
Shift of mindset needed to see (used) products as valuable sets of modules and/or materials instead of waste.	Dependency on virgin resources (risk of supply chain disruption).
Required initial investment can cause deterioration in short-term margins.	Exposure to resource price volatility.
Balance of short-term margin versus long-term stability.	Increasing environmental legislation.
Market demand for the offered products: customers and companies are currently used to owning products.	Growing population and increasing financial wealth.
Dependency on supply chain collaboration.	Effects of climate change.
Unknown residual value of many products, due to small market of circular output companies (i.e. companies that upcycle, re-use, remanufacture or refurbish).	Demand for environmentally sound products.
Supply chain lock-in risk.	Businesses/products that become obsolete by holding onto old linear business practices (stranded assets).

2. RECALIBRATE SECURITIES ASSESMENT

The financial industry fails to capture the advantages and new securities that circular business models present. For instance, a circular PSS model (Product-as-a-Service or Product Service System, a mix of tangible products and intangible services designed and combined so that they are jointly capable of fulfilling final PSS customer needs, like a car-sharing system) involve retaining ownership of the product and/or taking responsibility of the product throughout its lifetime. It focuses on the use phase by optimally using the product and preserving its added value.

When examining the financial opportunities of circular PSS models, their perceived risk is in contrast to their potential, long-term stability. In the table here below, developed by Circle Economy, risks and returns related to circular PSS models are summarised:

IMPACT OF CIRCULAR PSS MODELS	RISK	RETURN
Cash flows	More dispersed cash flows result in a longer payback period which, increases the risk of default and working capital requirements.	Cash flows are more stable in the longer term due to higher profit margins from revenues that come out of additional life cycles after the product is paid off.
Costs	Increased costs to manage receivables (invoices, credit checks, etc.) and the tracking and tracing of assets.	Reduce maintenance costs and increase margins by using intelligent assets to optimizing use and value recovery.
Balance sheet	Increased capital demand in order to finance a growing balance sheet.	Positive, residual value of assets by collaborating with supply chain partners.
Underlying asset value	Illiquidity and costly collection of collateral.	Increase in asset utilization and productivity due to improved maintenance, circular product design and value recovery systems.

To properly secure the potential return new methodologies must be developed:

- instead of past returns and historical data, the value of such businesses lies in stable, future cash flows and to secure them, the underlying contracts (durations and opt-out clauses) need to be taken into account;
- emphasis on continuously cycled products in a circular economy require new valuation methods: these methods must be able to evaluate the market prices of products and evaluate the future (residual) value of products after their use phase. This requires knowledge about the potential reuse of used products in order correctly assess their residual value and how it can increase through more circular supply chains. This also requires re-invention of depreciation schemes and accounting methods to track these assets;
- additionally, instead of pledging underlying assets as collateral, underlying materials could serve as value on which to base financing decisions. This strategy requires methods to estimate the future value of materials and resources, based on their supply and demand while being circulated throughout the market.

3. EMPHASIZE RELATIONSHIP BASED FINANCING

While a business' financial statements show its position with respect to financial and physical capital, it often does little to reveal intellectual and social capital. These "intangible" capitals, such as the value of the network of the company, are of great importance to circular businesses: many of the opportunities to increase resource efficiency can only be realised by chain

collaboration and a company's ability to innovate and change is often dependent on the capacity of its upstream and/or downstream partners to follow suit. Financing a circular business may therefore require extensive analysis not only of the borrower but also of the supply chain as, once entered into a collaborative model, the borrower's creditworthiness will be strongly correlated with the solidity and reliability of the supply chain. The FINAN*CE* working group even suggests that it may be desirable to finance the supply chain mechanism rather than a single company: this means the borrower would become a collective of companies, gathered around a specific product (or range of products). This would result in incentive alignment, since all chain partners are responsible for the risks taken and share the gains when the project is successful.

To integrate these intangible capitals (i.e. soft information) into the decision-making process it is essential to establish a relationship with the client.

4. VALUE NATURAL CAPITAL GAINS

Circular businesses use less natural resources and material inputs than their linear competitors. This advantage for circular businesses is not completely illustrated in their financial statements, even though the unsustainable use of natural resources can pose a clear and real threat to the company's future financial strength. As circular business models mitigate this risk, financial institutions should take these natural capital impacts and dependencies into account to finance the transition towards a circular economy.

5. BECOME A KNOWLEDGE PARTNER

To be an accelerator of the circular economy and thus profit from the opportunities it provides, financiers need to increase their (technical) expertise of circular products and business models. This knowledge is essential to assess a product's level of circularity, life expectancy, material use and whether or not the product will be able to live up to the corresponding contract. By increasing

their expertise, financiers can become strategic partners for circular businesses and improve their ability to finance them.

6. HAVE A LONG-TERM VISION

Despite the importance of long-term growth, timelines for financial decision-making are often limited to 2-3 years or less. Accomplishing short-term financial objectives can therefore come at

the expense of long-term performance. Circular businesses typically have a long-term strategy, focussing on long lasting products and long-term relationships with their clients. To correctly value these circular companies, financiers should base their decision-making on long-term metrics,

define long-term objectives and incentivize the entire investment chain to focus on these factors.

7. BECOME A FINANCIAL CHAIN DIRECTOR

Financiers play an important role as knowledge brokers for companies in need of finance. They can not only anticipate macro-economic developments in the market and specific sectors, but they are also able to oversee the financial landscape. Circular business models require multiple forms of capital, by collaborating with other financiers (e.g. through sharing information and co-funding circular projects) risks can be spread, durations can be matched and specific financial needs of these types of businesses can be met.

Are there financial actors specifically focusing on sustainable business models? What are the trends of such branch of the financial sector?

3. SUSTAINABLE FINANCE DEFINITION

3.1 The world of sustainable finance and related terms

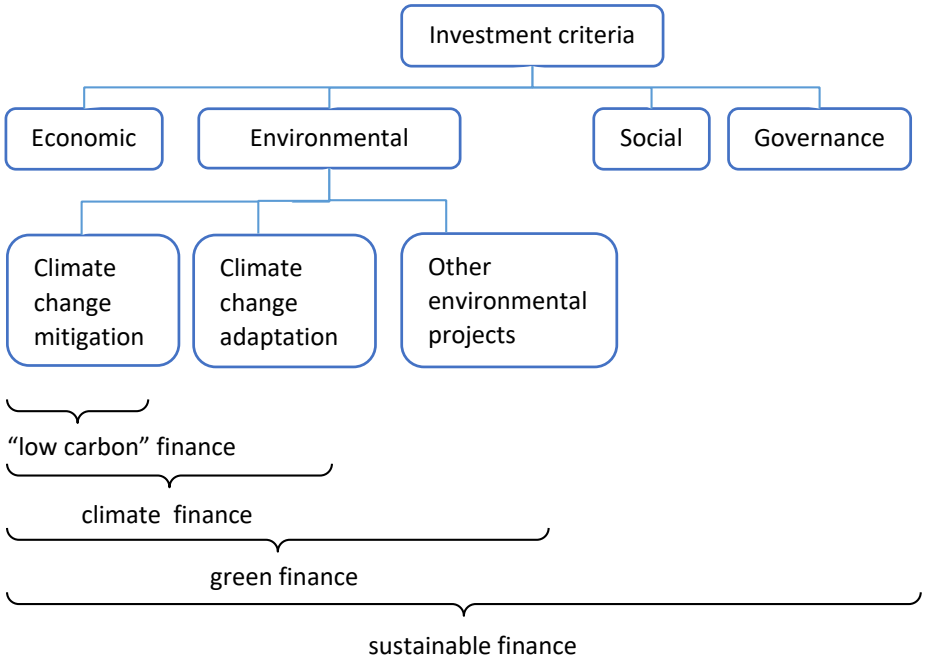
Although the EU is endeavouring to specify uniform requirements with its taxonomy – a classification system for sustainable economic activities – there is, at present, no framework at the global, European or national level which would allow sustainable investment of capital to be uniformly and clearly categorised, and often a variety of terms are used that seem synonymous at first glance. This obviously can generate confusion.

The broadest concept is that of **Sustainable finance**, or **Socially Responsible Investment (SRI)**. It typically encompasses the assets of all investors who have publicly committed to considering **environmental, social and governance (ESG)** issues, besides the classical economic one, in portfolio selection and management:

1. Environmental issues: relate to the quality and functioning of the natural environment and natural systems including biodiversity loss; greenhouse gas emissions; renewable energy, energy efficiency; natural resource depletion or pollution; waste management; ozone depletion; changes in land use; ocean acidification and changes to the nitrogen and phosphorus cycles.
2. Social issues: relate to rights, well-being and interests of people and communities including human rights, labour standards, health and safety, relations with local communities, activities in conflict zones, health and access to medicine, consumer protection; and controversial weapons.
3. Governance issues: relate to the management of investee entities. Issues include board structure, size, diversity, skills and independence; executive pay; shareholder rights; stakeholder interaction; disclosure of information; business ethics; bribery and corruption; internal controls and risk management; and, in general, issues dealing with the relationship between a company's management, its board, its shareholders and its other stakeholders.
4. Economic issues: relate to investee impacts on economic conditions at local, national, and global levels. Performance areas include direct financial performance and risk, and indirect impacts such as through employment, supply chains, and provision of infrastructure.

Approaches which embrace the full range of these issues are therefore more likely to be termed '**sustainable finance'** or '**responsible investment'**, whereas those that focus on environmental issues are more likely to be termed '**green finance'**. Where the concern is only with preventing or responding to climate change, the term '**climate finance'** may be used. Advocates for a sustainable finance approach argue that it's not possible to separate the environment from society: society depends on the environment for its existence, and human society has a major impact on the environment. Many of today's most pressing environmental issues impact disproportionately on those with the fewest resources, in both high-income and low-income countries, and the need to improve standards of living and to reduce inequality can't be separated from the need to protect our environment.

The United Nations Environment Programme has drafted a simplified schema for understanding these broad terms:



Given our focus on sustainable business models, where the social and environmental dimensions are strongly inteconnected, the "sustainable finance" world is our main reference and the right place where to find suitable financial partners.

This is also the world where the EU Commission is now focusing its effort: "In the EU's policy context sustainable finance is understood as finance to support economic growth while reducing pressures on the environment and taking into account social and governance aspects. Sustainable finance also encompasses transparency on risks related to ESG factors that may impact the financial system, and the mitigation of such risks through the appropriate governance of financial and corporate actors. The European Union is strongly supporting the transition to a low-carbon, more resource-efficient and sustainable economy and it has been at the forefront of efforts to build a financial system that supports sustainable growth."

3.2 Investment strategies

There are several investment strategies (what guides an investor's decisions) that allow an investor to engage in sustainable finance. The Global Sustainable Investment Alliance identifies the following strategies:

1. NEGATIVE/EXCLUSIONARY SCREENING: the exclusion from a fund or portfolio of certain sectors, companies or practices based on specific ESG criteria;
2. POSITIVE/BEST-IN-CLASS SCREENING: investment in sectors, companies or projects selected for positive ESG performance relative to industry peers;
3. NORMS-BASED SCREENING: screening of investments against minimum standards of business practice based on international norms, such as those issued by the OECD, ILO, UN and UNICEF;

4. ESG INTEGRATION: the systematic and explicit inclusion by investment managers of environmental, social and governance factors into financial analysis;
5. SUSTAINABILITY THEMED INVESTING: investment in themes or assets specifically related to sustainability (for example clean energy, green technology or sustainable agriculture);
6. IMPACT/COMMUNITY INVESTING: targeted investments aimed at solving social or environmental problems, and including community investing, where capital is specifically directed to traditionally underserved individuals or communities, as well as financing that is provided to businesses with a clear social or environmental purpose;
7. CORPORATE ENGAGEMENT AND SHAREHOLDER ACTION: the use of shareholder power to influence corporate behaviour, including through direct corporate engagement (i.e., communicating with senior management and/or boards of companies), filing or co-filing shareholder proposals, and proxy voting that is guided by comprehensive ESG guidelines.

These sustainable investment strategies are not mutually exclusive: many investors combine several of these approaches in order to give their influence on corporate sustainability the greatest possible impact.

The following chapters will provide details on how to implement such strategies, focusing on the principles that should drive the investment decisions.

3.3 Sustainable finance standards, principles and labels

3.3.1 Sustainable finance standards

The centrepiece of any standard is a classification system (taxonomy). At the moment there is no global classification which classifies individual sectors and economic activities as sustainable on the basis of selected technical eligibility criteria, but the International Organization for Standardization (ISO) is working on two standards, more specifically focused on green finance:

- ISO/DIS 14097: “Framework including principles and requirements for assessing and reporting investments and financing activities related to climate change”. It will guide those investing and managing finance to assess climate-related risks. Secondly, it will help drive the shift to a low-carbon economy by lowering the exposure to climate-related risks; thirdly, ISO 14097 will provide the benefits of standardization. In other words, a unifying framework that provides a basis for assessment, verification and comparability.
- ISO 14030: “Green bonds – Environmental performance of nominated projects and assets”, that will draw upon the Green Bond Principles and the Climate Bond Initiative’s Climate Bond Standard. Firstly, it will dispel any confusion about what constitutes a green bond. Secondly, it will provide a taxonomy of assets and projects that can be financed by green bonds, and thirdly it will provide assurance that green bonds issued in conformity with it will deliver environmental benefits, giving investors confidence.

At a more regional level, the European Commission is strongly engaged in the design of a sustainable finance framework. It presented an action plan on the financing of sustainable growth, which, if implemented as intended, will likely have a major bearing on the market for sustainable financial investments. It has already proposed draft legislation relating to the establishment of a taxonomy, sustainability benchmarks and disclosure of the methods used to integrate and evaluate ESG factors.

At the same time, several organisations have developed tools to promote the standardisation and development of sustainable finance products. Such instruments can take the form of general principles,

endorsed on a voluntary basis by organisations, or more specific labels that can be assigned to financial products such as investment funds or debt instruments.

3.3.2 General principles

The most known global principles driving sustainable finance are those developed under the **United Nations Environment Programme Finance Initiative (UNEP FI)**.

UNEP FI is a partnership between UNEP and the global financial sector to mobilize private sector finance for sustainable development. It aims to inspire, inform and enable financial institutions to improve people's quality of life without compromising that of future generations. By leveraging the UN's role, UNEP FI accelerates sustainable finance.

UNEP FI supports global finance sector principles to catalyze integration of sustainability into financial market practice. The frameworks UNEP FI has established or co-created include:

- **Principles for Responsible Banking (PRB)** launched with more than 130 banks collectively holding USD 47 trillion in assets, or one third of the global banking sector, on 22 September 2019;
- **Principles for Sustainable Insurance (PSI)**, established 2012 by UNEP FI and today applied by one-quarter of the world's insurers (25% of world premium);
- **Principles for Responsible Investment (PRI)**, established in 2006 by UNEP FI and the UN Global Compact, now applied by half the world's institutional investors (USD 83 trillion).
- UNEP FI also supports the **Sustainable Stock Exchanges Initiative (SSEI)**, launched in 2012 with UNCTAD, UN Global Compact, and the PRI. Today this involves 90 stock exchanges accounting for almost all publicly-listed capital markets.

These frameworks establish general criteria for sustainable finance, providing the basis for standard-setting and helping to ensure private finance fulfils its potential role in contributing to achieving the 2030 Agenda for Sustainable Development and Paris Agreement on Climate Change agreed by governments around the world in 2015. They are a list of principles that target companies (banks, insurance companies, institutional investors) commit to follow to align their business strategy with society's goals.

3.3.3 Specific principles and labels

Besides the general principles applied by financial institutions to align their strategic, managerial, and operational approaches to global sustainability objectives, there are also more specific principles and labels assigned to single financial products.

The most famous and widely used principles are those for bonds. The main references in this field are the Green Bond Principles and the Climate Bond Initiative's Climate Bond Standard which, again, are more focused on green aspects:

- **The Green Bond Principles (GBP)** are voluntary process guidelines that recommend transparency and disclosure and promote integrity in the development of the Green Bond market by clarifying the approach for issuance of a Green Bond. The GBP are intended for broad use by the market: they provide issuers with guidance on the key components involved in launching a credible Green Bond; they aid investors by promoting availability of information necessary to evaluate the environmental impact of their Green Bond investments and they assist underwriters by moving the market towards expected disclosures that will facilitate transactions. The GBP recommend a clear process and disclosure for issuers, which investors, banks, underwriters, placement agents and others may use to understand the characteristics of any given Green Bond. The GBP emphasise the required transparency, accuracy and integrity of information that will be disclosed and reported by issuers to

stakeholders. The GBP have been developed by the International Capital Market Association (ICMA), a not-for-profit membership association that serves the needs of its wide range of member firms in global capital markets. As of March 2020, ICMA has around 600 members in 62 countries.

- The Climate Bond Initiative's **Climate Bond Standard**. The Climate Bonds Standard and Certification Scheme is a labelling scheme for bonds. Rigorous scientific criteria ensure that it is consistent with the 2 degrees Celsius warming limit in the Paris Agreement. The Scheme is used globally by bond issuers, governments, investors and the financial markets to prioritise investments which genuinely contribute to addressing climate change. The Climate Bonds Standard consists of a Certification process, Pre-Issuance requirements, Post-Issuance requirements and a suite of sector eligibility & guidance documents. The Standard is backed by the Climate Bonds Standard Board of investor representatives, which collectively represent $51 trillion of assets under management.

Besides these global initiatives, there are also more local standards. In Europe the main sustainable finance standards are the following:

- Eurosif Transparency Code (Europe): focus on retail SRI (Socially Responsible Investment) funds in order to increase accountability to consumers. The guidelines create greater clarity for asset managers, research providers and other stakeholders.
- ISO 32210:2022 (World): gives guidance to organizations on the application of overarching sustainability principles, practices and terminology for financing activities. It addresses what is material from the perspective of the organization and of its stakeholders and is applicable to all organizations active in the financial sector, including, but not limited to, direct lenders and investors, asset managers and service providers. Beyond financial institutions and intermediaries, it can be used by other parties in the financial sector such as providers or recipients of sustainable finance, governmental organizations, public and private sector institutions, business entities, industry associations, financial market regulators, and supervisory and control bodies.
- Towards Sustainability Label (Belgium): the Belgian Financial Sector Federation (Febelfin) developed a quality standard for sustainable financial products, with a floor (minimum norm) for all such products, and a corresponding label.
- FNG-Label for Sustainable Mutual Funds (Germany, Austria & Switzerland): The FNG Label guarantees that, as a minimum requirement, the exclusion criteria of nuclear power and armaments are applied and the four areas of the UN Global Compact, i.e. human rights, labour, environment and anti-corruption, are taken into consideration. The FNG quality standard also requires that transparency and process criteria be met.
- FNG Sustainability Profiles and Transparency Matrix (Germany, Austria & Switzerland): these are guidance tools to assist investors in the selection of sustainable mutual funds. Both tools help investors and financial advisors to obtain an overview of the sustainability strategies used. This information is supplemented by general key fund data. To have a fund included in the FNG Matrix and an FNG Sustainability Profile set up, the manager has to complete the FNG Sustainability Profile form.
- Luxflag labels (Luxembourg): LuxFLAG (Luxembourg Finance Labelling Agency) is an independent and international non-profit association created in Luxembourg. The labels' objective is to reassure investors that the applicant invests in the Responsible Investment sector. As of September 2019, LuxFLAG labels 158 investment products domiciliated in 5 jurisdictions (Belgium, France, Germany, Ireland and Luxembourg) and managed by 63 Asset Managers in about 14 countries. The agency

offers 5 different labels (each with specific high standards criteria): Microfinance, Environment, ESG, Climate Finance and Green Bond.

- Nordic Swan Ecolabel for Investment Funds (Nordic Countries): The Nordic Swan Ecolabel is the official ecolabel of the Nordic countries. Ecolabelling Sweden, which is a state-owned company that operates without profit or industry interests, is responsible for the Nordic Swan Ecolabel. In the 30 years the Nordic Swan Ecolabel has been around, it has gone from ecolabelling toilet paper and detergents, to houses, grocery stores and funds. The criteria for a Nordic Swan Ecolabelled fund are a combination of obligatory requirements that must be met at all times, as well as point-score requirements. Out of the total score of 16, a minimum of 6 must be achieved to fulfil the licence conditions.
- Umweltzeichen (Austria): this is an ecolabel assigned by the Austrian Federal Ministry for the Environment, covering several sectors (Building & Living, Cleaning, Office, Paper, Printing, Garden & Outdoors, Green Energy, etc.) including financial products. It is based on a mandatory integration of ESG selection criteria.
- SRI Label (France): created and supported by the Finance Ministry, the label goal is to increase the visibility of SRI products among savers in France and Europe. The fund submits its application to one of the certification bodies along with information regarding the nature and composition of the portfolio. To obtain the SRI label, the fund must meet a set of criteria based on the integration of ESG factors.
- Greenfin Labels (France): Created and supported by the French Ministry of Ecological and Solidarity Transition, it guarantees investors - banks, insurers and savers - that the financial products in which they invest effectively contribute to financing of the energy and ecological transition. Novethic, leading expert in the assessment of sustainable finance practices in Europe, is the official auditor of the Greenfin label. The criteria of the label are based on 3 pillars: the green share and exclusions, ESG criteria and positive impacts.

4. GLOBAL NETWORKS FOR SUSTAINABLE FINANCE

Sustainable Finance is gathering the attention of an increasing number of investors. In order to support such actors in their path, several networks have been created to exchange experiences, share best practices and more generally contribute to the development of the sector. The following tables present the main networks that focus on sustainable finance (some of them are more focused on the green/climate dimension, others have a more holistic approach) and have a world coverage. Additional networks can be found at regional or national level.

Such networks often provide detailed guidance and practical tools to support members in the integration of environmental criteria in their internal procedures and practices.

Name	**The Climate Action in Financial Institutions Initiative**
Members	More than 20 institutions launched the Climate Action in Financial Institutions Initiative on December 7, 2015 in the side-lines of COP21. As of January 2020, 44 institutions around the globe have joined the Initiative.
Focus/ Objective	The Climate Action in Financial Institutions Initiative helps financial institutions face the concrete challenges of the integration of climate considerations into their different activities and operations. The Initiative focuses on sharing expertise, knowledge and

	practices among Supporting Institutions – and with the broader business and financial community. The Initiative aims to provide an opportunity for financial institutions to: - Foster the implementation of the voluntary Principles for Mainstreaming Climate Action and learn from each other; - Ensure that lessons learned around good practice are disseminated; - Support the development of new approaches for mainstreaming climate change. The organisations that join the Initiative have to endorse the 5 voluntary Principles for Mainstreaming Climate Action. These voluntary Principles are: - COMMIT to climate strategies - MANAGE climate risks - PROMOTE climate smart objectives - IMPROVE climate performance - ACCOUNT for your climate action
Link	https://www.mainstreamingclimate.org/

Name	**Institutional Investors Group on Climate Change (IIGCC)**
Members	IIGCC has more than 240 members, mainly pension funds and asset managers, across 16 countries, with over €33 trillion in assets under management.
Focus/ Objective	The Institutional Investors Group on Climate Change (IIGCC) is the European membership body for investor collaboration on climate change and the voice of investors taking action for a prosperous, low carbon future. Its mission is to mobilise capital for the low carbon transition and to ensure resilience to the impacts of a changing climate by collaborating with business, policy makers and fellow investors. IIGCC works to support and help define the public policies, investment practices and corporate behaviours that address the long-term risks and opportunities associated with climate change. Members consider it a fiduciary duty to ensure stranded asset risk or other losses from climate change are minimised and that opportunities presented by the transition to a low carbon economy – such as renewable energy, new technologies and energy efficiency – are maximised.
Link	https://www.iigcc.org/about-us

Name	**Global Sustainable Investment Alliance (GSIA)**
Members	The Global Sustainable Investment Alliance (GSIA) is an international collaboration of membership-based sustainable investment organizations. Each member is itself a regional membership-based network, grouping several local actors: - Eurosif: The European Sustainable Investment Forum. - JSIF: Japan Sustainable Investment Forum

	- RIAA: Responsible Investment Association Australasia - RIA Canada: Responsible Investment Association Canada. - US SIF: The Forum for Sustainable & Responsible Investment
Focus/ Objective	The GSIA's mission is to deepen the impact and visibility of sustainable investment organizations at the global level. Several goals direct GSIA's work: - to deepen the impact and visibility of GSIA members at the global level and to communicate about our distinctive role in national, regional and international arenas; - to enhance the synergies between GSIA members; - to undertake initiatives that would benefit from global coordination, and to enable GSIA members to support and supplement each other's work where cross-border (regional and international) collaboration is needed or occurring; - to enable GSIA members to be strong, effective and productive within their regional and national markets; - to provide advice and support, where possible, to local and regional sustainable investment organizations.
Link	http://www.gsi-alliance.org/

Name	**The Global Steering Group for Impact Investment (GSG)**
Members	The GSG is an independent global steering group catalyzing impact investment and entrepreneurship to benefit people and planet. The GSG was established in August 2015 as the successor to and incorporating the work of the Social Impact Investment Taskforce established under the UK´s presidency of the G8. The GSG currently has 32 countries plus the EU as members. Each of the 32 members of the GSG has a National Advisory Board working to catalyse impact investment in their country or region, whose members are also financial institutions.
Focus/ Objective	The aim of the GSG is that measurable impact is embraced as a deliberate driver in every investment and business decision affecting people and the planet. The network is engaged to: - Develop and accelerate impact ecosystems in countries - Create formal working groups for new knowledge, insights, definitions, and standards - Advocate with 07, 020, the EU, the UN and the OECD, and other governing bodies. - Build Outcome Funds, Impact Wholesalers, Fund of Funds and Intermediaries - Organise and host events, including annual CSC Impact Summit.
Link	https://gsgii.org/

Name	**The Global Impact Investing Network (GIIN)**

Members	GIIN membership represents a large global community of impact investors (asset owners and asset managers) and service providers engaged in impact investing.
Focus/ Objective	The GIIN is widely recognized as one of the world's leading sources of data and perspectives on impact investing. By convening impact investors to facilitate knowledge exchange, highlighting innovative investment approaches, building the evidence base for the industry, and producing valuable tools and resources, the GIIN seeks to accelerate the industry's development through focused leadership and collective action. It includes a dedicated "Climate Investing Track", to support climate mitigation investors through targeted engagement around themes like clean energy access and sustainable forestry. In 2019, the GIIN released the IRIS+ system. Designed with input from hundreds of leading impact investing practitioners from around the world, it's a tool that allows investors and companies to effectively measure and manage their impact and clarify how to improve that impact over time.
Link	https://thegiin.org/

Name	**Central Banks and Supervisors Network for Greening the Financial System (NGFS)**
Members	The organisation is a group of Central Banks and Supervisors. As of April 16th 2020, the NGFS consists of 65 members and 12 observers.
Focus/ Objective	The network aims to exchange experiences, share best practices, contribute to the development of environment and climate risk management in the financial sector, and to mobilize mainstream finance to support the transition toward a sustainable economy. Its purpose is to define and promote best practices to be implemented within and outside of the Membership of the NGFS and to conduct or commission analytical work on green finance.
Link	https://www.ngfs.net/

Name	**Coalition for Climate Resilient Investment (CCRI)**
Members	Private sector-led initiative comprised of over 30 companies from across the investment value chain with US$5 trillion of assets under management, alongside Governments and multilateral organisations.
Focus/ Objective	The coalition aims to transform infrastructure investment by integrating climate risks into decision-making, driving a shift toward a more climate resilient economy for all countries, including the most vulnerable. The Coalition will develop case studies to build the business case and identify the critical enabling environments for climate resilient infrastructure investment. By COP26 in 2020 analytical tools including a physical risk pricing framework and methodology to prioritise national resilient investment needs, will be developed, alongside a range of instruments to prevent capital flight from the most vulnerable regions, such as a technology transfer programmes, technical assistance facilities and/or blended finance facilities. Going forward, innovative capital market instruments such as

	Resilience Bonds will be structured, and the pricing framework will be implemented across resilient infrastructure investment funds.
Link	https://resilientinvestment.org/

Name	**The Global Alliance for Banking on Values (GABV)**
Members	The Global Alliance for Banking on Values (GABV) is a network of banking leaders from around the world committed to advancing positive change in the banking sector. the GABV comprises of 62 financial institutions and 16 strategic partners operating in countries across Asia, Africa, Australia, Latin America, North America and Europe. Collectively they serve more than 67 million customers, hold over $200 billion USD of combined assets under management.
Focus/ Objective	The collective goal is to change the banking system so that it is more transparent, supports economic, social and environmental sustainability, and is composed of a diverse range of banking institutions serving the real economy.
Link	http://www.gabv.org/

5. SUSTAINABLE FINANCE EVOLUTION

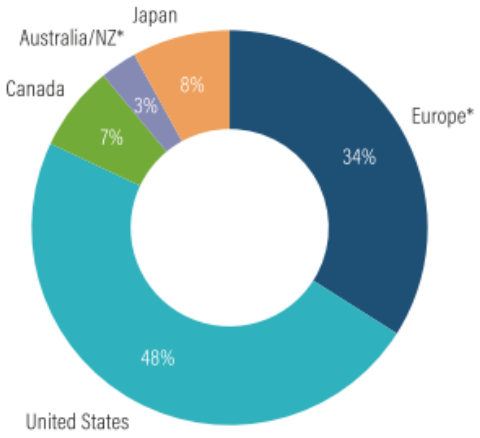
The Global Sustainable Investment Alliance (GSIA) publishes periodically a report which collates the results from the market studies of regional sustainable investment forums for Europe, the United States, Canada, Japan, and Australia and New Zealand. The last Report summarizes the status of sustainable and responsible investing (encompassing all the sustainable investing strategies) in these markets at the start of 2020.

At the start of 2020, global sustainable investment reached 35.3 trillion USD in the five major markets of Europe, United States, Canada, Australasia and Japan; a 15% increase in the past two years (2018- 2020) and 55% increase in the past four years (2016-2020). Sustainable investment assets are continuing to climb globally, with the exception of Europe, however this is due to significant changes in the sustainable investments as defined under EU legislation. The largest increase over the past two years was in Canada, where sustainably managed assets grew over 48%.

SNAPSHOT OF GLOBAL SUSTAINABLE INVESTING ASSETS, 2016–2018-2020 (USD billions)

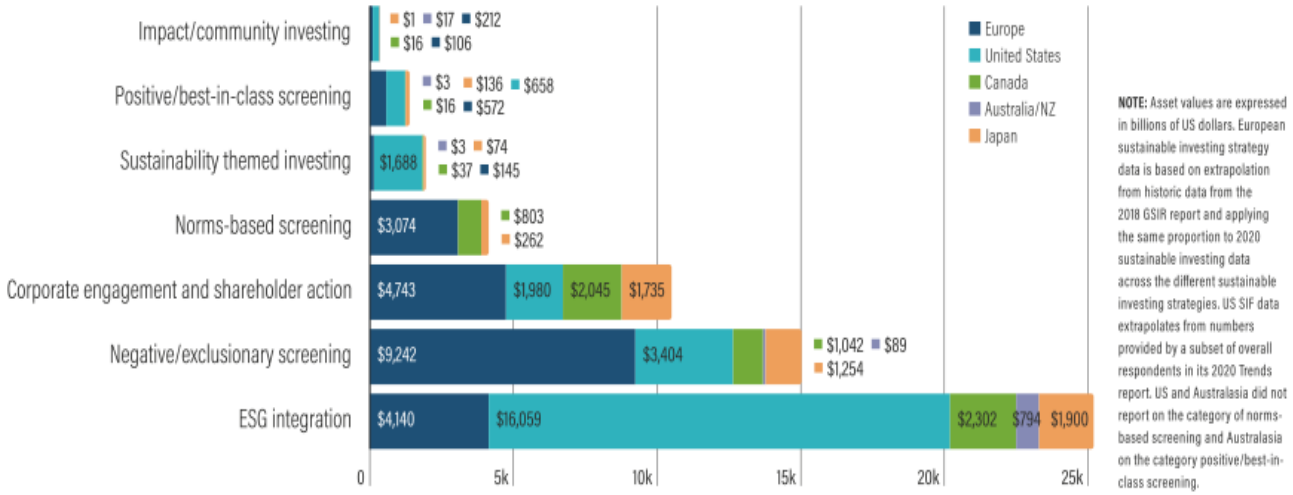
REGION	2016	2018	2020
Europe*	12,040	14,075	12,017
United States	8,723	11,995	17,081
Canada	1,086	1,699	2,423
Australasia*	516	734	906
Japan	474	2,180	2,874
Total (USD billions)	**22,839**	**30,683**	**35,301**

PROPORTION OF GLOBAL SUSTAINABLE INVESTING ASSETS BY REGION 2020



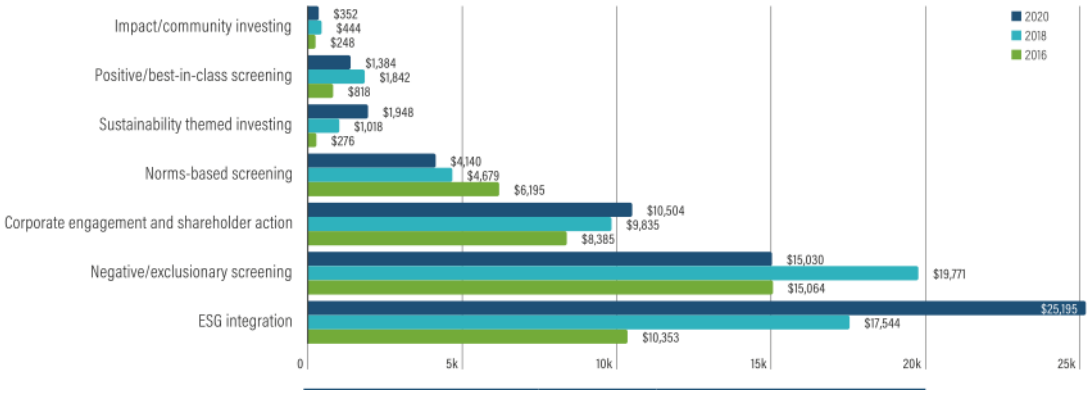
* Europe and Australasia have enacted significant changes in the way sustainable investment is defined in these regions, so direct comparisons between regions and with previous versions of this report are not easily made.

SUSTAINABLE INVESTING ASSETS BY STRATEGY AND REGION 2020



NOTE: Asset values are expressed in billions of US dollars. European sustainable investing strategy data is based on extrapolation from historic data from the 2018 GSIR report and applying the same proportion to 2020 sustainable investing data across the different sustainable investing strategies. US SIF data extrapolates from numbers provided by a subset of overall respondents in its 2020 Trends report. US and Australasia did not report on the category of norms-based screening and Australasia on the category positive/best-in-class screening.

GLOBAL GROWTH OF SUSTAINABLE INVESTING STRATEGIES 2016–2020



6. EUROPEAN FRAMEWORK FOR SUSTAINABLE FINANCE

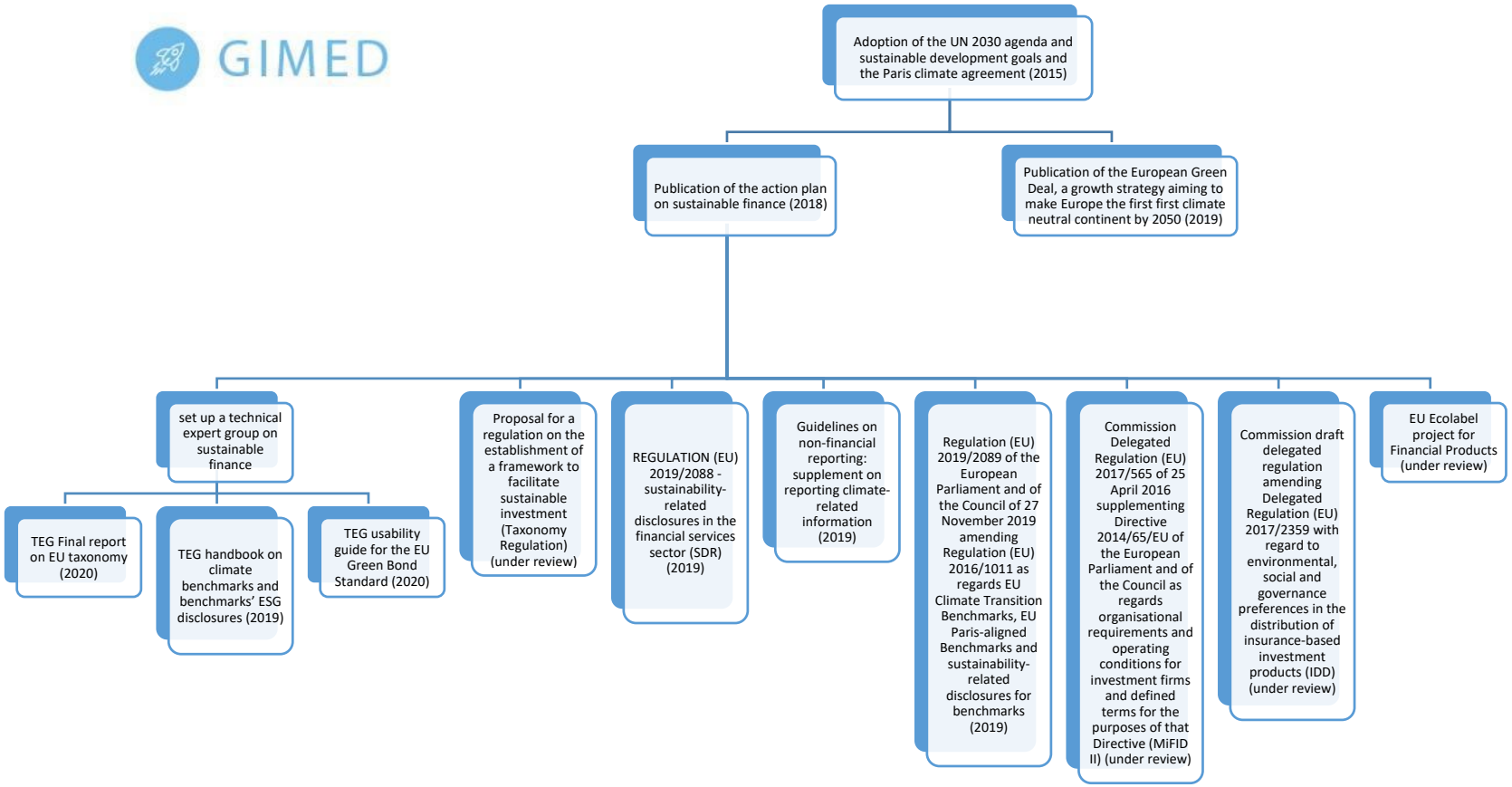
European Union is strongly supporting the transition to a low-carbon, more resource-efficient and sustainable economy and it has been at the forefront of efforts to build a financial system that supports sustainable growth.

The process started in 2015 with the Paris climate agreement. To achieve the EU's 2030 targets agreed in Paris, there's a need to fill an investment gap estimated at 180 billion EUR per year: the scale of the investment challenge is beyond the capacity of the public sector alone, therefore the financial sector has a key role to play in reaching those goals.

This is why the EU then launched in 2018 the Action plan on sustainable finance, a comprehensive strategy to further connect finance with sustainability, through 3 main objectives:

- reorient capital flows towards sustainable investment, in order to achieve sustainable and inclusive growth
- manage financial risks stemming from climate change, environmental degradation and social issues
- foster transparency and long-termism in financial and economic activity

Starting from that, the Commission is adopting several measures implementing the key actions announced in the Action plan, that are summarized in the graph below.


Adoption of the UN 2030 agenda and sustainable development goals and the Paris climate agreement (2015)
Publication of the action plan on sustainable finance (2018)
Publication of the European Green Deal, a growth strategy aiming to make Europe the first first climate neutral continent by 2050 (2019)
set up a technical expert group on sustainable finance
TEG Final report on EU taxonomy (2020)
TEG handbook on climate benchmarks and benchmarks' ESG disclosures (2019)
TEG usability guide for the EU Green Bond Standard (2020)
Proposal for a regulation on the establishment of a framework to facilitate sustainable investment (Taxonomy Regulation) (under review)
REGULATION (EU) 2019/2088 - sustainability-related disclosures in the financial services sector (SDR) (2019)
Guidelines on non-financial reporting: supplement on reporting climate-related information (2019)
Regulation (EU) 2019/2089 of the European Parliament and of the Council of 27 November 2019 amending Regulation (EU) 2016/1011 as regards EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks (2019)
Commission Delegated Regulation (EU) 2017/565 of 25 April 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council as regards organisational requirements and operating conditions for investment firms and defined terms for the purposes of that Directive (MiFID II) (under review)
Commission draft delegated regulation amending Delegated Regulation (EU) 2017/2359 with regard to environmental, social and governance preferences in the distribution of insurance-based investment products (IDD) (under review)
EU Ecolabel project for Financial Products (under review)

6.1 Taxonomy

The centrepiece of the legal framework for sustainable finance is the classification system (taxonomy), which classifies individual sectors and economic activities as environmentally sustainable on the basis of selected technical eligibility criteria for green projects and assets.

Title	**REGULATION (EU) 2020/852 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the establishment of a framework to facilitate sustainable investment**
What is it about?	Currently Member States differ in their interpretations as to what counts as sustainable investment. This proposal establishes the framework to set out **uniform criteria to determine the environmental sustainability of an economic activity, exclusively for the purposes of determining the degree of sustainability of an investment**. This Regulation does not establish a label for sustainable financial products. Instead, it provides the framework to set out the criteria that need to be taken into account when setting up such labels at national or EU level.
To whom does it apply?	- Large companies who are already required to provide a non-financial statement under the Non-Financial Reporting Directive. National implementation varies, but NFRD covers, at a minimum, large public-interest companies with more than 500 employees, including listed companies, **banks and insurance companies**. - **Financial market participants** (as defined in Article 2 (1) and Article 16 of Regulation 2019/2088) offering financial products as environmentally sustainable investments or as investments having similar characteristics: (a) an insurance undertaking which makes available an insurance-based investment product (IBIP); (b) an investment firm which provides portfolio management; (c) an institution for occupational retirement provision (IORP); (d) a manufacturer of a pension product; (e) an alternative investment fund manager (AIFM); (f) a pan-European personal pension product (PEPP) provider; (g) a manager of a qualifying venture capital fund registered in accordance with Article 14 of Regulation (EU) No 345/2013; (h) a manager of a qualifying social entrepreneurship fund registered in accordance with Article 15 of Regulation (EU) No 346/2013; (i) a management company of an undertaking for collective investment in transferable securities (UCITS management company); or (j) a credit institution which provides portfolio management.
Main points	Focusing on Financial market participants, those offering financial products in the EU, including occupational pension providers, are **required to state, for each relevant product that promotes environmental characteristics**:

- to what environmental objective(s) the investments contribute; and
- the share of investments in environmentally sustainable economic activities, including details on the respective proportions of enabling and transition activities, as a percentage of all investments selected for the financial product.

The criteria for determining the environmental sustainability of an economic activity require that the economic activity contributes substantially to one or more environmental objectives and does not significantly harm any of the others. They also require that the economic activity is carried out in compliance with minimum social and labour international standards.

For the purpose of this Regulation, **the environmental objectives are the following**:

1. climate change mitigation;
2. climate change adaptation;
3. sustainable use and protection of water and marine resources;
4. transition to a circular economy, waste prevention and recycling;
5. pollution prevention and control;
6. protection of healthy ecosystems;

and **a list of features an activity should have, in order to be considered as contributing to such objectives, is provided** (generating, transmitting, storing, distributing or using renewable energy; increasing clean or climate-neutral mobility; etc.).

The disclosures must be made as part of existing pre-contractual and periodic reporting requirements.

Financial products with Taxonomy disclosure obligations

Market segment	In scope for Taxonomy disclosure
Pensions and Asset Management	• UCITS funds: • equity funds • exchange-traded funds (ETFs) • bond funds • Alternative Investment Funds (AIFs): • fund of funds • real estate funds • private equity or SME loan funds • venture capital funds • infrastructure funds • Portfolio management (under Article 4(1) of MiFID II) • Pensions: • pension products • pension schemes (defined with reference to IORP II) • pan-European personal pension products
Insurance	• Insurance-based investment products (IBIPs)
Corporate & Investment Banking	• Securitisation funds • Venture capital and private equity funds • Portfolio management • Index funds

Entry into force and application	The Regulation has entered into force in July 2022. By July 2022, and subsequently every 3 years, the Commission shall publish a report of the application of the Regulation to specify, among other aspects, technical screening criteria for what qualifies as a substantial contribution to a given environmental objective for a given economic activity and what is considered to cause significant harm to other objectives.
Links	official document

In July 2023, the Commission has published the Sustainable Finance Package 2023, a new package of measures to build on and strengthen the foundations of the EU sustainable finance framework.

Title	**Commission Notice on the interpretation and implementation of certain legal provisions of the EU Taxonomy Regulation and links to the Sustainable Finance Disclosure Regulation 2023/C 211/01**
What is it about?	The aim of today's package therefore is to ensure that the EU sustainable finance framework continues to support companies and the financial sector, while encouraging the private funding of transition projects and technologies. Specifically, the Commission is today adding additional activities to the EU Taxonomy and proposing new rules for Environmental, Social and Governance (ESG) rating providers, which will increase transparency on the market for sustainable investments.
Main points	The package aims to ensure that the sustainable finance framework works for companies that want to invest in their transition to sustainability. It aims also to make the sustainable finance framework easier to use, thereby continuing to contribute effectively to the European Green Deal objectives. The package in detail: -EU Taxonomy Delegated Acts: The EU Taxonomy is a cornerstone of the EU's sustainable finance framework and an important market transparency tool that helps direct investments to the economic activities most needed for a green transition. The Commission has today approved in principle a new set of EU Taxonomy criteria for economic activities making a substantial contribution to one or more of the non-climate environmental objectives, namely: ● sustainable use and protection of water and marine resources, ● transition to a circular economy, ● pollution prevention and control, ● protection and restoration of biodiversity and ecosystems. To complement this, the Commission has adopted targeted amendments to the EU Taxonomy Climate Delegated Act, which expand on economic activities contributing to climate change mitigation and adaptation not included so far – in particular in the manufacturing and transport sectors. The inclusion of more economic activities covering all six environmental

	objectives, and consequently more economic sectors and companies, will increase the usability and the potential of the EU Taxonomy in scaling up sustainable investments in the EU. -Proposal for a regulation of ESG (Environmental, Social and Governance) ratings providers: ESG ratings play an important role in the EU sustainable finance market as they provide information to investors and financial institutions regarding, for example, investment strategies and risk management on ESG factors. Today, the ESG ratings market currently suffers from a lack of transparency and the Commission is proposing a Regulation to improve the reliability and transparency of ESG ratings activities. New organisational principles and clear rules on the prevention of conflicts of interest will increase the integrity of the operations of ESG rating providers. These new rules will enable investors to make better informed decisions regarding sustainable investments. Moreover, the proposal will require that ESG rating providers offering services to investors and companies in the EU be authorised and supervised by the European Securities and Markets Authority (ESMA). This will also ensure the quality and reliability of their services to protect investors and ensure market integrity. -Enhancing usability: In addition, the Commission is presenting today an overview of the recent measures and tools put forward to address key implementation issues and questions raised by stakeholders. Early reporting trends show that companies across all key economic sectors are using the EU Taxonomy more and more as part of their transition efforts. For instance, this year's initial corporate taxonomy reporting shows encouraging trends among large non-financial companies, with many reporting increasing values of taxonomy alignment, in particular in their capital expenditure. As a first step, the Commission has recently developed a series of targeted measures and initiatives to enhance the usability of the rules and support stakeholders in their implementation. -Transition finance: Today's package also demonstrates how the EU legal framework can be used effectively to facilitate transition finance. Today's recommendations on transition finance aim to provide guidance as well as practical examples for companies and the financial sector. These aim to show how companies can use the various tools of the EU sustainable finance framework on a voluntary basis to channel the investments into the transition and manage their risks stemming from climate change and environmental degradation. The objective is to facilitate transition finance, not only for companies that have strong sustainability records already, but also for those that are at different starting points, with credible plans or targets to improve their sustainability performance. It also acknowledges that small and medium-sized enterprises face specific challenges that need to be addressed.

Entry into force	The EU Taxonomy Delegated Acts are approved in principle and once all EU official languages will be made available, they will be adopted and transmitted to the European Parliament and the Council for their scrutiny (four-month period, extendable once by two additional months). They are expected to apply as of January 2024. Regarding the proposal for a regulation of ESG ratings providers, the Commission will now engage in discussions with the European Parliament and Council. Today's package follows the launching on Friday 9 June of a four-week feedback period on a first set of sustainability reporting standards for companies. Mandatory reporting standards will ensure transparent and comparable sustainability information. The Commission will consider the feedback received before finalising the standards as delegated acts and submitting them to the European Parliament and Council for scrutiny. Once adopted, these reporting standards will be used by companies subject to the Corporate Sustainability Reporting Directive
links	link official document

The European Commission set up a Technical expert group on sustainable finance (TEG) to assist it in developing the so-called EU taxonomy, to determine whether an economic activity is environmentally sustainable. The TEG published the final version of its report on 9 March 2020

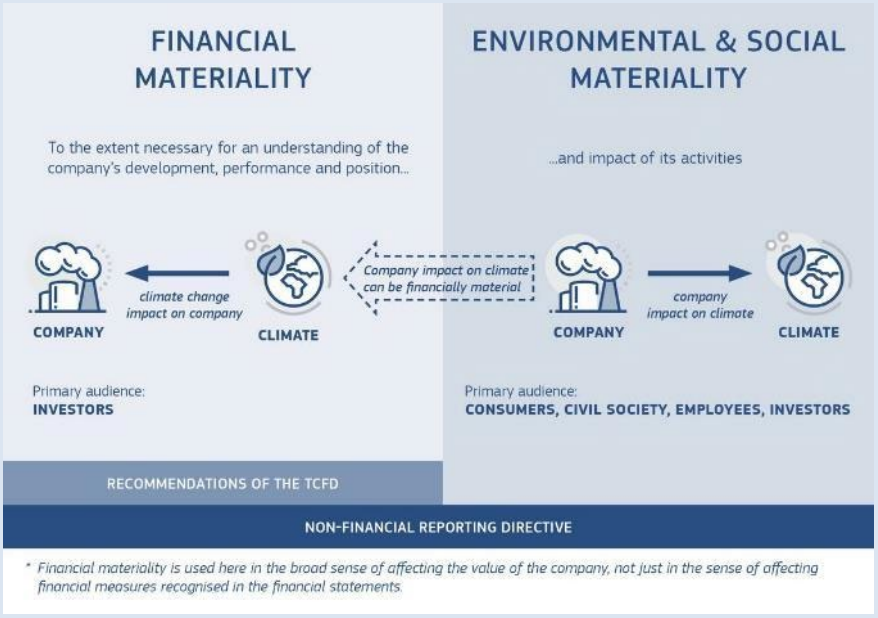
Title	**TEG FINAL REPORT ON EU TAXONOMY**
What is it about?	The final report on EU taxonomy contains recommendations relating to the overarching design of the Taxonomy, as well as guidance on how companies and financial institutions can make disclosures using the taxonomy. The report is supplemented by a technical annex containing an **updated list of technical screening criteria for economic activities that can substantially contribute to climate change mitigation or adaptation, including an assessment of significant harm to other environmental objectives**.
To whom does it apply?	The TEG's recommendations are designed to support the European Commission in the development of the delegated act under the Taxonomy Regulation, to specify technical screening criteria for what qualifies as a substantial contribution to a given environmental objective for a given economic activity and what is considered to cause significant harm to other objectives It is important therefore for Financial market participants to have a look at the performance thresholds (technical screening criteria) set by the TEG to identify "sustainable" activities, as they will be a **relevant reference for future EU acts**.
Main points	The Taxonomy sets performance thresholds (referred to as 'technical screening criteria') for economic activities which: - make a substantive contribution to one of six environmental objectives (those set out in the Taxonomy Regulation); - do no significant harm (DNSH) to the other five, where relevant; - meet minimum safeguards (e.g., OECD Guidelines on Multinational Enterprises and the UN Guiding Principles on Business and Human Rights).

	The TEG has identified priority activities within those economic sectors have the potential to make a substantial contribution to climate change mitigation or climate change adaptation (Electricity, gas, steam and air conditioning supply, Manufacturing, Transportation and storage, etc.) defining 'technical screening criteria' for each activity. Example: within the economic sector "Agriculture, forest and silviculture" the TEG considers the activity "Afforestation" as potentially relevant for the Climate Change Mitigation objective and identifies a list of technical requirements that the activity has to meet (management principles, greenhouse gas measurements, etc.) in order to be considered as effectively contributing to that specific objective.
Entry into force and application	Delegated acts by the European Commission, containing technical screening criteria, will be developed in two phases: the first technical screening criteria, for activities which substantially contribute to climate change mitigation or adaptation, will be adopted by the end of 2020 and enter into application by the end of 2021. The second set of technical screening criteria, which cover economic activities substantially contributing to the other four environmental objectives, will be adopted by end 2021 and enter into application by end 2022.
Links	link to official document

6.2 Specific regulations for sustainability-related investments

The EU has also published specific regulations applying to financial actors and concerning the disclosure of certain information on the way they operate and manage social and environmental challenges

Title	**DIRECTIVE 2014/95/EU - disclosure of non-financial and diversity information by certain large undertakings and groups (NFRD)**
What is it about?	The Directive lays down the rules on disclosure of non-financial and diversity information by large companies: it requires large companies to **disclose certain information on the way they operate and manage social and environmental challenges**.
To whom does it apply?	EU rules on non-financial reporting only apply to large public-interest companies with more than 500 employees. This covers approximately 6,000 large companies and groups across the EU, including - listed companies - **banks** - **insurance companies** - other companies designated by national authorities as public-interest entities
Main points	Under Directive 2014/95/EU, large companies must publish reports on the policies they implement in relation to - **environmental protection** - social responsibility and treatment of employees - respect for human rights - anti-corruption and bribery

	- diversity on company boards (in terms of age, gender, educational and professional background) Concerning environmental disclosure, the Non-Financial Reporting Directive has a double materiality perspective: financial materiality (in the broad sense of affecting the value of the company: climate-related information should be reported if it is necessary for an understanding of the development, performance and position of the company) and environmental and social materiality (climate-related information should be reported if it is necessary for an understanding of the external impacts of the company). 
Entry into force and application	Companies are required to include non-financial statements in their annual reports from 2018 onwards. On 20 February 2020 the Commission launched a public consultation on the review of the NFRD to improve the disclosure of non-financial information by companies and financial institutions. Users of this information, mainly investors and civil society organisations, are demanding more and better information from companies about their social and environmental performance and impacts. Check the relevant national legislation transposing the Non-Financial Reporting Directive
Links	link to official document

On January the 5th 2023 new rules on corporate sustainability reporting were issued as the Corporate Sustainability Reporting Directive (CSRD) entered into force:

Title	**DIRECTIVE 2022/2464- as regards corporate sustainability reporting**
What is it about?	This new directive modernises and strengthens the rules concerning the social and environmental information that companies have to report. The new rules will ensure that investors and other stakeholders have access to the information they need to

	assess investment risks arising from climate change and other sustainability issues. They will also create a culture of transparency about the impact of companies on people and the environment. Finally, reporting costs will be reduced for companies over the medium to long term by harmonising the information to be provided.
To whom does it apply?	A broader set of large companies, as well as listed SMEs, will now be required to report on sustainability – approximately 50 000 companies in total.
Main points	The new rules will ensure that investors and other stakeholders have access to the information they need to assess investment risks arising from climate change and other sustainability issues. • a culture of transparency about the impact of companies on people and the environment; • reporting costs will be reduced for companies over the medium to long term by harmonising the information to be provided; • Companies subject to the CSRD will have to report according to European Sustainability Reporting Standards (ESRS).
Entry into force	The first companies will have to apply the new rules for the first time in the 2024 financial year, for reports published in 2025.
links	link

Title	**REGULATION (EU) 2019/2088 - sustainability-related disclosures in the financial services sector (SDR)**
What is it about?	This Regulation lays down harmonised rules **for financial market participants and financial advisers on transparency with regard to the integration of sustainability risks and the consideration of adverse sustainability impacts** in their processes and the provision of sustainability-related information with respect to financial products.
To whom does it apply?	Financial market participants: (a) an insurance undertaking which makes available an insurance-based investment product (IBIP); (b) an investment firm which provides portfolio management; (c) an institution for occupational retirement provision (IORP); (d) a manufacturer of a pension product; (e) an alternative investment fund manager (AIFM); (f) a pan-European personal pension product (PEPP) provider; (g) a manager of a qualifying venture capital fund registered in accordance with Article 14 of Regulation (EU) No 345/2013; (h) a manager of a qualifying social entrepreneurship fund registered in accordance with Article 15 of Regulation (EU) No 346/2013;

	(i) a management company of an undertaking for collective investment in transferable securities (UCITS management company); or (j) a credit institution which provides portfolio management; Financial advisers: (a) an insurance intermediary which provides insurance advice with regard to IBIPs; (b) an insurance undertaking which provides insurance advice with regard to IBIPs; (c) a credit institution which provides investment advice; (d) an investment firm which provides investment advice; (e) an AIFM which provides investment advice in accordance with point (b)(i) of Article 6(4) of Directive 2011/61/EU; or (f) a UCITS management company which provides investment advice in accordance with point (b)(i) of Article 6(3) of Directive 2009/65/EC;
Main points	In summary, Financial Markets Participants and Financial Advisers shall: - publish and maintain on their website **information about their policies on the integration of sustainability risks** in their investment decision-making process and in their insurance advice (art. 3); - **include in their remuneration policies information on how those policies are consistent with the integration of sustainability risks**, and shall publish that information on their websites (art. 5); - include **in the pre-contractual information to be provided to the end investor information on how sustainability risks are integrated** into their investment decisions and the results of the assessment of the likely impacts of sustainability risks on the returns of the financial products they make available or they advise on (art. 6); - communicate, **for each financial product, whether and, if so, how a financial product considers principal adverse impacts on so called "sustainability factors"**; i.e. environmental, social and employee matters, respect for human rights, anti-corruption and anti-bribery matters (art. 7); - publish and maintain on their website as well as in their periodic reports, a **description of the environmental or social characteristics or the sustainable investment objective** promoted by each financial product, as well as information on the methodologies used to assess, measure and monitor such characteristics (art- 10).
Entry into force and application	By 30 December 2020, the European Supervisory Authorities shall also develop draft regulatory technical standards to further specify the content of sustainability information. The provisions of the Regulation will be directly applicable in all Member States from 10 March 2021.
Links	link to official document

6.3 Reporting guidelines and practice

Given the increasing importance of the reporting activities on sustainability-related disclosures, the EU has also published specific guidelines and has supported the dissemination of reporting best practices.

Title	**EU GUIDELINES ON NON-FINANCIAL REPORTING: SUPPLEMENT ON REPORTING CLIMATE-RELATED INFORMATION**
What is it about?	The guidelines are non-binding and provide companies with recommendations on how to better report the impact that their activities are having on the climate and the impact of climate change on their business.
To whom does it apply?	These guidelines are intended for use by **companies that fall under the scope of the Non-Financial Reporting Directive (NFRD)**. However, they may also be useful for other companies that wish to disclose climate-related information.
Main points	These guidelines propose climate-related disclosures for each of the five reporting areas listed in the Non-Financial Reporting Directive: (a) business model (b) policies and due diligence (c) outcome of policies (d) principal risks and risk management and (e) key performance indicators. Further guidance on more detailed information that companies may consider including as part of the recommended disclosures is also provided. A specific annex contains further guidance for banks and insurance companies.
Entry into force and application	Companies should be able to use the new Guidelines for reports published in 2020, covering financial year 2019. The Guidelines urge companies to look beyond compliance, and focus on new business models, impact driven disclosures to ensure they remain relevant, profitable and sustainable in this new low-carbon and climate-resilient economy.
Links	link to official document

Title	**REPORTING BEST PRACTICES: EUROPEAN REPORTING LAB**
What is it about?	EFRAG – European Financial Reporting Advisory Group – is a private association established in 2001 with the encouragement of the European Commission to serve the public interest. In February 2020 it published the report "HOW TO IMPROVE CLIMATE-RELATED REPORTING" in **support of the practical application needs of European corporate reporting stakeholders**.
To whom does it apply?	The purpose of the document and its two supplements (Supplement 1: Climate-related reporting practices and Supplement 2: Scenario analysis practices) is to help companies improve their climate-related reporting, by **sharing examples of good reporting practices, as well as giving an indication of reporting practices to avoid**.
Main points	The project considered the current state of climate-related reporting by European companies, as well as the current and potential use of climate-related reporting information by investors and other users, and other relevant stakeholders. The primary focus was on identifying good reporting practices and assessing the level of maturity in the implementation of the recommendations, while also taking into consideration the climate-related reporting elements of the NFRD and the related non-

	binding Guidelines on non-financial reporting and Guidelines on reporting climate-related information (collectively referred to as NFRD CRR elements). The need to focus on general climate-related disclosures came to light because of evidence from various surveys showing room for improvement in this area, and also because investors are increasingly taking climate risk into account in their investment decisions. The focus on general climate-related disclosures encompasses four broad thematic areas: Governance, Strategy, Risk management, Metrics and targets. There are several examples of financial institutions (ABN AMRO, Allianz, Citibank, Société Générale, etc.)
Links What is it about?	How to improve climate-related reporting EFRAG – European Financial Reporting Advisory Group – is a private association established in 2001 with the encouragement of the European Commission to serve the public interest. In October 2021, it published the report "Towards sustainable businesses: good practices in business model, risks and opportunities reporting in the EU", highlighting the main challenges and opportunities for sustainability reporting, together with a supplementarity document of good practices.
Main points	The project arises from a 2019 agenda consultancy which identified the need for examples of good practices on the reporting of non-financial risks and opportunities and linkage to the business model. Robust reporting on sustainability risks, opportunities, and the sustainability of business models over time, including sources of competitive advantage, is a core input in the assessment of companies' performance and viability by capital providers. However, reporting on these issues has proven to be a significant challenge for companies primarily because: • the EU and national legal requirements along with voluntary reporting frameworks, standards and guidance address the reporting on business models and related risks and opportunities, each with different approaches and emphasis; • companies are more experienced in a backward-looking analysis of their impacts and performance rather than a forward-looking estimation of the impacts of their strategy and investments. As a consequence, the tools currently available for forward-looking analysis are not mature enough to safeguard accurate and specific results particularly in the assessment of the indirect impacts as in the case of value chains; • there is an expectation from stakeholders for companies to disclose how they address these risks because they are increasingly understood to be as material as other risks, although sometimes their impact can be over a longer time horizon. A number of reviews of both EU and global companies' reporting practices have shown that there is scope for improvement. For these reasons, this project was established to consider linkage across three main areas: • the articulation of a company's business model; • sustainability (ESG) risks and opportunities and related intangibles. As noted earlier, the reporting of sustainability and related intangibles is collectively referred to as 'sustainability reporting';

	and • the deployment of technology to facilitate and enhance reporting of sustainability information.
links	● Towards sustainable businesses: good practices in Business Model, Risks and Opportunities reporting in the EU; ● Towards sustainable businesses: good practices in Business Model, Risks and Opportunities reporting in the EU. Supplementary document: good reporting practices.

6.4 Labels/standards for sustainable investment products

The increasing importance of sustainable finance is based on a large variety of terminologies and practices, which often render the characteristics of a financial product difficult to read. In order to clarify the offer, nine dedicated labels have been launched over the past decade in Europe. Today, they are awarded to more than 800 funds on the European market, which totals almost 60,000 funds. Novethic publishes an overview of sustainable finance standards and labels available in Europe, which helps understanding the different products.

What is it about?	Nine dedicated labels have been launched over the past decade in Europe for sustainable finance products. The spectrum covered by the labels is as large as the concept of sustainable finance, which encompasses not only the different practices of integrating environmental, social and governance (ESG) criteria in asset management, but also green finance made up of funds with environmental themes.
To whom does it apply?	Most of the existing labels apply at the minimum to UCITS-type equity and bond funds, marketed in the country of the label's governance body. To date, only the Umweltzeichen and Greenfin labels can certify real estate funds, with the SRI label expected to join the list in 2020. The Greenfin label is the only label that extends to unlisted funds (FIA for private equity and infrastructure).
Main points	There are two categories of labels: on the one hand, labels focusing on ESG; on the other hand, labels focusing on green. Each of them combines positive criteria relative to the assets selected in portfolios with negative sectorial screenings. Yet, the boundary between the two can be vague since ESG labels can integrate environmental criteria and environmental labels exclude controversial companies on ESG dimensions.

	Label	Governance	Attribution	Type of label	Annual cost
ESG	**SRI Label** (France)	Standalone stakeholder committee, supported by the Ministry of Finances	Accredited auditors	SRI/ESG investment process	Fee including the audit and promotion costs
ESG	**FNG-Siegel** (Germany, Austria & Switzerland)	Expert committee under the stewardship of FNG[1]	GNG (FNG's labelling entity) & Uni. Hamburg	SRI/ESG investment process with climate exclusions. Point system	€4200
ESG	**LuxFLAG ESG** (Luxembourg)	LuxFLAG[2]	LuxFLAG	SRI/ESG investment process	€3000
ESG	**Towards Sustainability** (Belgium)	Central Labelling Agency[3] (CLA)	Verifiers appointed by the CLA	Quality standard combining requirements on the investment process and exclusions	Fee per labelled product collected by CLA
ESG	**Umweltzeichen** (Austria)	Austrian Federal Ministry for the Environment	Ministry	SRI/ESG investment process with climate exclusions. Point system	Variable annual fee
ESG	**Nordic Swan Ecolabel** (Nordic countries)	Nordic Ecolabelling Board[4], on a mandate from Nordic governments	Nordic Swan	SRI/ESG investment process with climate exclusions & green reporting. Point system	€3000 + fixed charge
«Green» labels	**LuxFLAG Environment** (Luxembourg)	LuxFLAG[2]	LuxFLAG	Thematic investments and ESG criteria	3000€
«Green» labels	**LuxFLAG Climate Finance** (Luxembourg)	LuxFLAG[2]	LuxFLAG	Thematic investments and ESG criteria. Climate exclusions	3000€
«Green» labels	**Greenfin Label** (France)	Standalone stakeholder committee, chaired by the Ministry for the Ecological and Fair Transition	Accredited auditors	Thematic investments and ESG criteria. Climate exclusions	Depending on auditor

[1] Sustainable investment forum (German-speaking countries)
[2] Cross-border labelling agency with founding members from the financial sector in Luxembourg
[3] "The Central Labelling Agency (CLA) is the not-for-profit association that awards the Towards Sustainability Label.
[4] *Nordic Ecolabel* is a voluntary label created by the Nordic Council of Ministers in 1989 and available for about sixty categories of retail products. The "Financial Products" category was introduced in 2017.

Source: Novethic

To ensure that investments are directed towards environmental activities, labels combine two strategies. They are supported by a taxonomy of eco-activities and define, directly or indirectly, a minimum share of green activities that a labelled portfolio should include. This minimum share is computed based on two thresholds, one at company level and the other at portfolio level.

According to the first work documents released by the European Commission, a similar system will be used for the future European Ecolabel for financial products. The challenge will be to determine where to set the threshold for aggregate green turnover in portfolio. With today's labels, it varies between 15,5 and 37,5%.

	Taxonomy used to define eco-activities	Thresholds at holding level («green company»)	+ Thresholds[1] at portfolio level	= Minimum threshold of aggregated turnover[2] from eco-activities in portfolio
LuxFLAG Climate Finance	Common Principles for Climate Change Mitigation and Adaptation Finance Tracking (IDFC)	Company with a turnover of at least 50% from eco-activities	75% of green companies	37,5%
LuxFLAG Environment	Environment related sectors as defined in the main classification systems	Company with a turnover of at least 20% from eco-activities	75% of green companies. Within this pocket, companies must derive 33% of turnover from eco-activities in aggregate	24,75%
Greenfin Label	Based on CBI's taxonomy (Climate Bonds Initiative), slightly modified	Three types of companies: I: more than 50% from eco-activities II: between 10 and 50% III: less than 10%)	Portfolio made up of at least 20% of Type I companies and no more than 25% of Type III companies	15,5%
Nordic Swan Ecolabel[3]	Based on categories used for the Green Bond Principles (ICMA)	No threshold at holding level	No mandatory threshold, but the point system rewards portfolios that can demonstrate a share of 10 / 22 / 35 or 50% of aggregated turnover from eco-activities	At least 10%

[1] Thresholds measured in holding weight, not by number of holdings.
[2] For concision purposes, "revenue" and "turnover" are used as synonyms here.
[3] Label with both ESG and green characteristics but listed among ESG labels on LGX.

Source: Novethic

European sustainable finance labels continue to grow their market share. The assets under management of labelled funds doubled between the end of 2020 and the end of 2021, while their number increased by a factor of 1.5. This solid growth continues in a market that has been made even more complex by the arrival, in March 2021, of the Article 8 or Article 9 classification of sustainable funds under the European SFDR Regulation. Some asset management companies tend to use it as a label, whereas it is merely a self-declaration. In order to curb this competition in display of sustainability credentials, six of the nine sustainable finance labels have already made it an additional criterion. They have introduced an Article 8 and/or Article 9 compliance requirement for applicant funds, which allows them to supervise the claimed credentials. While SFDR mainly aims to increase transparency and regulate the relevant information for so-called sustainable funds, label criteria guidelines set a minimum level of requirements regarding management processes, ESG criteria integration, green share, shareholder engagement or enforcement of sector exclusion.

Better framed ESG requirements:

Labels	Requirements on ESG coverage and selectivity	Details on what the analysis should target
Nordic Swan Ecolabel	All direct holdings must undergo a double analysis prior to investment. At least 70% of portfolio invested in holdings with strong sustainability practices according to a published definition.	Two dimensions must be taken into account : - ESG (according to a materiality differentiated by sectors) - EU Taxonomy (% of alignment of revenue or CapEx for each company if its activities are eligible).
Towards Sustainability	Mandatory ESG integration : analysis of 100% of positions. Display of selectivity when *Best in class* or *Best in universe* filter is used.	Double materiality analysis. The depth and focus of the ESG due diligence process shall take into account the likelihood and size of the potential negative impact on sustainability factors of each investment. A "controversy" screening is not considered sufficient.
FNG-Siegel	ESG screening (of companies and associated business model) for 100% of the portfolio	Demonstration that all E/S/G pillars are taken into account and that the analysis is conducted from the most holistic perspective as possible.
LuxFLAG ESG	100% portfolio screening, according to at least 3 in-house ESG strategies and standards.	Identification of material ESG risks.
Umweltzeichen	- Mandatory integration of ESG selection criteria - Less than 50% of the total investment universe can be investable	Based on two sets of themes (environment and climate ; relations with stakeholder groups), the selection should allow at least (alternatively): - to identify issuers which perform above-average in above-mentioned fields - to identify holdings of solution providers - to exclude issuers whose business lines, activities or practices contribute to environmental or social problems
SRI Label	ESG screening of lastingly more than 90% of the portfolio. 20% reduction of the investable universe, or "significantly" better average ESG score than initial universe.	Currently under review. The SRI label committee was renewed in Q3 2021.

Source: Novethic

Strengthened requirements on shareholder engagement:

Labels	Criteria	Objective	Presentation of results
SRI Label	Existence of a formal voting policy by the asset management company and published on its website. Details on the engagement policy (means, content, voting statistics, track record of resolutions).	Coherence with ESG objectives.	Publication of votes on resolutions presented at the AGMs of investee companies and examples of successful/failed engagement.
LuxFLAG ESG	Description of investee "engagement activities" when engagement or active ownership are one of the three selected ESG strategies.	Continued compliance with non-financial objective. Companies with significant breaches of controversy principles must be engaged. 2-year ultimatum.	-
Towards Sustainability	At least for the fossil fuel sector, and encouraged for other sectors with elevated risks for adverse impacts: clarification of the engagement policy (objectives, strategy, methods, monitoring), and of the voting and dialogue policy.	Interrogate issuers about their alignment with the objectives of the Paris agreement, including intermediatory targets (2030)	If appropriate, publication of an annual engagement and/or voting report, with more detailed information for companies in the fossil fuel sector.
Nordic Swan	• Engagement related to ESG controversies : presentation of the means to systematically carry out and follow up on engagement in a way that matches the magnitude of breaches.	• Lift doubts regarding compliance with global norms (unacceptable risk or breach of exclusion criteria). 3 to 24 months ultimatum.	• Updates on the non-conformity on the fund's webpage as long as doubt persists.
	• Voting policy or statement that promotes ESG-related issues. • Systematic and targeted engagement on sustainability : time-bound goals and milestones for each engagement, regular assessment of achievements, and description of resources and tools	• Vote on ESG-related issues • Address ESG and/or EU Taxonomy issues, concerns or performance	• Company-specific voting records. • Brief description in the fund's Sustainability Report
FNG-Siegel	The point system rewards (in relation with sustainability): - the existence of specific voting guidelines, the exercise of voting rights, the initiation of or support for shareholder proposals - the existence of a formal policy on engagement activities (objectives, intermediate steps and outcomes). Engagement also contributes to the "institutional credibility" rating of the asset manager in the points system.	Raise issuers' awareness of sustainability and improve their related performance.	Publication of a Voting report detailing E or S resolutions, and an engagement report illustrating the existence of an active dialogue with a number of issuers and the outcome of the process.
Umweltzeichen	• Exercises of voting and shareholder rights in a structured and active way • Pursuit of a clear and structured engagement approach.	Structural contact to companies, demonstration of need for action and approaches to solutions.	In the annual report, at least in an aggregated way: - Voting record - Engagement topics

Mandatory Rewarded in a points system

Source: Novethic

* Several guidelines also mention the possible participation in collaborative shareholder engagement initiatives (FNG, Nordic Swan).

Entry into force and application	The described labels are already available. In addition:

	- the TEG has been working on recommendations for the development of an EU Green Bond Standard, with a view to increasing transparency and comparability of the green bond market, as well as to provide clarity to issuers on the steps to follow for an issuance, in order to scale up sustainable finance. The TEG published on 9 March 2020 their Usability guide for the EU Green Bond Standard. The European Commission will explore the possibility of a legislative initiative for an EU Green Bond Standard. - The EU is also extending the EU Ecolabel (a label of environmental excellence that is awarded to products and services meeting high environmental standards) to financial products. At the moment following criteria areas were identified with a view to enhancing the environmental benefits of investments: 1. Portfolio composition, in particular in terms of green economic activities (as defined by the EU Taxonomy). 2. Exclusions based on environmental aspects 3. Exclusions based on social aspects and corporate governance practices, 4. Engagement 5. Information for retail investors 6. Information appearing on the EU Ecolabel

6.5 Future evolution

The Action plan on sustainable finance adopted by the Commission in March 2018 sets out a comprehensive strategy to further connect finance with sustainability. Several key actions have been implemented, and more will come in the next years, aiming at:

- establishing a clear and detailed EU classification system – or taxonomy – for sustainable activities;
- establishing EU labels for green financial products;
- introducing measures to clarify asset managers' and institutional investors' duties regarding sustainability;
- strengthening the transparency of companies on their environmental, social and governance (ESG) policies;
- introducing a 'green supporting factor' in the EU prudential rules for banks and insurance companies. This means incorporating climate risks into banks' risk management policies and supporting financial institutions that contribute to fund sustainable projects.

The European Green Deal has announced a Renewed Sustainable Finance Strategy, which aims to provide the policy tools to ensure that the financial systems genuinely support the transition of businesses towards sustainability in a context of recovery from the economic consequences of the COVID-19 crisis. The importance of a Renewed Sustainable Finance Strategy is highlighted through the ongoing COVID-19 crisis, which underscores some of the subtle links and risks associated with human activity, climate change, and biodiversity loss, as well as the subsequently critical need to strengthen the sustainability and resilience of our societies and economies.

The final objective is to raise and channel enough private funding to be able to meet three ambitious climate and energy targets by 2030:

- Minimum 40% cut in greenhouse gas emissions compared to 1990 levels
- At least a 27% share of renewables in final energy consumption
- At least 30% energy savings compared with the business-as-usual scenario

It's therefore clear that the regulation will get more and more stricter on environmental criteria and the sooner financial actors will get used to it, the better.

More specifically, the Taxonomy is the core of the whole framework, as it defines what qualifies as a "sustainable activity", becoming the main reference for all other elements (e.g. standards, labels, green-supporting factor for prudential requirements, sustainability benchmarks).

The Technical expert group on sustainable finance (TEG), who has been developing the suggestions for the technical screening criteria qualifying "sustainable activities" considers that a fully realised Taxonomy should incorporate the following additional dimensions (i.e., in addition to the aspects already developed in detail):

- Social objectives, in addition to environmental objectives, to identify substantial contributions in addition to minimum safeguards;
- Technical screening criteria for significant levels of harm to environmental objectives. These are the so-called 'polluting' or 'brown' Taxonomy criteria.

The Taxonomy Regulation by the Commission includes future reviews by the European Commission on the potential inclusion of social criteria and so-called 'brown' criteria in the Taxonomy.

This shows a clear trend towards the enlargement and more in-depth structuring of the Taxonomy. Moreover, the TEG underlines the fact that EU Member States are the first countries in the world to create a cross-market legal obligation, but the EU Taxonomy should be seen as part of a global movement towards environmental and social performance reporting standardisation, building from widespread use of taxonomies in the public and private sectors. At the international level, the EU has convened on October 2019 an International Platform on Sustainable Finance, which will encourage dialogue and, where appropriate, coordination on development of taxonomies (Argentina, Canada, Chile, China, India, Kenya, Switzerland and Morocco have joined to date). The Network for Greening the Financial System (a network of central banks and supervisors across the five continents) in its first comprehensive report recommended that members support the development of taxonomies.

The whole financial world is therefore clearly moving towards the definition and support of a "sustainable" finance sector.

Nevertheless, in the majority of countries (including the partner countries of the GIMED project) there are no particular local standards or reporting principles, others than those related to the UN SDG's or the EU taxonomy. Still, sustainable businesses are part of the local economic context and need specific financial instruments: an overview of the local sustainable economy sector, the related support frameworks and financial incentives in GIMED countries can be found in the following chapters.

BRICK 4: FUTURE CHALLENGES AND OPPORTUNITIES FOR SUSTAINABLE FINANCE

Tomorrow's economy should operate within the "safe and just space for humanity", between the ecological ceiling (the environmental boundaries) and social foundation (guaranteeing life's essential needs – food, healthcare, housing, democracy, etc. – for all) (Raworth, 2017).

UNEP defines a green economy as "one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities". In its simplest expression, a green economy is low-carbon, resource efficient, and socially inclusive.

As for the business models, although slight differences between the concepts of sustainable, circular and green economy can be argued, for the sake of simplicity, we will refer to this sector as a whole as Green and Circular Economy.

In such economy, growth in income and employment are driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services, while generating social impacts. The transition to a more circular economy, where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimized, is essential to develop a sustainable, low carbon, resource efficient and competitive economy.

Therefore, the Green and Circular Economy should help bring the economic system as a whole back within safe ecological boundaries while enhancing human well-being.

But where are we now and where are we heading to? In the following sections we provide an overview of the Green and Circular Economy Market at the global, European and national level (for the GIMED countries). The overview also provides a section dedicated to the funding of such sector. Again, given there's no specific framework at the global, European or national level which would allow sustainable investment of capital to be uniformly and clearly categorised and there's therefore still a strong heterogeneity among national contexts, we include different kinds of public financial schemes/incentives and private financial actors "serving the cause".

1. THE GREEN AND CIRCULAR ECONOMY MARKET TODAY (GLOBAL)

1.1 Today

A report confirms that the concept of a circular economy has gone from relative obscurity to the corporate boardroom in just a few years. In an October 2018 survey of 317 senior executives from large corporations around the world, fully 98% were familiar with the concept. Thirty percent said their company had a circular strategy, and over three-quarters plan on adopting targets to make their products, processes, or business models more circular in the coming five years.

Nevertheless, the Circular Gap Report 2022 indicates that today, the global economy is only 8.6% circular — just two years ago it was 9.1%. There are reasons for this negative trend, but the result remains the same: the news is not just bad, it is worse. This negative trend can be explained by three key related, underlying trends: high rates of extraction; ongoing stock build up; and, increasing (but still low) levels of end-of use processing and cycling. These underlying trends are deeply embedded within the 'take-make-waste' tradition of the linear economy — the problems are hardwired. As such, the outlook for closing the circularity gap looks bleak under the dead hand of business as usual. We desperately need transformative and correctional solutions; change is a must.

In the past half-century, the world's population has more than doubled,17 yet the amount of material flowing through the economy has more than tripled, from 27 billion tonnes in 1970 to 84 billion tonnes in 2015.18 And in 2021, we reached a worrying milestone: the mass of human-made things, from pavements to apartments to phones, was found to outweigh all living beings and biomass, such as our oceans, trees and animals.19 Artificial objects have gone from just 3% of the world's biomass in 1900 to on par with it today. Our use of natural resources to make more 'stuff' is not predicted to slow down and looks set to increase from 100 to between 170 and 184 billion tonnes by 2050. The events of 2020 also served to hold a magnifying glass to the flaws in our system as the covid-19 pandemic swept the world. It exposed our linear economy as extremely vulnerable to shocks. Yet it also served to show how fast changes can occur in times of crisis: governments were admirably swift in responding with safety nets of huge proportions for people's welfare, jobs and health. Yet governments have failed to use this global event as an opportunity to pivot to a system where societal and environmental health is prioritised over economic growth. A United Nations Environment Programme (UNEP) report confirmed that of the $14.6 trillion spent on preventing economic collapse during the pandemic, a huge portion went toward bail-outs for polluting industries, such as oil and airlines.20 It was disappointing that no green conditions were attached to the financial support, which could have encouraged action toward net-zero emission targets or investment in long-term technological development. And now, despite GHG emissions dropping by 6% during the pandemic, they were projected to exceed 2019 levels in 2020 by 4% across the G20 as fossil-fuel use spirals upward—despite governments preaching green promises and envisioning net-zero dreams.21 We could not be further away from the natural, balanced and circular origin of the world.

1.2 Tomorrow

The green transition spans multiple sectors of the economy. It is therefore difficult to quantify the size of the business opportunity associated with the transition. However, recent estimates indicate that the green economy is growing fast and could represent 10% of global market capitalisation by 2030, approximately the same size as the health or the banking sectors. Similarly, it is difficult to predict which countries and sectors are best positioned to seize the opportunity stemming from the green transition over the coming decades. Recent trade, patent and output data suggests a highly nuanced picture, without unequivocal winners and losers. Every country has strengths and opportunities in the green economy, but many countries also face weaknesses and threats. Across a vast majority of countries, the analysis reveals that sectors that currently hold a comparative advantage are also leading green innovators, suggesting that countries will be able to maintain their strong competitive positions in the green economy. While the transition to a greener economy is a clear business opportunity given the scale of the transformation needed, it will also lead to reallocations both between and within economic sectors. There are several barriers limiting the development and diffusion of cleaner technologies, and thus preventing the business opportunities associated with the green transition to materialize. These include skills shortages, innovation capacities, lack of business competition, lack of public acceptance of new technologies, infrastructure shortages, policy misalignments such as inefficient fossil fuel subsidies that encourage wasteful consumption, policy uncertainty, and financial barriers. National governments therefore have a clear role to play in fostering innovation for the green transition. A first set of policies to overcome the above-mentioned barriers are domestic in nature. They include setting ambitious, stable and predictable environmental policies, promoting voluntary initiatives by the private sector, introducing public procurement standards, leveraging private finance, promoting collaborative innovation networks and aligning fiscal, labour, education, competition, R&D and environmental policies towards such a common goal.

Raising resource productivity globally through more efficient extraction and processing of raw materials, improved 'circularity' in product policy and reducing waste can greatly lower both resource consumption and greenhouse gas emissions, as well as reduce the supply risk of raw materials. Besides increasing

circularity of resource extraction, more circular approaches at product level also offer opportunities to reduce global impacts as well as resource dependency. Given the local impacts of mining and the fact that the demand for certain raw materials is set to increase in the future, for instance due to an enhanced focus on green energy and the transition towards climate neutrality, it is essential to mitigate these impacts by applying adequate technologies or management practices. As many areas of resource use are relatively inefficient or unexploited, the potential for resource efficiency is remarkably high. The International Resource Panel (IRP) has elaborated a global sustainability scenario, in which resource efficiency and circularity slow significantly down the increase in resource use, so that incomes and other wellbeing indicators improve, while key environmental pressures decrease. In this scenario, a slowdown in natural resource use in high-income countries offsets an increasing use among emerging and developing economies. Global resource productivity increases by 27% from 2015 to 2060, while average GDP per person doubles and per capita resource use converges across different country groups decreasing to 13.6 tonnes per person in high-income countries and increasing to 8.2 tonnes per person in low-income countries. The IRP points out that measures in such sustainability scenario achieve absolute impact decoupling and relative resource decoupling. Furthermore, economic growth is boosted by 8% compared with the status quo and the near-term economic costs of shifting to a 1.5°C climate pathway are outweighed. Resource efficiency policies reduce greenhouse gas emissions by 19% compared with the status quo. Combined with other climate measures, global emissions fall by 90% in 2060, rather than rising 43%.

Tomorrow’s markets will be rocked by new structural forces: changing consumer attitudes toward responsible brands, organizational shifts to renewable energy and continual innovation in circular business models. The circular economy could unlock $4.5 trillion of growth by 2030 (The circular economy handbook, 2020). Breaking with today’s "take, make, waste" business models creates a swift path to innovation, growth and competitiveness.

The shift towards sustainable economic systems may also lead to significant positive social impacts. The circular economy transition could help achieve several SDGs (see Preston et al., 2017; Schroeder et al., 2018; Schroeder et al., 2019; Williams et al., 2018), and the potential for job creation, for example, is huge. The ILO has estimated that “a transition to more sustainable economies could generate up to 60 million new jobs worldwide over the next two decades” (ILO, 2017). And in the case of the European Union, a study commissioned by the Directorate-General for Environment has projected that every percentage point reduction in resource use could lead to up to 100,000 to 200,000 new jobs (Meyer, 2011).

It can be said that sustainable economies and employment are often mutually beneficial. In order to promote both goals, human work should be re-established as the centre of the economic system. Human labour (which can be seen as “renewable”) should, to the greatest extent possible, replace scarce resources as the essential element on which our economies are based. As an example, recycling, repairing and remanufacturing sectors are usually more labour intensive than traditional production sectors and are thus beneficial both to sustainability and to the creation of meaningful jobs.

And taxation should progressively shift from labour to resource use and emissions/pollution.

However, job creation is not always an automatic result of sustainable businesses. And of course, the creation of social value cannot be limited to employment creation.

Even though sustainable business practices can have numerous positive social impacts and help achieve several SDG targets, this is certainly not the case every time.

In fact, the emerging circular economy paradigm may produce specific threats in terms of social impacts, since it tends to focus on technological aspects while often neglecting social, political and cultural

dimensions. Aside from integrating circularity into the actions of businesses , cities and nations, high-level change must be enacted to create the enabling conditions for a more circular world. Three requirements have been identified: Data-driven digital tools to bring circularity to everyone; metrics to track the transition and a social lens to ensure transition is safe and just. A holistic circular economy that applies a social lens to all of its activities may help us support various Sustainable Development Goals, from ending hunger and improving health and well-being to affordable low-carbon energy, and the opportunity for decent work and economic growth. Potential consequences from one circular solution must be measured to ensure that the transition is safe and just for all and that potential blindspots of the circular economy are managed.

1.3 Funding

A few financial tools have been promoted by international institutions such as the UN and the EU to support a more sustainable development, mainly focusing on developing countries and tackling climate adaptation and mitigation issues.

Name	**Global Environment Facility (GEF)**
Description	The Global Environment Facility (GEF) was established on the eve of the 1992 Rio Earth Summit to help tackle our planet's most pressing environmental problems. Since then, the GEF has provided close to $20.5 billion in grants and mobilized an additional $112 billion in co-financing for more than 4,800 projects in 170 countries. Through its Small Grants Programme, the GEF has provided support to nearly 24,000 civil society and community initiatives in 133 countries.
Target sectors	GEF funds are available to developing countries and countries with economies in transition to meet the objectives of the international environmental conventions and agreements. GEF targets the following main areas: (i) biodiversity, (ii) climate change (mitigation and adaptation), (iii) international waters, (iv) land degradation, (v) ozone layer depletion, (vi) chemicals and waste, and (vii) persistent organic pollutants. GEF support is provided to government agencies, civil society organizations, private sector companies, research institutions, among the broad diversity of potential partners, to implement projects and programs in recipient countries.
Products offered	Grants
Investment size	The GEF provides funding through four modalities: full-sized projects, medium-sized projects, enabling activities and programmatic approaches. - Full-sized Project (FSP): means a GEF Project Financing of more than two million US dollars. - Medium-sized Project (MSP): means a GEF Project Financing of less than or equivalent to two million US dollars. - Enabling Activity (EA): means a project for the preparation of a plan, strategy, or report to fulfill commitments under a Convention. - Program: means a longer-term and strategic arrangement of individual yet interlinked projects that aim at achieving large-scale impacts on the global environment.

Geographical coverage	Countries may be eligible for GEF funding in one of two ways: a) if the country has ratified the conventions the GEF serves and conforms with the eligibility criteria decided by the Conference of the Parties of each convention; or b) if the country is eligible to receive World Bank (IBRD and/or IDA) financing or if it is an eligible recipient of UNDP technical assistance through its target for resource assignments from the core (specifically TRAC-1 and/or TRAC-2).
Additional services	-
Link	link

Name	**Green Climate Fund (GCF)**
Description	The Green Climate Fund (GCF) is the world's largest dedicated fund helping developing countries reduce their greenhouse gas emissions and enhance their ability to respond to climate change. It was set up by the United Nations Framework Convention on Climate Change (UNFCCC) in 2010. GCF has a crucial role in serving the Paris Agreement, supporting the goal of keeping average global temperature rise well below 2 degrees C. It does this by channelling climate finance to developing countries, which have joined other nations in committing to climate action.
Target sectors	GCF has identified eight areas where its climate finance is aimed equally at mitigation and adaptation to target emission reductions and enhance climate resilience: - Energy generation and access - Transport - Buildings, cities, industries and appliances - Livelihoods of people and communities - Forests and land use - Health, food and water security - Infrastructure and the built environment - Ecosystems and ecosystem services
Products offered	The Fund is unique in its ability to engage directly with both the public and private sectors in transformational climate-sensitive investments. GCF engages directly with the private sector through its Private Sector Facility (PSF). As part of its innovative framework, it has the capacity to bear significant climate-related risk, allowing it to leverage and crowd in additional financing. It offers a wide range of financial products including grants, concessional loans, subordinated debt, equity, and guarantees. This enables it to match project needs and adapt to specific investment contexts, including using its funding to overcome market barriers for private finance.
Investment size	- Micro proposals: up to and including US$ 10 million in total project size;

	- Small proposals: above US$ 10 million and up to and including US$ 50 million in total project size; - Medium proposals: above US$ 50 million and up to and including US$ 250 million in total project size; and - Large proposals: above US$ 250 million in total project size;
Geographical coverage	developing countries
Additional services	Addresses the perceived dearth of "bankable" projects through its Readiness Programme and its Project Preparation Facility (PPF), which help build institutional capacity and enabling policy environments;
Link	link

Name	**CAMENA – Climate Action in the Middle East and North Africa**
Description	CAMENA is a climate action envelope within the Facility for Euro-Mediterranean Investment and Partnership Trust Fund (FEMIP Trust Fund), managed by the European Investment Bank (EIB). It is used to: - identify, catalyse and prepare climate action investment projects, which could subsequently benefit from EIB financing; - fund actions to improve the enabling environment in relation to climate investments among public and private institutions within the Mediterranean partner countries.
Target sectors	- Renewable energy - Energy efficiency - Sustainable transport - Solid waste - Sustainable urban development - Forestry and land use - Research, development and innovation - Adaptation activities in all sectors
Products offered	Grant support can be used to finance: - technical assistance: to support climate risk and vulnerability assessments, feasibility studies, environmental and social impact assessment studies and targeted capacity building activities; and - specific equity operations.
Investment size	As at the end of 2018, the CAMENA envelope had approved 12 operations for a total amount of €9.8 million, ranging from € 200.000 to € 500.000 each.

Geographical coverage	Algeria, Egypt, Palestine, Israel, Jordan, Lebanon, Morocco and Tunisia
Additional services	-
Link	link

Name	**European Fund for Sustainable Development (EFSD)**
Description	The European Fund for Sustainable Development (EFSD) is an integrated financial package that supports investments in Africa and the EU's neighbouring countries to help achieve the sustainable development goals laid down in the UN 2030 Agenda for Sustainable Development.
Target sectors	Five investment windows were identified - sustainable energy and connectivity; - financing of micro-, small and medium-sized enterprises (MSMEs); - sustainable agriculture, rural entrepreneurs and agroindustry; - sustainable cities; - digitalisation for sustainable development
Products offered	The EFSD should operate as a 'one-stop-shop', receiving financing proposals from financial institutions and public or private investors, and delivering a wide range of financial support to eligible investments: it comprises blending (a mix of loans and grants) and a dedicated financial guarantee.
Investment size	By 2020, it is expected to generate €44 billion in investments (based on an initial EU contribution of €4.1 billion)
Geographical coverage	Africa and the EU's neighbouring countries
Additional services	The EFSD is the investment arm of the European external Investment Plan (EIP) and the first of its three pillars, focused on financing. The remaining pillars are expertise and dialogue, which complement the financing.
Link	link

2. THE GREEN AND CIRCULAR ECONOMY MARKET (EU)

2.1 Today

On March 2015 the European Commission adopted its first Circular Economy Package with a clear time line to support the EU's transition to a Circular Economy with a broad set of measures to maintain the value of products, materials and resources for as long as possible, while minimising the generation of waste. The aim of this package was to give clear signals to economic operators and society on the way forward.

Key actions included:

- **Actions to reduce food waste** including a common measurement methodology, improved date marking, and tools to meet the global Sustainable Development Goal to **halve food waste by 2030**;
- Development of **quality standards for secondary raw materials** to increase the confidence of operators in the single market;
- Measures in the **Eco-design working plan for 2015-2017** to promote reparability, durability and recyclability of products, in addition to energy efficiency.
- A **revised Regulation on fertilizers**, to facilitate the recognition of organic and waste-based fertilizers in the single market and support the role of bio-nutrients.
- A **strategy on plastics in the circular economy**, addressing issues of recyclability, biodegradability, the presence of hazardous substances in plastics, and the Sustainable Development Goals **target for significantly reducing marine litter**.
- A series of **actions on water reuse** including a legislative proposal on minimum requirements for the reuse of wastewater.

The package included also a Revised Legislative Proposals on Waste with clear targets for reduction of waste and established an ambitious and credible long-term path for waste management and recycling.

In 2018, this first set of measures was complemented by the second Circular Economy Package, including the EU Strategy for Plastics in the Circular Economy, Monitoring Framework of Indicators for the Circular Economy, a Communication on the interface between chemicals, products and waste legislation. The Commission also made a proposal for a Directive addressing single-use plastics and fishing gear – the two most important sources of European plastic marine litter.

Three years after adoption, the Circular Economy Action Plan was fully completed. Its 54 actions have been delivered, even if the work on some of them continues. On 4 March 2019, the European Commission adopted a comprehensive report on the implementation of the Circular Economy Package. The report presents the main achievements and sketches out future challenges to shaping the EU economy and paving the way towards a climate-neutral, circular economy where pressure on natural and freshwater resources as well as ecosystems is minimized.

The recycling rates and use of recycled materials in the European Union (EU) are steadily growing. Overall, the EU recycled around 55% of all waste excluding major mineral waste in 2016 (compared with 53% in 2010). The rate for recovering construction and demolition waste reached 89% (2016), the recycling rate of packaging waste exceeded 67% (2016, compared with 64% in 2010) while the rate of plastic packaging was over 42% (2016, compared with 24% in 2005). The recycling rate for municipal waste stood at 46% (2017, compared with 35% in 2007) and for the waste of electrical and electronic equipment such as computers, televisions, fridges and mobile phones, which include valuable materials which can be recovered (e-waste) in the EU reached 41% (2016, compared with 28% in 2010). Despite these high recycling rates, on average only 12% of material resources used in the EU in 2016 came from recycled products and recovered materials - thus saving extraction of primary raw materials. This indicator, called **circular material use rate,** measures the contribution of recycled materials to overall demand. The indicator is lower than recycling rates, which measure the share of waste, which is recycled, because some types of materials cannot be recycled, e.g. fossil fuels burned to produce energy or biomass consumed as food or fodder. A circular economy aims to maintain the value of products, materials, and resources for as long as possible by returning them into the product cycle at the end of their use, while minimising the

generation of waste. In its Report on the implementation of the Circular Economy Action Plan, the monitoring framework shows the progress in four areas of the circular economy: production and consumption, waste management, secondary raw materials and competitiveness and innovation. It comprises of 10 indicators published by Eurostat.

Outcomes of the EU Circular Economy Package 2015

- The EU Strategy for Plastics (2018). The Strategy sets out a clear vision with quantified objectives at EU level, so that by 2030 all plastic packaging placed on the EU market is reusable or recyclable.
- The revised waste legislative framework entered into force in July 2018 with new ambitious yet realistic recycling rates: by 2030, 70% of all packaging waste and 60% of municipal waste (65% by 2035) should be recycled, while reducing landfilling of municipal waste to 10%.
- The new Fertilising Products Regulation introduces harmonised rules for organic fertilisers manufactured from secondary raw materials such as agricultural by-products and recovered bio-waste.
- A proposal for a Regulation on minimum requirements for water reuse was adopted on 28 May 2018; in 2022 the Commission has issued a notice Guidelines to support the application of the Regulation.
- The EU Bioeconomy Strategy was updated in 2018 and proposes 14 concrete actions in three priority areas, strengthening and scaling-up the bio-based sectors, unlocking investments and markets, deploying rapidly bio economies across the whole of Europe, understanding the ecological boundaries of the bioeconomy.

In November 2022, the European Commission published the Circular Economy Package II. The main objective of the proposal is to ensure for consumers reusable packaging options and, get rid of unnecessary packaging, and to provide clear labels to support correct recycling. The Commission is bringing clarity to consumers and industry on biobased, compostable and biodegradable plastics: setting out for which applications such plastics are truly environmentally beneficial, and how they should be designed, disposed of and recycled.

Over the 2016-2020 period, the Commission has stepped up efforts in both directions **totalling more than €10 billion** in public funding to the transition. To stimulate further investments, the Circular Economy Finance Support Platform has produced recommendations to improve the bankability of circular economy projects, coordinate funding activities and share good practices. The platform will work with the European Investment Bank on providing financial assistance and exploiting synergies with the action plan on financing sustainable growth.

2.2 Tomorrow

In March 2020 the European Commission adopted a new Circular Economy Action Plan - one of the main building blocks of the European Green Deal, Europe's new agenda for sustainable growth. With measures along the entire life cycle of products, the new Action Plan aims to make the EU economy fit for a green future, strengthen its competitiveness while protecting the environment and give new rights to consumers. Building on the work done since 2015, the new Plan focuses on the design and production for a circular economy, with the aim to ensure that the resources used are kept in the EU economy for as long as possible. The plan and the initiatives therein will be developed with the close involvement of the business and stakeholder community. Essential measures are:

Make sustainable products the norm in the EU. The Commission will propose legislation on Sustainable Product Policy, to ensure that products placed on the EU market are designed to last longer, are easier to reuse, repair and recycle, and incorporate as much as possible recycled material instead of primary raw material. Single-use will be restricted, premature obsolescence tackled and the destruction of unsold durable goods banned.

Empower consumers. Consumers will have access to reliable information on issues such as the reparability and durability of products to help them make environmentally sustainable choices. Consumers will benefit from a true 'Right to Repair'.

Focus on the sectors that use the most resources and where the potential for circularity is high. The Commission will launch concrete actions on :

- **electronics and ICT** – a 'Circular Electronics Initiative' to have longer product lifetimes, and improve the collection and treatment of waste
- **batteries and vehicles –** new regulatory framework for batteries for enhancing the sustainability and boosting the circular potential of batteries
- **packaging –** new mandatory requirements on what is allowed on the EU market, including the reduction of (over)packaging
- **plastics** – new mandatory requirements for recycled content and special attention on microplastics as well as biobased and biodegradable plastics
- **textiles** – a new EU Strategy for Textiles to strengthen competitiveness and innovation in the sector and boost the EU market for textile reuse
- **construction and buildings** – a comprehensive Strategy for a Sustainably Built Environment promoting circularity principles for buildings
- **food** – new legislative initiative on reuse to substitute single-use packaging, tableware and cutlery by reusable products in food services

Ensure less waste. The focus will be on avoiding waste altogether and transforming it into high-quality secondary resources that benefit from a well-functioning market for secondary raw materials. The Commission will explore setting an EU-wide, harmonized model for the separate collection of waste and labelling.

In the Action Plan, the Commission has announced that it will propose a Global Circular Economy Alliance to identify knowledge and governance gaps in advancing global circular economy and take forward partnership initiatives, including with major economies.

A study published on Cambridge Econometrics (Trinomics, and ICF (2018), Impacts of circular economy policies on the labour market) estimates that applying circular economy principles across the EU economy has the potential to increase EU GDP by an additional 0.5% by 2030 creating around 700 000 new jobs. The EU Commission also underlines the clear business case for individual companies too: since manufacturing firms in the EU spend on average about 40% on materials, closed loop models can increase their profitability, while sheltering them from resource price fluctuations

When it raises the overall performance of national economies, the circular economy can help opening up new markets and jobs.

2.3 Funding

The European Green Deal Investment Plan (EGDIP), also referred to as Sustainable Europe Investment Plan (SEIP), is the investment pillar of the Green Deal. To achieve the goals set by the European Green Deal, the Plan will mobilise at least €1 trillion in sustainable investments over the next decade. Part of the plan, the Just Transition Mechanism, will be targeted to a fair and just green transition. It will mobilise at least €100 billion in investments over the period 2021-2027 to support workers and citizens of the regions most impacted by the transition.

The European Green Deal Investment Plan has three main objectives:

- First, it will increase funding for the transition, and mobilise at least €1 trillion to support sustainable investments over the next decade through the EU budget and associated instruments, in particular InvestEU;
- Second, it will create an enabling framework for private investors and the public sector to facilitate sustainable investments;
- Third, it will provide support to public administrations and project promoters in identifying, structuring and executing sustainable projects.

The funds and programmes contributing to the European Green Deal Investment Plan (such as InvestEU or the Just Transition Fund) will provide tailored financing to a wide range of projects. Both small projects (e.g. individual household energy renovation) and larger ones (e.g. installation of a network of electric vehicle charging stations) will be able to benefit through dedicated programmes and products.

An example of specific financial tool promoted by the Commission and dedicated to the Circular Economy is the ECBF – European Circular Bioeconomy Fund.

Name	**ECBF – European Circular Bioeconomy Fund**
Description	The European Commission and the European Investment Bank have promoted the creation of the European Circular Bioeconomy Fund, a dedicated fund to invest in the Circular and Bio-Based Industries in Europe.
Target sectors	The following industry subsectors will be covered: - Circular economy technologies and new business models incl. digitalization which enable resource efficiency and supply chain optimization, re-usage, reduction and recycling of waste streams as well as carbon capture - Biomass/feedstock production, i.e. increase of output and/or decrease footprint of agriculture, farming, forestry and blue economy - Technologies to enable biomass/feedstock processing, e.g. biorefineries and conversion technologies - Bio-based chemicals & materials, e.g. monomeric building blocks, polymers, fibers and composites - Performance biologicals, i.e. specialties with applications in nutrition, personal care and other industry verticals
Products offered	Equity, mezzanine

Investment size	Targeted Fund Size: EUR 250m Minimum Investment: EUR 5m
Geographical coverage	European Union including the 16 HORIZON 2020 associated countries
Additional services	The fund provides high-profile networks within the Bioeconomy sector: investors, corporates, industry experts and local agencies in key investment geographies
Link	link

3. THE GREEN AND CIRCULAR ECONOMY MARKET IN ITALY

3.1 Today

As described in the reports GREENITALY 2022 and REPORT ON THE CIRCULAR ECONOMY IN ITALY - 2020, Italy has a leading position in Europe in the circular economy and waste recycling sectors. Three key indicators - the waste recycling rate, the use of secondary materials in the economy, productivity and per capita consumption of resources - identify a very "circular" economy:

- *Productivity in the use of resources and consumption of materials*

  In Europe in 2021 for every kg of resources consumed, 2,1€ GDP is generated. Italy's record is confirmed with a value of 3,19€/kg. Following though a loss of several points, it has been reached by France (3,15€/kg). Italy's performance decline is mainly due to an important increase of the levels of internal consumption of materials (+14,7%) which was not accompanied, during the same period, by an economic growth of similar level (+6,7% of GDP between 2020 and 2021). Another reason for such performance drop can be found in the increase in the consumption of minerals, which show the lowest rate between resource productivity relatively to GDP.

- *Recycling rate*

  In the EU in 2021, latest available year, the rate of materials utilisation from recycling was 11,7%. Compared to 2020, the value dropped by 0,1 percentage points and for the second year in a row it showed a reduction. For the first time since EUROSTAT recorded this value, Italy recorded a significant decline in 2021, with a 18,4% value and a loss of 2,2 percentage points compared to the previous year and no longer holds the record among the five leading EU countries, now surpassed by France.

  Despite the sharp drop in the indicator, Italy still ranks fourth among the 27 EU countries, behind Netherlands (33,8%), Belgium (20,5%) and France (20,5%). In the period between 2012 and 2021, the utilisation rate of materials from recycling increased for Italy, France and Germany. Although for Italy the value has risen throughout the period, it has now returned to 2017 performance level. This might be connected to the strong growth of construction, a sector with a low circular use of materials, due to incentives for building renovation.

- *The rate of use of secondary material in the economy*

  A further and perhaps more specific index of the "circularity of the economy" is provided by the rate of use of the secondary material compared to the raw material. This measure, which affects all uses, not just industrial ones, once again signals that Italy is one of the leading European countries. With 17.1% of secondary material on the total consumption of materials (which also

include biomass and energy materials, very relevant for France and the United Kingdom), Italy has a performance well above the European average and data of Germany.

Looking at the market size of the circular economy in Italy, the figures on employment and value added are quite indicative.

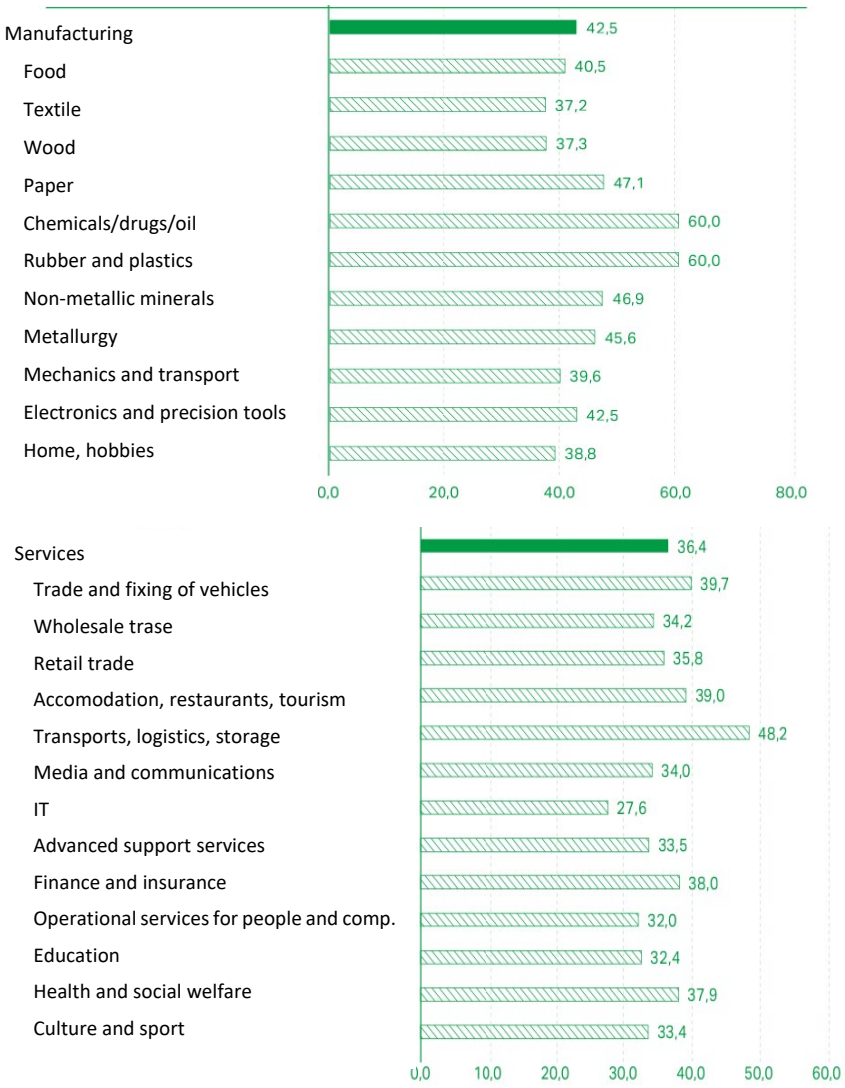
In 2021 in the EU27 people employed in some of the activities of the circular economy taken into account are about 4.3 million, in Italy 613,000, following Germany (785,000). If, however, we analyses the value as a percentage of total employment, in the EU27 people employed in some circular economy activities are 2.1%, while in Italy they represent 2.4%,a value second only to that of Poland (2.7%), but higher than both the European average and the other countries considered: Spain 2.3%, France 1.8% and Germany 1.7%.In the period between 2012 and 2021, the EU27 saw the figure rise by 13% (from 3.78 to 4.28 million employed).Among the top five countries, the largest number is in Germany (785,000, +27% compared to 2012), followed by Italy (613,000, +7%), France (523,000, +7%), Spain (454,000, +32%) and Poland (441,000, +14%).During the last year of analysis, Italy decreased the number of employees in the observed sectors by -0.6%, corresponding to 3,800, while Germany increased it by +2.7% (20,500).

The added value of the entire European Union related to activities of the circular economy in 2021 was 299,500 M€, or 2.1% of the total economy; in Italy 43,646 M€, 2.5% of the total, thus higher than the EU value. The highest value in absolute terms was achieved by Germany with 79,000 M€.

In 2021, compared to the other four leading European economies, in absolute terms Italy is in second place after Germany but ahead of France (40,873 M€). It is followed by Spain with 22,931 M€, and finally Poland with 10,322 M€.

If we analyse the trend of the added value of certain activities of the circular economy in relation to the overall added value, it can be seen that in Italy it has been growing steadily, rising from 1.9% in 2012 to 2.5% in 2021 (from 30,431 M€ in 2012 to 2.5% in 2021).

In order to evaluate the economic sectors most affected by green investments, we show from the GREENITALY 2022 report the data on companies with at least one employee of the industry and services who invested between 2017 and 2020 and / or have planned to invest in 2021 in products and technologies with greater energy savings and / or less environmental impact (% of total companies, by sector of activity):



3.2 Tomorrow

A paper published in April 2020 by researchers of the University of Oxford and Cambridge analyses which countries have the most technologically advanced, green production capabilities creating a new measure—the Green Complexity Index (GCI)—which aims to capture the extent to which countries are able to competitively export green, technologically sophisticated products, and allows to estimate which countries are likely to be leaders and laggards in the green economy. Germany held the top rank, followed by Italy, the United States, Austria, and Denmark. As for the relationship between the GCI and log GDP/cap: Germany, Italy, China and India stand out as having much higher GCI scores given their GDP per capita, suggesting that their existing production capabilities are more oriented toward the green economy than other countries with a similar standard of living.

It is therefore clear that Italy has an advantageous position for the future development of the circular economy market and political actions are going in this direction.

The sensitivity towards a green and circular development policy emerged even more clearly following the Covid-19 pandemic. A large group of national companies has signed a "Recovering from the Pandemic with a New Green Deal in Italy" Manifesto, which highlights the key sectors in which to focus efforts for a green recovery plan for the national economy: “We believe that a new Green Deal is the right way to reach a strongest and long-lasting recovery, unlocking the best potentialities of our Country. The potentiality of quality productions, that are increasingly green and inseparable from the decarbonization and circularity of production, distribution, and consumption patterns. The potentiality of sectors of excellence, such as waste management, a main pillar of circular economy, and energy efficiency and renewable energy sources, that are key for a carbon neutral economy. The potentiality of the sustainable agriculture model, that is strategic for food safety, and of the other regenerative bioeconomy activities, that are able to revitalize marginal areas and disused sites. The potentiality of cities, that need to be boosted with a broad plan for green urban regeneration. The potentiality of the substantial natural capital, that is necessary for many ecosystem services and for the revival of many economic activities such as tourism. The potentiality of a low-carbon and alternative-fuel transition towards a more decarbonized, electric and shared mobility. The potentiality of digital innovation, that could contribute to improve our work, study, and healthcare, while reducing our ecological footprint.”

3.3 Funding

The REPORT ON THE CIRCULAR ECONOMY IN ITALY - 2020 highlights that the national budget law for 2020 contains some first measures that are part of the "European Green Deal", mainly the establishment of a public investment fund with an endowment of 4.24 billion € for the years 2020 to 2023 and the drafting of a 33 billion € plan to support the conversion of the Italian economy over the next 15 years.

The fund, set up with the proceeds of the CO2 emissions allowances, will be used to support innovative investment projects and programs with high environmental sustainability.

From the point of view of public policies to support the transition to a circular economy, it is important to mention the innovations introduced in the Industry 4.0 Plan, the main industrial policy instrument adopted in the last years in Italy: it has been redefined with greater attention to environmental sustainability and is explicitly aimed also at encouraging green investments by companies in the circular economy.

The instrument provided is the tax credit for expenses incurred as investments in capital goods, research and development and training, connected to the ecological transition and digital innovation, that will contribute in particular to the following objectives:

- generate increase of productivity with a lower use of raw materials, goods and energy, and a lower production of waste;
- generate reduced polluting emissions from industrial processes in the air, water and soil with the same or lower energy intensity or higher productivity;
- generate reduced carbon emissions from industrial processes with the same or lower energy intensity or higher productivity;
- realize alternative uses of materials.

The national budget law for 2020 has also expanded the operational scope of the revolving fund for business support and research investment (FRI) whose resources may be used to support investment programs and operations in the field of economy decarbonisation, circular economy, urban regeneration, sustainable tourism, adaptation and mitigation of the risks deriving from climate change.

There are also tax breaks connected to innovative investments by small and medium-sized enterprises in the less developed regions to encourage their transition to the circular economy, for projects concerning:

- product and process innovations regarding the efficient use of resources and waste treatment and transformation, including the reuse of materials in a circular economy perspective;
- design and experimentation of integrated technological models aimed at strengthening industrial symbiosis paths, through, for example, the definition of a systemic approach to the reduction, recycling and reuse of food waste, the development of integrated water cycle systems and recycling of raw materials;
- systems, tools and methodologies for the development of technologies for the supply, rational use and sanitation of water;
- innovative technological tools able to increase the life time of the products and to make the production cycle more efficient;
- experimentation of new intelligent packaging systems (smart packaging) which also include the use of recovered materials and multi-light material selection systems.

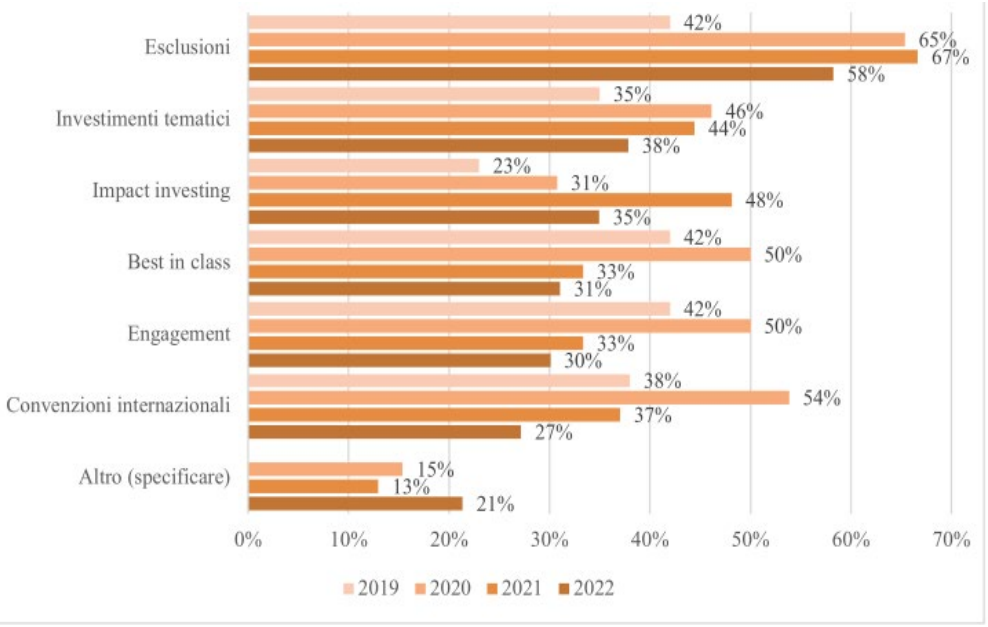
At the same time the state is also supporting the development of private financial actors focusing on sustainability issues. Italy is the unique case in Europe that has issued a law recognizing “ethical and sustainable financial operators” and providing incentives for their activity.

Title	**REGULATION ON ETHICAL FINANCE**
What is it about?	At the end of 2016, an Italian law for the first time defined “ethical and sustainable financial operators”. It is the first law of this kind approved in Europe.
To whom does it apply?	Financial institutions are considered banking operators of ethical and sustainable finance when operating in accordance with the following principles: a) Evaluate loans, granted to legal entities, according **to international recognized ethical rating standards, with particular attention to social and environmental impact**; b) Give public evidence, at least yearly, also via the web, of allocated funds referred to in subparagraph a), subject to the applicable regulations on protecting the privacy of personal data; c) Devote at least 20 percent of its loan portfolio to non-profit organizations or social enterprises with legal entities, as defined by law; d) Do not distribute profits among shareholders, but reinvest them in its activities; e) Adopt a governance and an organizational model deeply inspired by a strong democratic and participative approach qualified by a broad shareholder base; f) Adopt remuneration policies aiming at reducing the difference between the highest salary and the average ones earned in the bank, whose ratio cannot, anyway, exceed the value of 5.
Main points	According to the new law, banks that meet these requirements can obtain **tax exemptions in order to promote their capitalization**.

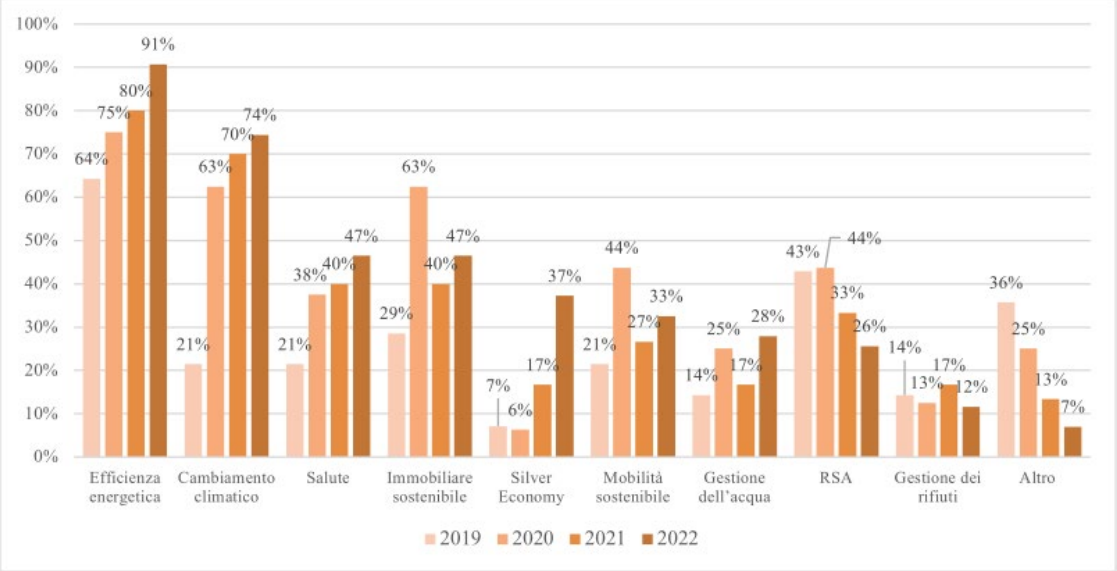
Entry into force and application	The Ministry of Economy and Finance, after consulting the Bank of Italy, establishes, by decree, the rules to implement the provisions. These implementing rules are not issued yet.
Related Articles	link to official documentt

Looking at the more general status of sustainable finance in Italy, the Quaderno di approfondimento 2022. ESG e SRI, le politiche di investimento sostenibile degli investitori istituzionali italiani provides a survey concerning qualitative and quantitative aspects of sustainable investment policies of Italian institutional investors.

In the 2022 edition the number of participants increased, showing a steadily growing attention towards sustainability aspects. The total number of entities which cooperated and responded to the survey was 106, compared to 79 in 2021 and 63 in 2020.



Traditional strategies such as Exclusions (Esclusioni) and Temathic Investments (Investimenti tematici) still represent the leading share of the SRI market. When using strategies involving thematic investments, investors show a strong preference for environmental aspects. Energy efficiency is chosen by 91% of investors, whereas climate change by 74% of them. A high percentage of investments are to be found in sustainable real estate (47%), sustainable mobility (33%), water management (28%) and Silver Economy (37%).



The following boxes contain a few examples of financial tools/actors addressing Green and Circular Economy.

Equity instruments

Introduction	
Name of organization	SEFEA IMPACT SGR SpA
Organization typology	Asset Management Company
Legal form	Limited Company
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	SEFEA IMPACT SGR SpA is an asset management company dedicated to manage closed investment funds adopting an Impact Investing strategy. The company is managing a fund focused to support social entrepreneurship, focusing on delivering economic, social and environmental impacts. Green and Circular economy is among the potential target sector.
Location (headquarters)	Italy
Geographical scope (area of operations)	Italy
Instrument description	
Product typology	☑ equity ☐ debt ☐ grant

Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Any kind of economic activity having a clear, intentional and measurable positive impact on the communities. Green and Circular economy are therefore among potential target investments is sectors such as sustainable food production, energy production and efficiency, management and recycling of waste, etc.)
Product specificities (what makes this product different from similar products on the market)	- Specific products for cooperatives. - For the investment decision the economic analysis has the same weight of socio/environmental impact analysis, developed through internally developed procedures and tools. - Low investment tickets to cover gap in the market (below 500k€).
Range of investment (minimum and maximum)	Ranging from 300.000€ to 2M€
Investment duration	Maximum 8 years
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation
Legal structure of target companies	Any kind of company (limited liability companies, joint stock companies, cooperatives)
Phase of growth of target companies	☐ Ideation stage ☐ Early stage ☑ Growth ☐ Scale-up
Conditions and prerequisites to access	- Clear measurability of social/environmental impact - Target enterprises must have SME size
Auxiliary services provided to target companies	- Technical support provided to design and implement impact measurement procedures. - Access to a network of useful contacts for advisory and product commercialization.
Additional financial products offered by the organization, besides the one described as best practice	Quasi-equity instruments (structured as debt, typically unsecured and subordinated and in some cases convertible into equity)

Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): cleantech company focusing strongly upon biomass gasification and cogeneration. It has released an integrated solution for power and heat generation through biomasses pyro-gasification, in a carbon-negative (carbon capture and sequestration) no waste and no emission production cycle. INVESTMENT AMOUNT: 500.000 €
Contact details	
Address and telephone	Piazza De Gasperi, 42 35131 Padova Phone +39 049 7648000
Web site	http://sefeaimpact.it/

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - Flexibility and comprehension of target needs, thanks to strong expertise in the broader Social Economy sector. - Full dedication to impact investing allows all procedures and objectives to be aligned. Investment in Green and Circular Economy is not just a "compensation" activity.	*WEAKNESSES:* - Fundraising is still difficult. Many institutional investors who are now focusing on Green and Circular Economy do not actually know the market and their traditional approach is not suitable. - For a closed fund it is hard to reach economy of scales, given a high demand for low tickets investments (below 500k€): low size investments are as expensive (or even more) than large size ones.
EXTERNAL	*OPPORTUNITIES:* - Stronger institutional support towards the Green and Circular Economy sector (at the European and national level). - Stronger social awareness towards the climate change issues and relevance of Green and Circular Economy solutions. - Raising awareness towards impact measurement	*THREATS:* - Lack of formal requirements to label an investment as "green" is endangering the reputation of the sector (i.e.: "green" washing procedures) and might reduce the trust of citizens and investors. - Low financial expertise of entrepreneurs and low investment readiness

Introduction	
Name of organization	LITA.co
Organization typology	Equity Crowdfunding platform
Legal form	Limited Company
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	LITA.co is the first European Equity-based crowdfunding platform dedicated to social business and sustainable development. It offers a new way to bring together investors eager to participate to the solidarity economy with responsible entrepreneurs addressing social and environmental challenges.
Location (headquarters)	Italy (Head company is based in France)
Geographical scope (area of operations)	Italy
Instrument description	
Product typology	☑ equity ☐ debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	At LITA.co, we are very committed to the notion of sustainable development, which implies development that is economically efficient, socially equitable and ecologically sustainable. This is why we select organizations that meet one or more of the 17 Sustainable Development Goals (SDGs) set out by the UN
Product specificities (what makes this product different from similar products on the market)	LITA is the First Mover and leader in equity crowdfunding for social and sustainable projects in Europe, it represents a catalyst for equity financing of impact start-up and SMEs. - Full online platform to manage the fundraising process - Retail investors can invest starting from 100 € -
Range of investment (minimum and maximum)	From 50.000 € to 300.000 €
Investment duration	Long term

Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation
Legal structure of target companies	Any kind of company (limited liability companies, joint stock companies, cooperatives)
Phase of growth of target companies	☐ Ideation stage ☑ Early stage ☐ Growth ☐ Scale-up
Conditions and prerequisites to access	Equal weight to financial analysis and extra-financial analysis: - The financial analysis consists of a classic verification of consistency, reliability and sustainability of the content of the Business Plan. - The extra-financial analysis consists of an evaluation of the social and environmental performance that the company intends to generate intentionally. The output and outcome indicators for measuring performance are defined on the basis of the specific characteristics of each company and explained in the form of key performance indicators (KPIs).
Auxiliary services provided to target companies	Consultancy / assistance activity dedicated to target companies, to share the best practices matured by the group during 3 years of activity in order to fill that gap in the know-how of social entrepreneurs that often compromises the outcome of the fundraising activity and therefore the success of the entire system. Main fields of TA are: Financial analysis; Evaluation of the activity; Business Plan stress test; Impact assessment; Communication activities.
Additional financial products offered by the organization, besides the one described as best practice	Through partnerships with other financial intermediaries (banks, investment funds) additional financial support may be provided.
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): SEAY - Sustainable beachwear from plastic bottles INVESTMENT AMOUNT: 80.000 €
Contact details	
Address and telephone	Via Andrea Doria, 15 10123 Torino +39 02 8973 2252

Web site	https://it.lita.co/en/

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - LITA is the First Mover and leader in equity crowdfunding for social and sustainable projects in Europe, it represents a catalyst for equity financing of impact start-up and SMEs. - The platform cooperates with other complementary financial actors (banks, investment funds) to share projects and co-invest.	*WEAKNESSES:* - LITA in Italy is a first mover, we are at the crossroad of two sectors: equity crowdfunding and impact investing. The market has still to develop.
EXTERNAL	*OPPORTUNITIES:* - Stronger interest by citizens towards eco and social issues: there's a higher chance to attract retail investors - Many institutional investors turn to impact investments, as they want their money to make a positive change on our planet and society - The growth of fintech ecosystem, of which we are a part, allows us to be in perfect timing for the increasing number of online, retail investments.	*THREATS:* - Often potential projects have low entrepreneurial skills and need technical assistance services - The fragmented regulation on crowdfunding in Europe does not help LITA in cross border (thus European) campaigns. - low public incentives to online investments in innovative start-ups and innovative SMEs and inefficient implementation of the law on "social enterprises", giving entrepreneurs few incentives to choose this category of company

Debt instruments

Introduction	
Name of organization	Banca Popolare Etica
Organization typology	Bank
Legal form	Cooperative
Public/private ownership	☐ public entity ☑ private entity

Description (explicit the interest/ approach towards Green and Circular economy)	Banca Etica is a cooperative bank that operates in Italy and Spain. It was established thanks to the commitment of a number of individuals and organizations who joined forces to create a credit institution based on Ethical Finance principles: transparency, participation, sobriety, efficiency and attention to the non-economic consequences of economic actions. Its democratic management and ethical approach are ensured by the fact that its members freely participate according to the "one head, one vote" principle: all shareholders have the same right to vote in the General Assembly, irrespective of the number of shares they own.
Location (headquarters)	Italy
Geographical scope (area of operations)	Italy and Spain
Instrument description	
Product typology	☐ equity ☑ debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Banca Etica finances only projects, companies and organizations that are capable of producing social and environmental value in one of the following areas: - COOPERATION and INNOVATION Social services, education and health, fighting social exclusion, providing employment for the disadvantaged. - INTERNATIONAL COOPERATION Providing funding to non-profit organizations and NGOs working in the southern areas of the world, supporting Fair Trade, training for micro-enterprises and development of partnerships. - ENVIRONMENT Reduction of energy consumption, development of renewable energy sources, promotion of organic and biodynamic farming and sustainable projects. - CULTURE and CIVIC SOCIETY Promotion of a culture of legality, enhancement of artistic and cultural heritage, support for non-profit associations and projects for socio-cultural leadership, responsible tourism. - FOR PROFIT RESPONSIBLE ORGANIZATIONS: organizations particularly devoted to CSR/Shared Value and engaged in promoting working and social inclusion, circular economy and ecofriendly activities
Product specificities (what makes this product	- traditional economic investigation is complemented by a socio-environmental assessment of loan applicants. This evaluation is based on parameters such as democratic participation,

different from similar products on the market)	transparency, equal opportunities, respect for the environment, compliance with working conditions, local ties. The socio-environmental assessment is carried out by the "social assessor", an active member who is specially trained and certified by Banca Etica. - Specific funding for energy efficiency and renewable energy production
Range of investment (minimum and maximum)	no minimum amount requested; out of 100% capex, 20% resources must be directly invested by borrower and the bank loan can be max 80%
Investment duration	Long term loans
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation
Legal structure of target companies	Any kind of company (limited liability companies, joint stock companies, cooperatives)
Phase of growth of target companies	☐ Ideation stage ☑ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	Equal weight to financial analysis and extra-financial analysis: - The financial analysis consists of a classic verification of consistency, reliability and sustainability of the content of the Business Plan. - The extra-financial analysis consists of an evaluation of the social and environmental performance of the company As ethical finance institution, some fields of investment are excluded by our credit policy: arms, activities realized through human rights and labour rights violations, intensive animal breeding, activities characterized by high environmental impacts, gambling, pornography.
Auxiliary services provided to target companies	-
Additional financial products offered by the organization, besides the one described as best practice	Bank account and saving products; loans and senior loans; microloans; revolving loans; reward crowdfunding and equity crowdfunding (thanks to partnerships with authorized Italian platforms)
Investment example in Green and Circular Economy	Thousands of loans to green activities such as: organic farming, renewable energy production and energy efficiency, recycling, etc.

	Examples: mortgage to public utility "Contarina" to realize a new plant that could intercept and manage the recyclable part of wastes; loan of 300.000 to the community cooperative of Melpignano, created to realize solar plants on private and public buildings of this little municipality of 2,200 citizens; promotion of equity crowdfunding campaign for the improvement of energy efficiency of a multifunctional medical and rehabilitation center (campaign realized on the platform of our partner Ecomill with a collection of 150.000 euros)
Contact details	
Address and telephone	Via Niccolò Tommaseo, 7 35131 Padova Phone +39 049/8771111
Web site	https://www.bancaetica.it/about-us

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - the bank has developed strong links with other national and international actors to better integrate its own products: guarantees providers, incubators/accelerators, crowdfunding platforms, protection offers (insurance and supplementary healthcare) etc. - Stakeholders are engaged in several ways - it has developed a unique sensibility and expertise in analysing and supporting social and green economy projects	*WEAKNESSES:* - A stronger local network (local branches and financial advisors) and communication activity may significantly boost the spreading of the bank activity. - In some cases (depending on specific needs) clients complain about long operating procedures, limited support due to the small size of the operating network (branches and advisors).
EXTERNAL	*OPPORTUNITIES:* - Stronger citizens' awareness and consciousness concerning sustainability issues (social, environmental, etc.) and the relevance of a more socially-oriented finance.	*THREATS:* - The banking law is getting stricter, reducing on the one hand the tools and activities the bank may implement, and on the other hand setting higher capital requirements (being difficult for the cooperative banks with a widespread

	- Stronger institutional support towards the social economy sector (at the European and national level). - New national law on social enterprises, that may boost the sector's development. - The recent Ethical Finance Law, that defines the main characteristics of an "ethical finance operator" and offers the legal condition to allow a further development of the sector.	shareholding approach to match such requests). - The shadows of a new crisis on the horizon, slow and, above all, unequal economic growth: these are negative external factors that may affect the future

Introduction	
Name of organization	Intesa Sanpaolo
Organization typology	Bank
Legal form	Limited shareholding company
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	Intesa Sanpaolo is the leading banking group in Italy, with approximately 3,700 branches and 11.8 million customers. In its 2018-2021 Business Plan, the Group identified Circular Economy as a key strategic pillar to enhance its competitiveness while generating a positive impact. It thus decided to launch several initiatives to support the transition to a Circular Economy, such as the Circular Economy Plafond and the Sustainability Bond focused on Circular Economy, launched at the end of 2019.
Location (headquarters)	Italy
Geographical scope (area of operations)	Italy
Instrument description	
Product typology	☐ equity ☑ debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify	While focusing on Circular Economy, the Sustainability Bond is also open to Green and Social investments. As for the Circular component, that will

Green and Circular economy targets)	be financed through the € 5 Bn Circular Economy Plafond launched by the bank in 2018.
Product specificities (what makes this product different from similar products on the market)	Circular Economy Plafond is a € 5 Bn credit facility dedicated to offer credit at the best possible terms to the most innovative companies and projects in the Circular Economy field. Eligibility to access the CE Plafond is evaluated against a set of criteria developed by Intesa Sanpaolo Innovation Center in partnership with the Ellen MacArthur Foundation.
Range of investment (minimum and maximum)	There is no minimum or maximum investment size to access the CE Plafond, which is dedicated to all kind of companies (startups, SMEs, Corporates) as long as they meet the eligibiliy criteria.
Investment duration	There is no standard duration for investments supported by the CE Plafond.
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation
Legal structure of target companies	Any kind of company
Phase of growth of target companies	☐ Ideation stage ☑ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	Eligibility conditions: companies whose projects are defined as circular according to 5 criteria and the related sub-criteria (Solutions that extend the product-life or cycles of use of goods and/or materials; Production processes fuelled by and/or products made of renewable or recycled resources; Products and/ or services that significantly increase effectiveness and efficiency of the resources consumption, within the company or along its supply chain; Design and/ or manufacture products that can be fully recycled or composted within an efficient framework of collection, separation and recycling after use; Innovative technologies to enable circular business models). Exclusion criteria for the Circular Economy perimeter is the use of toxic materials and waste to energy practices from unsorted waste (not organic products) are excluded from the Circular Economy perimeter, since they are harmful to humans & environment and leads to loss of value & materials.
Auxiliary services provided to target companies	In parallel to the Circular Economy Plafond, Intesa Sanpaolo also launched its Circular Economy Lab. CE Lab is a physical space, based in Milan, that promotes Circular Economy open innovation projects between startups, SMEs and large corporates.

Additional financial products offered by the organization, besides the one described as best practice	The bank has developed several specific products for Green and Circular Economy. For instance: - Green Loans (for instance Energy Business Loan, intended to support investment plans aimed at creating efficient energy production plants, to diversify energy sources and / or rationalize consumption, as well as the Renewable Energy Loan aimed at the construction of new plants for the production of renewable energy other than photovoltaic); - Green Revolving Credit Facilities, Green Syndicated Loans, Green/Sustainable Bonds (for instance SDG-Linked or Climate Change) and Project Finance dedicated to renewable energy production (wind, photovoltaic, biomass, water). Through its affiliated companies, the Intesa Sanpaolo Group offers also other financial products, such as equity investments and insurance products.
Investment example in Green and Circular Economy	In 2019, the loans disbursed for the Green and the Circular Economy were around 2.2 billion, equal to 3.7% of the total loans. Out of these loans, 248 projects were analysed in the Circular Economy sector and 63 were financed with 760 million € (12 million per project on average). For instance, Intesa Sanpaolo supported one of the largest UK water provider, in a set of investments focused on water management and installation of advanced sensors to reduce water consumption.
Contact details	
Address and telephone	Piazza San Carlo, 156 10121 Torino +39 011 555 1
Web site	https://group.intesasanpaolo.com/it/sostenibilita/ambiente/prodotti-servizi-verdi

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - Better conditions than a standard loan from the bank for investments dedicated to Circular Economy	*WEAKNESSES:* - Nothing specific
EXTERNAL	*OPPORTUNITIES:*	*THREATS:*

	- Recent growth in interest from multiple actors (companies, institutions, general public) for Circular Economy activities and investments	- Reduced level of investment from companies due to overall economic slow-down in 2020

Grant instruments

Introduction	
Name of organization	Fondazione Con Il Sud
Organization typology	Philanthropic Foundation
Legal form	Foundation
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	Fondazione CON IL SUD was launched in November 2006, as a result of the alliance between banking foundations and Italian no-profit sector and volunteer organisations; it was created to foster social infrastructure in Southern Italy, focusing on building up and qualifying the intangible structures to promote development. In particular, the Foundation is committed to promote social cohesion paths, enhancing the ideas, energies and skills already existing in the territory: thanks to the resources distributed, these can gather around effective projects and actions, aiming to foster social capital development.
Location (headquarters)	Italy
Geographical scope (area of operations)	Southern Italy
Instrument description	
Product typology	☐ equity ☐ debt ☑ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Areas of Action: - Development of human capital excellence to foster young talents and to counter brain drain; - Development, qualification and innovation of health and social services;

	- Education of young people in the culture of legality and to counteract school drop-out; - Cultural mediation and integration of immigrants; - Care and valorisation of common property (historical, artistic and cultural heritage, environment, property confiscated from the mafia). Fondazione CON IL SUD has supported more than 1.000 initiatives, involving 6.000 different organizations (both non-profit and public institutions) and individuals (more than 283.000 citizens), allocating in all 176 million euros.
Product specificities (what makes this product different from similar products on the market)	Fondazione CON IL SUD operates through three main grant tools, in the six regions of Southern Italy: - "Exemplary" projects: Initiatives whose innovative content, organisations involved, impact and territorial significance can turn them into benchmarks for social infrastructure. - Community foundations: non-profit entities that are the "expression" of local realities, whose capacity to raise funds to be invested for social purposes in the local territory represents an extraordinary subsidiarity. Absent from the Southern Italian panorama until 2009, the first five community foundations were established in Salerno, in Messina, two in Naples and in Val di Noto (Sicily), with the support of Fondazione CON IL SUD. - Volunteer programmes and networks: initiatives meant to strengthen the impact of the volunteer networks already operating in the territory.
Range of investment (minimum and maximum)	There is no minimum amount. Each call has a maximum contribution that can be requested to the Foundation and a co-financing by applying partners is requested (equal to at least 20% of the cost of the project). The grants are equal to € 200,000 on average.
Investment duration	24-48 months
Return expectation	☑ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☐ capital reimbursement and return expectation
Legal structure of target companies	Mainly cooperatives
Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☑ Growth ☐ Scale-up

Conditions and prerequisites to access	Fondazione CON IL SUD mainly provides grants through Call for proposals. Each call has its own requirements. Main common eligibility criteria: non-for profit status and activity in Southern Italy
Auxiliary services provided to target companies	
Additional financial products offered by the organization, besides the one described as best practice	-
Investment example in Green and Circular Economy	Start-up of social enterprises for the management of collection, reuse, sale and distribution of paper, cardboard, textile and food materials; trashware reuse centers; self-sustainable shop selling fresh groceries coming from short supply chains and the fair-trade circuit; ecostation for collection and bartering of objects.
Contact details	
Address and telephone	Via del Corso, 267 00186 Rome, Italy Phone: +39 06 6879721
Web site	https://www.fondazioneconilsud.it/en/fondazione/about-us/

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - The Foundation often cooperates with other financial actors for specific Calls, in order to increase the total available financial resources. - Often there are no other financial actors offering the same kind of product in Southern Italy. - All projects need to implement an impact assessment process, that provides useful data also for the target beneficiary organisations	*WEAKNESSES:* - difficulty encountered, especially for small organizations, is the willingness to anticipate the final share (30-35%) of the contribution assigned by the Foundation. This fee is refunded only at the end of the project. - The detailed technical and financial monitoring carried out by the Foundation on the projects is considered too burdensome by some beneficiaries
EXTERNAL	*OPPORTUNITIES:* - Raising awareness of public opinion towards the care and respect for the environment;	*THREATS:* - Weak local public policies aimed at promoting green economy paths (e.g. in some municipalities in the South,

	- Extreme wealth of southern Italy in terms of natural resources	differentiated waste collection is not present, or has recently been started) - Public policies at local and especially national level have limited some interventions in the social context and / or have not adequately enhanced social entrepreneurship processes.

Introduction	
Name of organization	Lombardy Region
Organization typology	Regional public authority
Legal form	Public body
Public/private ownership	☑ public entity ☐ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	The Region has issued in 2019 a "Call for innovation of circular economy supply chains": the initiative is aimed at promoting and upgrading the industrial supply chains, their innovation and the competitive repositioning of entire sectors, by aligning them to the principles of the circular economy.
Location (headquarters)	Italy
Geographical scope (area of operations)	Lombardy region (Italy)
Instrument description	
Product typology	☐ equity ☐ debt ☑ grant
Focus on Green and Circular economy	☑ Green and Circular economy is the only target ☐ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	The call provides support to: 1. projects that promote: the reuse and use of recycled materials, products and by-products deriving from production cycles as an alternative to virgin raw materials; reduction of waste production 2. Eco-design: projects that take into account the entire life cycle of products.

Product specificities (what makes this product different from similar products on the market)	The Call provides 2 different kinds of financial support: - For the first support (€ 10,000.00 - € 20,000.00) the project must include a proposal for the entire supply chain and must also focus on the analysis of the technical-scientific feasibility and on a hypothesis of the marketing plan for the innovation to be implemented. Only external consultancy fees, staff expenses and, partially, general expenses can be covered. - The second kind of support (€ 40,000.00 - € 80,000.00) is for more structured projects and covers, in addition to the previous expenses, also the following items: technological equipment and IT software; assistance and acquisition costs of environmental certifications for processes and products (eg ISO 14001, EMAS, ECOLABEL, EPD etc.); services and technologies for the engineering of software / hardware and products related to the project; Materials and supplies (including prototypes); Expenses for the protection of industrial property.
Range of investment (minimum and maximum)	€ 10,000.00 - € 80,000.00
Investment duration	12 months
Return expectation	☑ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☐ capital reimbursement and return expectation
Legal structure of target companies	Any kind of micro and small-medium enterprise
Phase of growth of target companies	☐ Ideation stage ☑ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	Target enterprises need to be a micro or small-medium enterprise and be based in Lombardy region
Auxiliary services provided to target companies	The business ideas selected for the first kind of support can be further improved thanks to the support provided by experts of the Lombard chamber of commerce system, focused on coordination and planning functions.
Additional financial products offered by the organization, besides the one described as best practice	-

Investment example in Green and Circular Economy	The firs support is being provided to 22 projects, for a total amount of 175.000€. An example of beneficiary project is MOBILITY R-EVOLUTION: a network promoting “electric retrofit” of cars (transformation of endothermic motor vehicles into electric vehicles), receiving 20.000 €. The selection process for the second kind of support is now underway.
Contact details	
Address and telephone	Unioncamere Lombardia Via Ercole Oldofredi, 23, 20124 Milano +39.02.6079601
Web site	https://sites.google.com/lom.camcom.it/economiacircolare/home?authuser=0

4. THE GREEN AND CIRCULAR ECONOMY MARKET IN PALESTINE

4.1 Today

Palestine lacks a clear and coherent action plan and framework for Green and Circular economy at the national and local levels. Palestinian renewable energy and sustainability laws have had a limited impact due to their inconsistent enforcement. In addition, as a developing country, still suffering from the Israeli occupation and with limited natural resources (most of them are under the occupying authority's control), Palestine needs now more than ever to find new ways and methodologies to raise the socioeconomic sense of responsibility and improve the livelihood of the Palestinian people through investing in the available natural capital.

Some efforts have been made by the Energy Authority (PEA) which launched in 2010, its sustainable energy policy road map with the aim to increase the operating and technical efficiency of distribution utilities, improve energy conservation and load management and diversify the sources of the regional electricity supply as an improvement of the Green economy. In accordance with this policy, resolution n°162012 on the use of renewable energy in Palestine was adopted by the Palestinian Authority.

The Palestinian Energy Authority did launch what they call the National Energy Efficiency Action Plan (NEEAP); a new and advanced approach aiming to significantly accelerate the adoption and implementation of energy efficiency and sustainability measures, as well as investments in carbon emission reduction targets by 2025. It is important to notice that the Palestinian National Authority acknowledges the fact that local authorities such as municipalities and cities are playing and will continue to play a key role in the necessary energy transition the country should go through.

As a sign of this attention paid to local authorities, the Ministry of local government took the lead in promoting the deployment of the Covenant of Mayors movement in the West Bank.

The covenant is a global movement that started in the EU. It involves local and regional authorities voluntarily committing to increasing energy efficiency and use of renewable energy sources on their territories. By committing, Covenant signatories aim to meet and exceed the EU's 20% carbon reduction target by 2025. Palestine was one of 24 Mediterranean countries that committed to the plan.

Palestine Environmental Law framework:

<table>
<tr>
<td>What is it about?</td>
<td>The first Palestinian environmental law came into existence in the year 1999 after being approved by the late PA president Mr. Yasser Arafat after passing in the Palestinian Legislative Council (PLC) and is called "Law No. 7 on the Environment"

Later on, a set of laws with relevance to environment matters have been enacted by the Palestinian National Authority, which are basically sector based laws but covers environmental protection matters in their scope of relevance in that specific sector:

<table>
<tr><td>Law</td><td>Year</td></tr>
<tr><td>Law no. 20 of Public Health</td><td>2004</td></tr>
<tr><td>Law no. 3 of Agriculture</td><td>2003</td></tr>
<tr><td>Law no. 3 of Water</td><td>2002</td></tr>
<tr><td>Law no. 1 of Natural Resources</td><td>1999</td></tr>
<tr><td>Law no. 15 of Industrial Estates and Free Industrial Zones</td><td>1998</td></tr>
<tr><td>Law no. 1 of Local Bodies Councils</td><td>1997</td></tr>
</table>

In addition, the Environmental Impact Assessment (EIA) process is used by the Palestinian authorities to assess environmental effects of development projects and study them to make a decision to integrate the interest of the environment.</td>
</tr>
<tr>
<td>To whom does it apply?</td>
<td>The regulations cover the following activities, whether they are private or public:

1. Major agricultural projects including restructuring of lands in excess of 20 Acers in addition to large scale water management, domestic animal rearing, and fish breeding projects.
2. Extractive industry of minerals, coal, petroleum and gas, and their associated installations.
3. Energy industry covering production installations for electricity, steam and hot water in addition to their storage and transmission means and facilities.
4. Processing of metals including steel, non-ferrous metals to produce various types of castings and sheets.
5. Glass and rubber industries
6. Chemicals industry covering pesticides, pharmaceuticals, paints…etc
7. Food industry with organic and green impacts.
8. Textile, leather, paper, wood and marble industries.
9. Major infrastructure projects (industrials estates, urban developments, dams, airfields…etc) and other construction projects.</td>
</tr>
</table>

Main points	The regulations under the plan mainly pertain to obtaining environmental approvals for development projects. The focus of the regulations is on: 1. Protecting the environment from all forms of pollution 2. Protecting public health and social welfare 3. Incorporating the concerns of environment protection into the economic and social development plans, and encouraging sustainable development 4. Protection of the biodiversity and the sensitive environmental areas as well as rehabilitating and upgrading environmentally damaged areas 5. Encouraging the collection and dissemination of environmental data and increasing the public awareness of environmental matters
Entry into force and application	All the regulations are already operational. It is important to take into consideration the political division of the west bank by the Israeli occupation into 3 zones based on autonomy and control. Therefore, a set of projects are not allowed to be implemented in Zone I (Israeli controlled), while if they are to be implemented in Zone II (Some Palestinian control), they would require to go through the Environmental Impact Assessment (EIA) process mentioned before. And if located in Zone III (mostly Palestinian control) an environmental review would be needed either to grant environmental approval or to decide on the need for an EIA would be the basis for the decision of granting the approval or denying it
Related Articles	https://fada.birzeit.edu/bitstream/20.500.11889/1701/1/thesis_304.pdf

4.2 Tomorrow

The future growth of a green and circular economy in Palestine appears promising, as it coincides with worldwide trends and sustainable development goals. A green economy is an economic system that attempts to increase human well-being and social fairness while minimizing environmental dangers and scarcity. A circular economy, on the other hand, is an economic model that aims to reduce waste and maximize resource use by keeping materials and goods in use for as long as feasible through recycling, repurposing, and reusing.

Palestine, like many other regions, confronts resource limits such as a scarcity of water, arable land, and energy sources. Adopting sustainable practices and resource-efficient technologies can assist the country in making better use of its resources.

Here are some of the reasons why Palestine could benefit from a green and circular economy:

1. Palestine has plenty of sunlight, making it an ideal location for solar energy projects. Investing in renewable energy infrastructure can help reduce reliance on fossil fuels and cut greenhouse gas emissions.
2. trash Management and Recycling: Palestine generates trash, and better waste management methods can open up chances for recycling industries while also reducing pollution in the environment.
3. Job Creation and Economic diversity: Investing in green and circular economy sectors has the potential to provide new job opportunities while also encouraging economic diversity.

4. International Support: Many international organizations and governments are interested in assisting sustainable development initiatives, such as green and circular economy initiatives, in developing countries.

However, various problems may need to be addressed before a green and circular economy may be successfully implemented in Palestine. Political instability, access to financing and technology, capacity building, and cooperation among numerous stakeholders are among the hurdles. International cooperation and support can be critical in overcoming these obstacles and supporting long-term development in the region.

It is critical to acknowledge that developing a green and circular economy in Palestine would necessitate a comprehensive and collaborative approach involving the government, commercial sector, civil society, and foreign partners. An approach like this can help harness the potential for long-term economic growth while also protecting the environment and natural resources for future generations.

4.3 Funding

The following boxes contain a few examples of financial tools/actors addressing Green and Circular Economy.

Equity instruments

Introduction	
Name of organization	Palestine Investment Fund (PIF) for Small and Medium Size Investment
Organization typology	Private Equity and Venture Capital
Legal form	Public company
Public/private ownership	☑ public entity ☐ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	Sharakat invests for impact in Palestinian SMEs to strengthen food self-sufficiency, enhance the technology offer, and accelerate human development through health and education. Established in 2013, Sharakat is a fully-owned subsidiary of the Palestine Investment Fund. PIF seeks a double bottom line by maximizing impact through innovation and investing in cutting-edge strategic projects in under-developed and vital sectors, all while achieving sustainable returns.
Location (headquarters)	Ramallah, Palestine
Geographical scope (area of operations)	Palestine
Instrument description	
Product typology	☑ equity ☐ debt ☐ grant

Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Agriculture, Technology, Health and Education, SME's financing
Product specificities (what makes this product different from similar products on the market)	- PIF is the leading investor in renewable Energy, Agriculture and agrobusiness, infrastructure, real estate, Technology, and Entrepreneurship in Palestine. With $1 Billion of assets under management, - PIF has strategic partnerships with companies both locally and internationally, in addition to their connection to governmental agencies.
Range of investment (minimum and maximum)	By the end of 2017, Sharakat had invested 25 million USD in various Palestinian economic sectors; and attracting over 106 Million USD in additional investments by PIF partners into the same investments Range of investment in 2018 was 17.5 million USD
Investment duration	Between 1 and 5 years
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation
Legal structure of target companies	Sharakat invests in established and start-up MSME's with high potential for growth and expansion. Sharakat invests in agriculture, technology and human development (healthcare and education).
Phase of growth of target companies	☐ Ideation stage ☐ Early stage ☑ Growth ☐ Scale-up
Conditions and prerequisites to access	- An existing company.
Auxiliary services provided to target companies	Grants Business Training Financial coaching
Additional financial products offered by the	Grants, investment for small and medium-sized enterprises

organization, besides the one described as best practice	
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): Dalyeh Seedless Grape Farm: The Al Dalyeh Early Seedless Grape Farm was established on 128 dunums in Ein Al Beida, Tubas, in Area C, in partnership with Sawafta Brothers Corporation. Currently, the farm is being expanded to reach 540 dunums. This project aims to develop agriculture in Palestine and enhance the resilience of the Palestinian population, especially in Area C. INVESTMENT AMOUNT: 10 Million USD
Contact details	
Address and telephone	Tel: (+970) or (+972) 2 2421966/67 Fax: (+970) or (+972) 2 296 9614 Al-Ersal St, Ammar Bulding 6th floor Ramallah, Palestine
Web site	http://www.sharakat.ps/

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - One of the largest/most connected company in Palestine allowing green companies access to other investors and fellow green companies. - Focuses on green, agricultural and clean innovation.	*WEAKNESSES:* - Very competitive selection process - Regulations regarding companies selected including establishment and scalability.
EXTERNAL	*OPPORTUNITIES:* - Sharakat is well positioned to impact a major change in the sector and mitigate market constraints to facilitate the move into high-value crops and crowd in the necessary investments into the sector	*THREATS:* - Political instability of the region - Lack of innovation in the technology and agricultural sectors due to the occupation

Introduction	
Name of organization	Siraj Palestine Fund Management Company
Organization typology	Management Company
Legal form	Private Company
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	Siraj Fund Management Company (SFMC) is the first Palestinian private equity fund manager. SFMC's first fund, Siraj Palestine Fund I, is a USD $90M fund which invested in 14 companies in 9 different sectors. SFMC's second fund will be a similar fund with an expected first closing in late 2017 that will provide growth capital to companies operating in Palestine, specifically those who will apply technological advancements and innovative solutions to grow and expand either locally or regionally.
Location (headquarters)	Rawabi City
Geographical scope (area of operations)	Palestine
Instrument description	
Product typology	☑ equity ☐ debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Diversified sectors including financial services, healthcare, infrastructure & energy, agriculture, and industrial. Focused on generating economic returns while creating development impact that will benefit Palestinian society and economy as a whole, and support the emergence of a self-sustaining Palestinian state.
Product specificities (what makes this product different from similar products on the market)	- Large investment window (up to 5M USD in funding) - Works with small and newly established businesses - Capitalizes on youth and graduate student to create jobs and offer economic growth opportunities for younger people with a focus on female entrepreneurship.
Range of investment (minimum and maximum)	2-5 Million USD
Investment duration	10 years with an investment period of 5

Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation Other: A Fund term of 10 years with an investment period of five years
Legal structure of target companies	SMEs and public companies in the early, expansion and growth business stages. SPF II will target companies from the most flourishing economic sectors which include the financial, healthcare, agriculture, industrial, infrastructure and energy sectors.
Phase of growth of target companies	☐ Ideation stage ☑ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	Extensive due diligence, a strict investment committee approval process, counsel from international and local connections in assessment and implementation of investments, acquisition of an influential equity positions with a long-term holding strategy, and diversification of investment type per deal.
Auxiliary services provided to target companies	- technical assistance to portfolio companies. - Financial guidance - Develop portfolio companies' business strategy to maximize revenue
Additional financial products offered by the organization, besides the one described as best practice	Grants
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): Nakheel Palestine, a limited shareholding company specializing in the production, farming, marketing and sales of Medjool dates. The company emphasises on organic agriculture and agriculture and uses innovative irrigation systems using renewable sources of energy. INVESTMENT AMOUNT: Siraj Fund acquired a 30% stake in Nakheel Palestine for Agricultural Investments.
Contact details	
Address and telephone	8th Floor, Massar International Building, Q Center Rawabi, Palestine

Web site	https://www.siraj.ps/en

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - capitalizes on local Palestinian talent and resources - extensive local and international experience from over a decade of investment and consultancy activities. - international fund management and hands-on business management consultancy experience - unsurpassed network of industry contacts	*WEAKNESSES:* - The Palestinian market remains largely untapped with enormous scope for infrastructure development and technology advancement. - lacks access to capital
EXTERNAL	*OPPORTUNITIES:* - Sirajj has a huge network with local and international stakeholders that are willing to invest and develop the agricultural sector in Palestine. - Rawabi is a developing city with multiple opportunities to use agriculture as a main pillar of generating income.	*THREATS:* - Lack of formal requirements to label an investment as "green" in the Palestinian law and economy - Lack of specific guidelines and laws to support companies investing in green economy. - The Palestinian market remains largely untapped with enormous scope for infrastructure development and technology advancement. -

Debt instruments

Introduction	
Name of organization	Palestine for Credite and development - FATEN
Organization typology	a private non-profit company
Legal form	Limited company
Public/private ownership	☐ public entity ☑ private entity

Description (explicit the interest/ approach towards Green and Circular economy)	The Palestine for Credit and Development, known as Faten was established in 1999 in order to assist poor people to set up and develop their business by providing a range of financial services, It has expanded rapidly to become one of the largest Microfinance institutions in MENA region; it has 38 branches spread throughout the country employs 300 full-time staff with more than 42,000 active borrowers and an outstanding loans portfolio of more than $120 million. Faten believes that the combined efforts of the Palestinian Authority, microfinance institutions and decision makers in the community, along with local and international community institutions, capable of achieving the goals of the industry, which maintain the continuity and success of the small business and enhance their productivity by maintaining microfinance products.
Location (headquarters)	Ramallah
Geographical scope (area of operations)	Palestine
Instrument description	
Product typology	☐ equity ☑ debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	SMEs, Renewable energy, Entrepreneurs
Product specificities (what makes this product different from similar products on the market)	- A variety of different loans depending on personal situations - A clear process and structured map to obtain loans - A network connected to other financial institutions that can further support projects
Range of investment (minimum and maximum)	Small Business Loan (UP TO $25,000) Small and medium projects (Up to $50,000) Social Loan (up to $4000) Start up loan (Up to $25,000) Renewable Energy (Green loans) (up to $25,000)
Investment duration	Depending on the project ranging from 10 and 60 months
Return expectation	☐ no return and no reimbursement expectation (pure grant)

	☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation Other: Interest rates start at 1% per month and reach 5% annually. The interest rate for commercial loans and the profit margin for Islamic Murabaha loans is determined by the purpose of the loan and its value
Legal structure of target companies	Any individual above 18 years old with a Palestinian ID
Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☑ Growth ☐ Scale-up
Conditions and prerequisites to access	Varies for each method: - SME Loan: Prior experience in field in addition to being at least 21 years of age and carries a Palestinian ID. - Renewable Energy Projects : provide a scientific qualification, vocational training or practical experience managing the project. - Small Business loan: the project needs to have made profit in the past six months in addition to being a registered company for at least two years. - For all projects: The loan amount shall not exceed the capital of the Project or the total assets.
Auxiliary services provided to target companies	- Technical support provided to support the design and implementation of projects. - Access to a network of useful contacts for advisory and product commercialization and marketing.
Additional financial products offered by the organization, besides the one described as best practice	Small Business Loan, Social Loan, SME Loan, Start with us loan, Financing Renewable energy loan, Housing loans
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): Zuhair Omar Farm: A small Thyme farm created to supply local markets with this crop, with an emphasises on organic agriculture practices including solar irrigation system and the elimination of pesticides when producing the crop. https://www.faten.org/media/success_story/details/zuhair-amer-success-story.html

	INVESTMENT AMOUNT: 10,000 USD
Contact details	
Address and telephone	P.O Box: 2446, Altereh, Ramallah, Palestine
Web site	https://www.faten.org/

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - FATEN is the largest microfinance institute in the region and is active in remote areas - Serves a majority of women clients (32% of all clients) with a high outreach in rural areas and refugee camps - Faten offers the opportunity to deliver products and services during a period when demand is high and no other options exist.	*WEAKNESSES:* - Very specific guidelines to obtain loans including financial guarantees and lack of flexibility in the payment timeline. - Needs to be an established company with revenue generated
EXTERNAL	*OPPORTUNITIES:* Microfinance and due to the situation in Palestine presents a more sustainable and client-responsive option than does continued humanitarian assistance as: 1. Microfinance with all its flaws puts economic empowerment in the hands of organizations/beneficiaries that are more connected with day to day activities of their projects. Donor money, international aid and development projects in general are not sustainable, they have agendas and they lack follow up and review. 2. Free money lowers accountability compared to interest based microfinance support. 3. Microfinance provides a larger pool of employment compared to international run projects. 4. Sustainability	*THREATS:* - Political instabilities - Threats of increasing competition by for-profit microfinance institutions

Introduction	
Name of organization	REEF
Organization typology	Private- non for profit company
Legal form	Loan/micro financing company
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	Loans/ Finance. Reef Finance Company (Reef) is a rural financial institution, established in June 2007 as a private not-for-profit company and started its lending operations in January 2008. Reef Finance provides financial services to Palestinian people; individuals or groups, with limited income, who engage in different economic sectors and to focus largely on the agricultural sector.
Location (headquarters)	Ramallah
Geographical scope (area of operations)	Palestine
Instrument description	
Product typology	☐ equity ☑debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	- Agricultural sector and the sectors that complementary to agricultural sector; value chain - Commerce and manufacturing, professions business projects and crafts such as carpenter, metal work, tailoring, hair dressers, etc. - Cooperative projects - House improvements; Housing improvements loans in rural areas - Consumption projects including university students paying their tuition and house improvement projects in rural areas.
Product specificities (what makes this product different from similar products on the market)	- One of only a few microfinance institutions working with agriculture and green innovation specifically - A non for profit company creating easier tax return on all loan holders - Availability to renew loans based on good standing
Range of investment (minimum and maximum)	Varies with an average of 15,000$-300,000$ for a project

Investment duration	One to three years
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation
Legal structure of target companies	A registered company under the Palestinian Ministry of finance opened for at least 6 months.
Phase of growth of target companies	☐ Ideation stage ☐ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	To be a registered company under the Palestinian Ministry of finance, and has generated revenue for the last 6 months
Auxiliary services provided to target companies	- Guidance on the overall direction and administration of the company, - Planning, developing and implementing strategies for operational and financial management - Financial analysis, risk management, and investments support
Additional financial products offered by the organization, besides the one described as best practice	Agricultural loans), Small Business Loan, Social Loan, SME Loans, housing loans, education/tuition loans, Islamic financing loans, cooperative loans.
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): Olive Squeezer cooperative: It aimed to solve the marketing of olives and olive oil internationally especially with the limitations and regulations on exports by the Israeli occupation (85/90 direct beneficiaries). It is the most modern olive squeezer in Palestine, serving 6 farmers at the same time saving energy and time in addition the turbine of the machine comes without centrifugal separator making the production of the oil pure faster. https://www.reef.ps/en/content/olive-squeezer INVESTMENT AMOUNT: N/A
Contact details	
Address and telephone	Ramallah, Jamal Abdel Naser, st., Al Fahd bld. Phone:02-241 07 57

Web site	https://www.reef.ps/en

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - In Palestine, only REEF currently gives loans to a group of individuals working on the same project (individual lending is the main category) - Specific to agriculture and green related projects.	*WEAKNESSES:* - Limited financial resources as Reef is a small micro-financing institution compared to its competitors.
EXTERNAL	*OPPORTUNITIES:* - A huge network of other investors and green companies within the sector	*THREATS:* - Agricultural instability due to the occupation - Competition with other bigger micro financing companies

Grant instruments

Introduction	
Name of organization	Higher Council of Innovation and Excellence
Organization typology	Public institution
Legal form	Public institution
Public/private ownership	☑ public entity ☐ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	Governmental Organization/Investor. The Higher Council is a governmental institution playing a leading role towards consolidating a culture of innovation and excellence among the Palestinian community to empower all those innovators and creative people, and strengthen the structure of creativity system in various sectors.
Location (headquarters)	Ramallah
Geographical scope (area of operations)	Palestine
Instrument description	
Product typology	☐ equity

	☐ debt ☑ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Stimulation, evaluation, incubation, funding, investment, national and international cooperation, Policies and Strategies- All fields with focus on scientific & Technological ones, Green innovation
Product specificities (what makes this product different from similar products on the market)	- Supports youth - Offers services including training and capacity building - Creates clusters of same interest locally
Range of investment (minimum and maximum)	Depends on the project as investment decision is made case by case ranging from 1000 to 15,000 USD.
Investment duration	Depends on the project as investment decision is made case by case ranging from 12 to 60 months
Return expectation	☑ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☐ capital reimbursement and return expectation
Legal structure of target companies	No legal structure for targeted companies
Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☑ Growth ☐ Scale-up
Conditions and prerequisites to access	- Prototype for technology related projects - Teams of 2 or more
Auxiliary services provided to target companies	- Support for international conferences participation - Access to seed fund institutions - Networking, incubation and acceleration of projects - Logistic and technical support from supporting in registration companies and supporting in strategic planning - Training and capacity building
Additional financial products offered by the organization, besides the	Grants, Seed Fund, equity investment

one described as best practice	
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): Doroob Navigation Application: Doroob Navigator is the first location based application developed in Palestine. The project came to life in the Palestinian Territories due to the lack of alternative navigation solutions such as Google maps because of political reasons. Using doroob navigator, users will be able to find locations, receive optimized navigation routing with instructions. Also the doroob navigation app is interactive, users can report traffic and road information, other users can confirm the events on a live map, all these functions aim toward providing users with accurate and updated road information. Doroob navigator application is on a serious mission to help users save time, lower carbon emissions of cars due to lack of navigation services and create a more safe and efficient navigation process. The application aims on expanding to Jordan soon. INVESTMENT AMOUNT: N/A
Contact details	
Address and telephone	Al Raihan Neighbourhood, Ramallah Palestine +970 599 900885
Web site	https://hcie.ps/?page_id=583&lang=en

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	STRENGHTS: - Offers all services needed for start-ups/SME's to succeed including technical support, capacity building and financial support - A large network of both private and governmental companies that can support the advancement of companies - Entrepreneurs can submit an application form for their project through the HCIE website with no specific window to funding	*WEAKNESSES:* - Public institution grants have higher regulations and protocols due to abiding by all governmental laws and hierarchy. - Hard to renew/update grants

EXTERNAL	*OPPORTUNITIES:* - Opportunities to access to larger markets due to the local and national influence of public institution funding	*THREATS:* - Political instability - Governmental and rapid political changes

Introduction	
Name of organization	Palestine ICT Incubator (PICTI)
Organization typology	Incubator
Legal form	Non-Profit ICT incubator
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	Incubator - Accelerator. PICTI.StartUPs is the first Non-Profit ICT incubator in Palestine. PICTI.StartUPs provides sustainable channelling between startups and accelerators and investors at both the local and international levels including the Palestinian diaspora. PICTI.StartUPs was founded in 2004 as a technology based physical incubator facility and grew to offer business services to Palestinian entrepreneurs. Innovative ideas are assessed in terms of their market potential and supported to become great projects.
Location (headquarters)	Ramallah
Geographical scope (area of operations)	Palestine
Instrument description	
Product typology	☐ equity ☐ debt ☑ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Technology, Commercialization, Media, Communication, Green Innovation and other sectors
Product specificities (what makes this product different from similar products on the market)	- Supports ideation phase and graduating students - High emphasis on youth and women - Multiple connections internationally

Range of investment (minimum and maximum)	Varies between 1000-15,000 USD
Investment duration	Varies 2-5 years
Return expectation	☑ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☐ capital reimbursement and return expectation
Legal structure of target companies	No legal structure for targeted companies anyone can apply for a grant as long as they have an idea
Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☐ Growth ☐ Scale-up
Conditions and prerequisites to access	- Teams not individuals
Auxiliary services provided to target companies	- Business services - Connecting and networking - Training and education - Access to finance - Technical and logistical support
Additional financial products offered by the organization, besides the one described as best practice	Grants, Incubation and accelerator program
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): Innovation and ICT sector Development as a tool for Pease and Prosperity in Palestine project: The project aims to contribute to enhancing innovative and ICT-related solutions for the economic development by enhancing and strengthening young leaders and entrepreneurs to be engaged in the social innovation and the AgriTech development. The program was able to sponsor 10 AgriTech Startups and is currently working with them on capacity building and business innovation in order to guarantee sustainability on the long run. INVESTMENT AMOUNT: N/A
Contact details	

Address and telephone	Ramallah: Ougarit Bldg. – 3rd Fl., Al-Irsal. 970599225089
Web site	http://picti.ps/

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - Ran and lead by female entrepreneurs - Connects the West Bank Market to the Gaza Market - Supported by large companies including USAID and the European Union	*WEAKNESSES:* - Not a lot of experience in green financing regardless of their interest - Limitation in movement due to the headquarters being in Gaza city
EXTERNAL	*OPPORTUNITIES:* - Supports large networks of start-ups with the same interest worldwide through a platform (Connect Gaza) which supports in experience transfer and cross-border cooperation.	*THREATS:* - Depends largely on foreign funding for grants which jeopardizes the sustainability of the projects supported

5. THE GREEN AND CIRCULAR ECONOMY MARKET IN LEBANON

5.1 Today

There is no clear path for the local green economy as Lebanon lacks a national integrated development plan (http://www.databank.com.lb/docs/Sustainable%20Development-ESCWA-2015.pdf). Nevertheless, each sector is subject to policies and legislations relative to its scope of work:

- The solid waste sector is bound to protect and preserve biodiversity while avoiding the depletion of natural resources and recovering material and energy. A policy tackling integrated solid waste management was adopted by the council of Ministers but is still waiting to be implimented. The policy is founded on eight principles found in the following link: http://www.moe.gov.lb/getattachment/cca17155-ac13-4cf3-83c1-6c5baee40df4/Policy-Summary-for-Jan-2018.aspx.
- The Energy sector has to minimize pollution while reducing its reliance on non renewable fossil fuels. The National Mechanism for Energy Efficiency and Renewable Energy (NEERA), launched by Banque du Liban, is financing sustainable energy projects in Lebanon. Soft loans at low interest rates are provided to the private sector promoting investments in renewable energy. Details about the mechanism are found in the following link: https://energyandwater.gov.lb/ar/faq
- The water sector is pursuing ways to ensure water security by providing enough clean water for the Lebanese people and the entire ecosystem. A 10 year plan was put in place to build seventeen lakes

and dams aiming at reaching water security. Water security is based on four pillars: accessibility, availability, stability (economic and political) and utilization (nutritional quality). To this day, only Chabrouh dam has been built. Detailed information on the planned lakes and dams are provided in the following link: http://www.undp.org.lb/communication/publications/downloads/SOER_en.pdf

- Other laws provide protection for land and marine ecosystems as well as forests, soil and air quality. Projects tackling those topics are: ARDP for reforestation and HASAD for sustainable agricultural development in hilly areas and other internationally funded projects. Details are provided in the following link : http://www.undp.org.lb/communication/publications/downloads/SOER_en.pdf

The SDG 2030 agenda for sustainable development works towards a more sustainable world. The agenda has 17 sustainable development goals. Lebanon is specifically tackling the equality, economic growth, governance and environment goals. The country's current position regarding each goal is found in the following link: https://www.lb.undp.org/content/lebanon/en/home/library/sdg/the-sustainable-development-goals-2017--lebanons-report-.html

Lebanon has been putting focus on empowering its green economy and activating funds to support a circular economy. Donors and other Funding Initiatives (mainly EU and US based) in the Areas of Sustainable Development at the Local Level are being mobilized to disburse grants and funding to support environmental programs and rural development initiatives mostly in the agri-food sector, solid waste management, livelihood, energy and water sector, local tourism and rural empowerment and more.

Building on the global awareness on the importance of the environment, on the investment scene, the Green entrepreneurship sector is attracting a high interest from Investors with a current pool of around 25 existing finance and investment structures and mechanisms available that include a focus on the green sector and others (such as grants, equity investment, micro loans, green loan, support programs that include matching s etc). Reference here

The definition of green finance in Lebanon depends on the circulars issued from the Central Bank of Lebanon and the Ministry of Finance to facilitate financing in green sectors and support the development of green businesses in energy, pollution abatement, waste and water treatment, recycling, green agriculture, ecotourism, and landscaping.

The main support for green ventures exists mainly in the early and growth stage leaving some gaps to support ventures in the scale-up phase that should be an opportunity of growth for future programs.

While the number of investments that have been financed by the established programs continues to grow, urgent national environmental challenges that require large infrastructure projects nationwide remain largely unaddressed. With large funding needs, a broad range of financing instruments will be necessary to undertake climate aligned investments.

Many performance measurements systems have also become available to the businesses nowadays and those that are more specific to addressing environmental performance are known as SPMSs (Sustainability Performance Measurement Systems) and SRTs (Sustainability Reporting Tools). Companies use these measurement systems independently and in non-binding formats.

Those standards are mainly addressed at any organisations or individuals who wish to build /renovate buildings with "Green" characteristics, i.e. with implementing sustainable solutions.

Reporting on Climate change and SDG's:

What is it about?	The Ministry of Environment in Lebanon requests the private sector to report its GHG emissions in a non-binding format. It is targeted at the whole private sector.
To whom does it apply?	Private Sector Companies in Lebanon
Main points	In accordance with the United Nations Framework Convention on Climate Change (UNFCCC), Parties are required to develop and report national inventories on national emissions and removals of greenhouse gases (GHG) using comparable methodologies as part of their National Communications (NC) and their Biennial Update Reports (BUR). The "Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories" and the "Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories" are the official methodologies that developing countries use to calculate and report their emissions. Lebanon has already submitted three national GHG inventories with base years of 1994, 2000 and 2011 (MoE/UNDP/GEF, 1999; MoE/UNDP/GEF, 2011; MoE/UNDP/GEF, 2015).
Entry into force and application	Started in 2018.
Related Articles	http://climatechange.moe.gov.lb/ghg-emissions http://climatechange.moe.gov.lb/certificates

5.2 Tomorrow

In the absence of a clear vision and a single national development policy, the United Nations Economic and Social Commission for Western Asia conducted an analysis demonstrating the top green sustainable development priorities of Lebanon. The policies to be implemented aim at improving energy, food and water security, developing infrastructure and sustainable cities and protecting natural habitats and biodiversity. More details are found in the following link: http://www.databank.com.lb/docs/Sustainable%20Development-ESCWA-2015.pdf

The Lebanese authorities are continuously seeking international funding to implement projects. In the solid waste sector, The Ministry of Environment is preparing a national strategy for the integrated solid waste management based on the previously mentioned policy. A waste to energy project is also waiting to be implemented. The water sector is aiming to construct the sixteen dams and lakes that were planned by 2010. Their construction will enhance water availability and hence, water security. The authorities are also looking at amending laws related to air quality while pushing for reforestation to further improve life conditions. (http://www.undp.org.lb/communication/publications/downloads/SOER_en.pdf).

Even though the prioritized SDGs in Lebanon do not specifically target the environment, their long term effects will inevitably enhance the environmental conditions. To reach sustainable economy, growth and governance need environmental improvements to be done. Hence, by working towards the set goals, Lebanon will be improving its green and circular economy.

Lebanon is internationally involved in numerous platforms and organizations that tackle climate change. It is putting a priority to adaptation and accessing finance to work towards a low emission future and

decrease the impact of climate change on the country. Listed below are some organizations that Lebanon is a member of, that work on financing for climate adaptation.

1. Lebanon along with further members of the Arab Forum for Environment and Development (AFED) organization has been focusing on Financing Sustainable Development in Arab Countries for the past 2 years highlighting the financing strategies and action plans to support the implementation of the 2030 Agenda focusing on environmental challenges and recommended solutions. Beyond identifying prospective sources of financing, this implies putting in place adequate laws, policies and regulations to stimulate investments in the right direction. While international cooperation commitments need to be honoured, cooperation within the region should be enhanced at all levels. greater efforts need to be exerted to tap private finance for implementing the SDGs, mainly by creating a sound business environment and implanting confidence in the governance of the development process, under the rule of law and political stability. Apart from securing additional financial resources, the focus should be on the mobilization and the redirection of existing local financial outlays, both public and private, towards supporting sustainable development programs, plans, and activities, which should be executed in a more efficient manner.
2. **International** experts and officials gathered at ESCWA headquarters in Beirut in September 2019, in the context of a Forum on Climate Finance and Sustainable Cities to discuss the most efficient ways to support financing climate action globally and in the Arab region highlighting the challenges and the current situation of climate financing in the Arab region. The Lebanese Minister of Environment Fady Jreissati emphasized in the conference that Lebanon is committed to climate change and will work on figuring out access to finance for climate adaptation.
3. In November 2019, ESCWA signed an exchange of letters with League of Arab States and the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) on collaboration for the implementation of a climate finance project in the Arab region, aimed at assessing the finance needs of member States for climate action.
4. The Paris Agreement is an accord signed in 2016 within the United Nations Framework Convention on Climate Change (UNFCCC), which tackles greenhouse gas emissions mitigation, adaptation, and finance. Lebanon joined the Paris Agreement on Climate and is committed to adapt to the adverse impacts of climate change and make “finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.” In addition, The Ministry of Environment stressed that it will continue to join efforts with its national and international partners to work towards a low-emission future, bearing in mind that climate change action is an important opportunity to sustain people’s livelihoods and well-being.
5. Various donors are mobilized to inject funding in Lebanon for projects related to environmental opportunities and promoting advancement of the sector.

5.3 Funding

Lebanon has been playing several roles in supporting finance for Green and Circular economy on an international and national level to promote a sustainable and economic growth and reduce the significant challenges that are arising from climate change, scarce natural resources, and the economic political and social instability.

On an international level, Lebanon is a member and an official party of several agreements and initiatives that address Green Finance and specifically climate finance. Among which, it has been a party to the United Nations Framework Convention on Climate Change (UNFCCC) since 1994 (Law 359/1994) that aims

to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, ratified the Kyoto Protocol in 2006 (Law 738/2006) that was concluded and established legally binding obligations for developed countries to reduce their greenhouse gas emissions, and the Paris Agreement to the UNFCCC (Law 115/2019 and Decree 5599/2019) which tackles greenhouse gas emissions mitigation, adaptation, and finance since 2016.

On a national level, the Ministry of Finance (MOF), through Banque du Liban (BDL), introduced in 2001 a subsidized interest loan to support investment in three key economic sectors (industry, agriculture, and tourism) –BDL Circular 7743/2001. In June of 2009, BDL also introduced a new policy to facilitate loans for environmentally-friendly projects (new projects as well as retrofits) –BDL Circular 197/2009. In November 2010, the BDL further introduced new loan incentives to finance environmental projects in energy (renewable energy, energy efficiency, and green buildings) and non-energy (pollution abatement, waste and water treatment, recycling, green agriculture, ecotourism, and landscaping) –BDL Circular 236/2010.

The Central Bank of Lebanon (Banque du Liban/BDL) also issued Circular No. 313, and No. 346 in 2013 to provide incentives for investments that focus on eco-friendly projects, including energy efficiency, renewable energy, and certified green buildings, and to extend its subsidized loan scheme in green sectors implemented with an Additional USD 331 Million.

In 2014, the Central Bank of Lebanon announced a new Circular, Circular 331, injecting the potential of 400 million dollars into the Lebanese enterprise market to develop a startup ecosystem, to bring innovation ideas into life, to move Lebanon towards a knowledge-based economy and eventually create further job opportunities.

Projects specific funding mechanisms that have been initiated from BDL's Circular 236, 313, and 346

a) The "National Energy Efficiency and Renewable Energy Action" (NEEREA) is a national financing mechanism initiated by the Central Bank of Lebanon (Banque du Liban-BDL) dedicated to the financing of green energy projects in Lebanon. NEEREA t provides interest-free long-term loans to residential, commercial, non-profit and industrial users for all energy efficiency and renewable energy projects for new and existing facilities. The loan is eligible for new environmental friendly projects or for existing projects to enhance their conditions in order to become environmentally sound. The loan has a ceiling of 20 million USD and is offered at an interest rate of around 2.5% for period that should not exceed 14 years including a grace period of 6 months to 4 years. The green loans are provided through all the Lebanese commercial banks to directly reach the end user. NEEREA also includes a grant scheme based on an agreement signed between the BDL and the European Union (EU).

b) As part of the contract signed between the BDL and the Lebanese Center for Energy Conservation under the name "Technical Support Consultancy Services Agreement in Energy Efficiency and Renewable Energy", the Lebanese Environmental Action (LEA) was launched to complement and build on the positive impacts NEEREA is generating in the Lebanese market. It is a national initiative launched aiming at encouraging the implementation of environmental projects in Lebanon. LEA is a financing mechanism that provides the private sector in Lebanon with long-term loans at low interest rate in order to implement environmental projects. LEA finances and covers the cost of environmental measures of new projects or to enhance the conditions of an existing project to become environmentally sound. It allows private sector entities (individuals, SME's, or corporate bodies) to apply for subsidised loans for any type of qualified environmental projects.

c) The Ministry of Environment (MoE) joined forces with Banque Du Liban (BDL), the World Bank and the Italian Agency for Development Cooperation to set up an environmental compliance mechanism for industrial enterprises through the Lebanon Environmental Pollution Abatement

Project (LEPAP). LEPAP provides free technical assistance to industrial enterprises through national and international consultants in order to evaluate their environmental status and propose actions in view of improving their overall environmental performance in line with the national regulations. A financial mechanism was developed under the LEPAP project to support the industries to be able to execute the recommended environmental actions by offering concessional loans supported by BDL through commercial banks. LEPAP loans which are close to zero interest rate are provided for a period of 7 years including a grace period of 2 years.

On the investment scene, the Green entrepreneurship sector has been rapidly booming in Lebanon and has realized a high interest from Donors and Investors with a current pool of around 25 existing finance and investment structures available with a specific (but not limited to) focus on Green investments where each has its specific typology and funding mechanism to support the development and growth of green ventures, leading to the development of green standards and indicators that are being considered to assess green businesses' impact. The most common typologies of Green Financiers in Lebanon are Accelerators and Incubators who offer grants and business support and capacity building to green ventures. The major players in this sector are Flat6Labs, Speed Lebanon, and Tripoli Entrepreneurship Club. Another common kind of green financiers in Lebanon are Venture Capitalists, matching funds and angel's networks who take equity from green businesses. This includes and not limited to IM Capital and Seeders, Al Fanar, Fondation Diane and ISME fund. In addition, banks and support institutions such as Bank Audi, EBRD and Kafalat offer the third common funding type dedicated to support and evolve the green sector in Lebanon through bank loans, in addition to microfinance institutions such as Al Majmouaa and future investment matching platforms being developed by ecosystem partners such as IDAL**.**

The main support for green ventures exists mainly in the early and growth stage leaving some gaps to support ventures in the scale-up phase that should be an opportunity of growth for future programs. Donors' networks play a major role as well in this sector launching call for green projects.

With a view to strengthening sustainable energy in Lebanon, the EBRD and Bank Audi, the largest bank in Lebanon, are joining forces by providing USD 100 million each for green projects. This includes the first loan under the EBRD Green Economy Financing Facility (GEFF) for the country. The programme addresses critical issues for Lebanon's sustainable development, such as diversifying energy supply, reducing the use of limited natural resources such as energy and water, and improving energy efficiency, thus decreasing pollution levels, conserving resources and contributing to a better environment. The funds will be used for climate change mitigation and adaptation investments, in line with the EBRD's Green Economy Transition approach, a comprehensive strategy to reduce greenhouse gas emissions and improve energy efficiency.

Kafalat launched "Kafalat Energy" to encourage energy projects, with the aim to enrich BDL initiatives with the mobilization of new lines of funding, from existing facilities or new ones, such as the planned Arab Environment Facility. Kafalat Energy is the result of a partnership between the European Union and Kafalat SAL to address energy constraints faced by SMEs while ensuring reduction of negative environmental impact. This programme provides eligible SMEs with loan guarantees for investments in Energy Efficiency and Renewable Energy. The EU support enabled the extension of resources to increase the maximum loan amount and extend the duration of the guarantee and the grace period.

The following boxes contain a few examples of financial tools/actors addressing Green and Circular Economy.

Equity instruments

Introduction	
Name of organization	Fondation Diane – Viridis Investment Fund
Organization typology	Venture Capital
Legal form	Viridis Investment Fund is an S.A.L
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	Fondation Diane is dedicated to creating the first green investment fund in Lebanon. Its vision is to sustain Lebanon's environment by greening its economy. To achieve these ambitious goals, FD's fund backs-up Lebanese green start-ups and SMEs through equity and sometimes debt investing and constant business support
Location (headquarters)	Lebanon
Geographical scope (area of operations)	Lebanon
Intrument description	
Product typology	☑ equity ☑ debt ☐ grant
Focus on Green and Circular economy	☑ Green and Circular economy is the only target ☐ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Solid waste management, Electronic waste management, Waste Recycling, Waste upcycling Eco-tourism, Transportation and Mobility, Energy, Organic production, Agriculture, Agri-food systems...
Product specificities (what makes this product different from similar products on the market)	Our instrument has higher flexibility while holding a minority interest of our green entrepreneurs having their support as our only goal and objective. We tailor our financial solutions to better suits their business plan, while helping them develop financial model for a better understanding of the reality of things.
Range of investment (minimum and maximum)	200k$-500k$

Investment duration	Generally, five years, but flexible and depending on the exit strategies and availability.
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☑ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation
Legal structure of target companies	We only target startups and SMEs' that have S.A.L (joint stock company) as a legal structure. If a legal entity is not incepted we opt to make a S.A.L
Phase of growth of target companies	☐ Ideation stage ☑Early stage ☑ Growth ☑Scale-up
Conditions and prerequisites to access	Quantifiable environment impact, positive business model, compliance with UN's 17 Sustainable Development Goals
Auxiliary services provided to target companies	Business Support in terms of coaching and mentoring, we can have RayMondo, the green industrial hub, as a space to be used for storage and/or R&D and/or production ...
Additional financial products offered by the organization, besides the one described as best practice	Plain Equity, Royalty Based Financing, Hybrid Instrument and Incubation
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): EcoServ INVESTMENT AMOUNT: $300,000 USD
Contact details	
Address and telephone	RayMondo, Nawar Building, Roumieh - Industrial Zone, Metn, Lebanon | +9611641211
Web site	https://www.fondation-diane.org/

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - We invest while insisting and highly emphasising sustainability in value creation. - We try to collaborate with different financial institutions, sharing experience and sometime establishing synergies with mutual interest. - We are in the process of initiating a fund with another financial entity to invest in environmentally friendly and sustainable development startups. - We provide higher flexibility in our instruments while holding a minority interest of our green entrepreneurs and having their support as our only goal and objective.	*WEAKNESSES:* - The deterioration of the Lebanese economy, the small pool of green startups in Lebanon, and not having a fully developed ecosystem are challenges that are affecting this sector - Not well-developed marketing strategy. - No defined marketing budget, with social media being the only tool for outreach and external communications.
EXTERNAL	*OPPORTUNITIES:* - Difficulties and increasing prices for imported goods are leading to the shift towards local produce. - High demand for local production, agriculture. - Increased opportunity for export.	*THREATS:* - There are some external factors that negatively influence the financing of eco and social innovation practices such as: lack of legal and regulatory framework, unfair taxation system and high costs of incorporation, complex process. - Political instability the ongoing recession are creating an unfavourable environment for financial operations.

Introduction	
Name of organization	IM Capital
Organization typology	Venture Capital
Legal form	Holding
Public/private ownership	☐ public entity ☑ private entity

Description (explicit the interest/ approach towards Green and Circular economy)	Insure and Match Capital (IM Capital) is a venture capital that provides Matching Capital, Equity Guarantee, and Support Programs to a broad range of qualified early-stage business and investors in Lebanon.
Location (headquarters)	Lebanon
Geographical scope (area of operations)	Lebanon
Instrument description	
Product typology	☑ equity ☐ debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Sector Agnostic
Product specificities (what makes this product different from similar products on the market)	IM's Green Fund is an investment fund specialized in green ventures. There's a high demand in the market and this fund will be crucial for the industry.
Range of investment (minimum and maximum)	10k – 500K to reach USD 1M when the Green Fund is introduced
Investment duration	4 to 5 years
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation
Legal structure of target companies	S.A.L
Phase of growth of target companies	☐ Ideation stage ☑ Early stage ☑ Growth ☐ Scale-up to be targeted when the Green Fund is introduced
Conditions and prerequisites to access	One of the main criteria for approving any co-investment is the involvement of a solid and experienced management team who have identified a creditable market niche with significant growth potential.

Auxiliary services provided to target companies	Access to networks and markets, Business support, access to mentoring and technical assistance
Additional financial products offered by the organization, besides the one described as best practice	Matching equity, investment guarantee, angel funding
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): Atelier Du Miel: they implemented and are growing a project called The Moving Hive. It's an initiative to bring back bees into the cities and wilderness, while providing the company with a good revenue stream. It now includes many partners from governmental and non-governmental institutions. (financed by IM Capital before launching its Green Fund) INVESTMENT AMOUNT: USD 595K
Contact details	
Address and telephone	Im capital (Holding) s.a.l. - Berytech Bldg #1294, Beirut Digital District ; Bechara El Khoury St., Bachoura, Beirut, Lebanon – 01694555
Web site	www.im-capital.com

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - Open access to green funding for Early and Growth stage companies - Improve access to green funding for mature SMEs - Diversify funding options in the market by offering Equity and Royalty based financing - Established partnership with Viridis	*WEAKNESSES:* - Our Green Fund is not yet active, but will be very soon
EXTERNAL	*OPPORTUNITIES:* - Venture Capitals currently have a bigger role to play in green financing given the retreat in financing from banks - The Change in laws and international standards, the environmental awareness and economic viability are positively influencing green financing in Lebanon	*THREATS:* - Economic Downturn - Political shocks - Social unrest

Debt instruments

Introduction	
Name of organization	Al Majmoua
Organization typology	Microfinance
Legal form	Non-Governmental Organization
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	The Lebanese Association for Development - Al Majmoua is a Lebanese independent, non-confessional, non-profit microfinance institution (MFI) that focuses since 1998 on supporting low-income and vulnerable individuals, particularly micro entrepreneurs and women, with affordable financial and non-financial services to fund their activities and build sustainable businesses
Location (headquarters)	Lebanon
Geographical scope (area of operations)	Lebanon
Instrument description	
Product typology	☐ equity ☑debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	All sectors
Product specificities (what makes this product different from similar products on the market)	The loan product is complemented by a BDS - Business Development Services component that includes Business management sessions, Individual business coaching and legal advice for businesses that are not registered
Range of investment (minimum and maximum)	USD 2000 - USD 20,000
Investment duration	Up to 36 months
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation

	☑ capital reimbursement and return expectation
Legal structure of target companies	Registered and non-registered businesses
Phase of growth of target companies	☐ Ideation stage ☐ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	Company's reputation Financial needs Financial sustainability and viability Growth and Potential Clients Guarantee
Auxiliary services provided to target companies	Provides Financial and Non-financial services such Business Development services and technical support
Additional financial products offered by the organization, besides the one described as best practice	We are sometimes able to offer other financial products such as grants or in-kind technical assistance support (depending on funding availability)
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): An agriculture business addressed the issue of high percentage of chemicals and pesticides in vegetables and fruits by planting non hybrid agricultural seeds and growing chemical free products. The business needed to invest in the purchase of non-hybrid seeds, install the drop irrigation system and harvesting equipment INVESTMENT AMOUNT: 15 K
Contact details	
Address and telephone	Abdel Kader Street, Green Building, Ground Floor (Facing MUBS Beirut) Al Zarif, Beirut, Lebanon P.O. BOX: 11-3483 +9611369 269 | +9613009004 contact@almajmoua.org
Web site	http://www.almajmoua.org/

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - We finance social entrepreneurs and environmental related businesses - we are looking for synergies to provide larger loans to grow the businesses who need above USD 15,000	*WEAKNESSES:* - Our loan analysts are not familiar with the green and circular economy and need more capacity building to properly serve these businesses - Al Majmoua doesn't finance the ideation and early stage phase due to the high risk associated
EXTERNAL	*OPPORTUNITIES:* - Interest from donors and social investors	*THREATS:* - The financial crisis is affecting the survival of the businesses

Introduction	
Name of organization	Kafalat
Organization typology	Bank Loan Guarantees
Legal form	SAL
Public/private ownership	☐ public entity ☑private entity
Description (explicit the interest/ approach towards Green and Circular economy)	Kafalat is a Lebanese financial company with a public concern that assists small and medium sized enterprises (SMEs) to access commercial bank funding. Kafalat helps SMEs by providing loan guarantees based on business plans / feasibility studies that show the viability of the proposed business activity. It processes guarantee applications for loans that are to be provided by Lebanese banks to SMEs operating throughout Lebanon under the Kafalat programme. Kafalat targets SMEs and innovative start ups that belong to one of the following economic sectors: - Industry - Agriculture - Tourism - Traditional Crafts - High Technology

Location (headquarters)	Lebanon
Geographical scope (area of operations)	Lebanon
Instrument description	
Product typology	☐ equity ☑ debt (guarantee) ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	SMEs in Industry (Manufacturing), Agriculture, Tourism, Traditional Crafts, High Technology.
Product specificities (what makes this product different from similar products on the market)	- Offering is a loan guarantee of 75% of loan amount - Low cost through reduced guarantee fee and subsidized interest - Long grace period (between 1 and 3 years)
Range of investment (minimum and maximum)	Ranges between $20K and $500K
Investment duration	Up to 15 years repayment period, including grace period of up to 3 years
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☑ capital reimbursement, no return expectation ☐ capital reimbursement and return expectation
Legal structure of target companies	Any: Individual, Partnership, Coop, SAL, SARL, NGO, etc.
Phase of growth of target companies	☐ Ideation stage ☑ Early stage ☑ Growth ☐ Scale-up
Conditions and prerequisites to access	Business plan, feasibility studies that show the viability of the proposed business activity
Auxiliary services provided to target companies	None

Additional financial products offered by the organization, besides the one described as best practce	Loan guarantees (Kafalat only does loan guarantees at the moment).
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): A field farmer in the bekaa INVESTMENT AMOUNT: USD 180K for a Solar PV system for irrigation
Contact details	
Address and telephone	Hamra street, Picadilly Center P.O. Box 11-641 - Beirut, Lebanon, +9611341300/1/2
Web site	www.kafalat.com.lb

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - Unique offering on the Lebanese market (Guarantee) - Strong relations with all stakeholders	*WEAKNESSES:* - Clients undervalue guarantee - Banks still require additional collateral on top of Kafalat Guarantee
EXTERNAL	*OPPORTUNITIES:* - Certain banks prefer a green loan with Kafalat's guarantee over one without	*THREATS:* - Competition has cheaper green loans (albeit without guarantees) - Product tightly linked to banks' appetite for lending green

Grant instruments

Introduction	
Name of organization	Berytech
Organization typology	Accelerator and Incubator
Legal form	Foundation – nonprofit corporation
Public/private ownership	☐ public entity ☑ private entity

Description (explicit the interest/ approach towards Green and Circular economy)	Berytech turns innovative ideas into successful businesses and offers the right and adapted environment for the creation and development of innovative startups and SMEs, supporting and stimulating entrepreneurship, through incubation, business support & development, hosting in high-tech infrastructure, funding solutions, coaching, networking, trainings & mentoring. Berytech through its ACT SMART Innovation hub that is currently running the Agrytech and Cleanergy accelerator programs is stimulating innovators and entrepreneurs to develop local solutions in the Agri-food and Cleantech sector to solves the sector's challenges faced by the Lebanese and refugee communities
Location (headquarters)	Lebanon
Geographical scope (area of operations)	Lebanon
Instrument description	
Product typology	☐ equity ☐ debt ☑ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Agriculture, Ag-tech, Food, Food-tech, Technology, Water and Wastewater Management, Solid Waste Management, Transportation, Energy, Wine, Wine By-product
Product specificities (what makes this product different from similar products on the market)	Our programs do not only provide funding for startups, but also focus on developing the business itself through trainings, coaching and mentoring. We provide technical support and have a prototype facility. We also provide our startups access to our network to create linkages and partnerships with experts and corporations.
Range of investment (minimum and maximum)	$500 – $37,000
Investment duration	11 months
Return expectation	☑ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☐ capital reimbursement and return expectation
Legal structure of target companies	S.A.L

Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☑ Growth ☐ Scale-up
Conditions and prerequisites to access	An innovative and/or technology based solution to a challenge in the industry.
Auxiliary services provided to target companies	- International exposure and potential partnership - Business support, trainings, coaching, and mentoring - Technical support - Access to our prototype facility; Berytech FabLab - Access to our network
Additional financial products offered by the organization, besides the one described as best practice	NA
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): Startchy, an agriculture company has innovated an edible innovative coating material that extends the shelf-life of produce 2x to 3x more than a normal fruit. The coating is odourless, transparent, flavourless, and natural. INVESTMENT AMOUNT: 42 K
Contact details	
Address and telephone	Berytech Technology Pole, USJ ESIB Campus, Mar Roukoz - + 961 4 533 040
Web site	www.berytech.org

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGTHS:* - We lobby and actively work on better enabling environment including Green Entrepreneurs, through our different programs, Namely ACT SMART Innovation Hub (focused on Agri-Food and Clean Technologies,	*WEAKNESSES:* - Our funds are the starting point, and with the support we are able to take the startups to a certain level, but the Death Valley is still present and next level of financing, is needed to scale. - we need more efforts to excite investments in the sector, the need to

	BESTMEDGRAPE, PHEMAC, ImpactRise and others. - We have in house expertise and a wide network of experts and mentors in the "Green" Fields, access to early adopters of technology, and have an international access to a wider network of key players - We collaborate with most of the financing instruments to support our entrepreneurs in their access to funding, by preparing them to access funding in all types, dept, equity or grants and for blended financing.	build blended financing and easier access for Entrepreneurs to test and scale their products / servicing, mechanism for people that will use the services need to have some incentives (financial, tax credits, etc) to get them to buy in, and test the solutions or implement them.
EXTERNAL	*OPPORTUNITIES:* - The capital control and changing landscape in Lebanon will entice local players to invest in new sectors - Need to link Social Green Enterprises to scale their businesses through mechanisms for implementations, mechanism from governments and NGOs to support in scaling - Lobbying to more financing for creating pipeline. - Aligning with the needs for the region to make impact. - Most of our programs are productized and can be scaled to many regions, we see similarities of challenges, and opportunities with Egypt, Jordan, Tunisia.	*THREATS:* - Economic and political situation. - Corruption - Extreme poverty - Extremism - Brain drain of innovators that could lead Green enterprises - Reduction and limitations in normal financing mechanisms (Banks, VCs, etc…)

Introduction	
Name of organization	Alfanar
Organization typology	Venture Philanthropy
Legal form	NGO

Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	Alfanar is the first venture philanthropy organisation in the Arab world that provides growth stage social enterprises with funding, management support, mentorship, training and access to networks.
Location (headquarters)	Lebanon
Geographical scope (area of operations)	Lebanon, Egypt, Jordan
Instrument description	
Product typology	☐ equity ☐ debt ☑ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Women empowerment and youth employment across all sectors. Children's education. Green initiatives with social impact.
Product specificities (what makes this product different from similar products on the market)	It is accompanied with very engaged management support, training, mentorship and access to networks
Range of grants (minimum and maximum)	$300,000-$500,000
Investment duration	4-5 Years
Return expectation	☑ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☐ capital reimbursement and return expectation
Legal structure of target companies	NGO, Cooperatives, S.A.L, S.A.R.L
Phase of growth of target companies	☐ Ideation stage ☐ Early stage ☑ Growth ☑ Scale-up

Conditions and prerequisites to access	Minimum of 50 beneficiaries from disadvantaged communities Already covering 10% of their costs with income Strong potential to scale Strong management team Open to management support Scalable social impact
Auxiliary services provided to target companies	Management support, mentorship, training & access to networks
Additional financial products offered by the organization, besides the one described as best practice	Repayable grants
Investment example in Green and Circular Economy	CURRENT GRANTEE: FabricAID, Lebanon's first second hand clothes collector and distributor, offering good quality clothing at affordable prices to the underprivileged. INVESTMENT AMOUNT: Confidential
Contact details	
Address and telephone	Beirut Digital District, Nassif El Yazigi St., Bachoura, Beirut, Lebanon
Web site	http://www.alfanar.org.uk

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	STRENGTHS: - We are the only ones providing long term funding of up to $400K in grants over a 4-5 year period and who compliment this with very engaged management support, mentorship, training & access to networks; Entrepreneurs systematically say that the non-financial support is more valuable to them than the financial support.	*WEAKNESSES:* - Insufficient funding; we are only able to accept 28% of the social enterprises that we pre-select on an annual basis - We only fund green enterprises if they also have a social impact

	- We also have offices in Egypt and Jordan and can help organisations with their regional growth - We have 22 Community Partners that we interact with on a very frequent basis and collaborate with whenever needed; We often co-fund the same social enterprise	
EXTERNAL	*OPPORTUNITIES:* - There are lot of social and green enterprises that we can support - There are many programs that Alfanar can support especially with our training, mentorship and providing entrepreneurs with feedback on local specificities based on the experiences of our grantees	*THREATS:* - Insufficient funding - Our revenue generating activity is the training we provide but our peers are privileging foreign trainers - Difficult for social enterprises to survive in this environment: high costs, small local markets, low purchasing power - Poor infrastructure - Ineffective legal frameworks - Political and Financial crisis

6. THE GREEN AND CIRCULAR ECONOMY MARKET IN TUNISIA

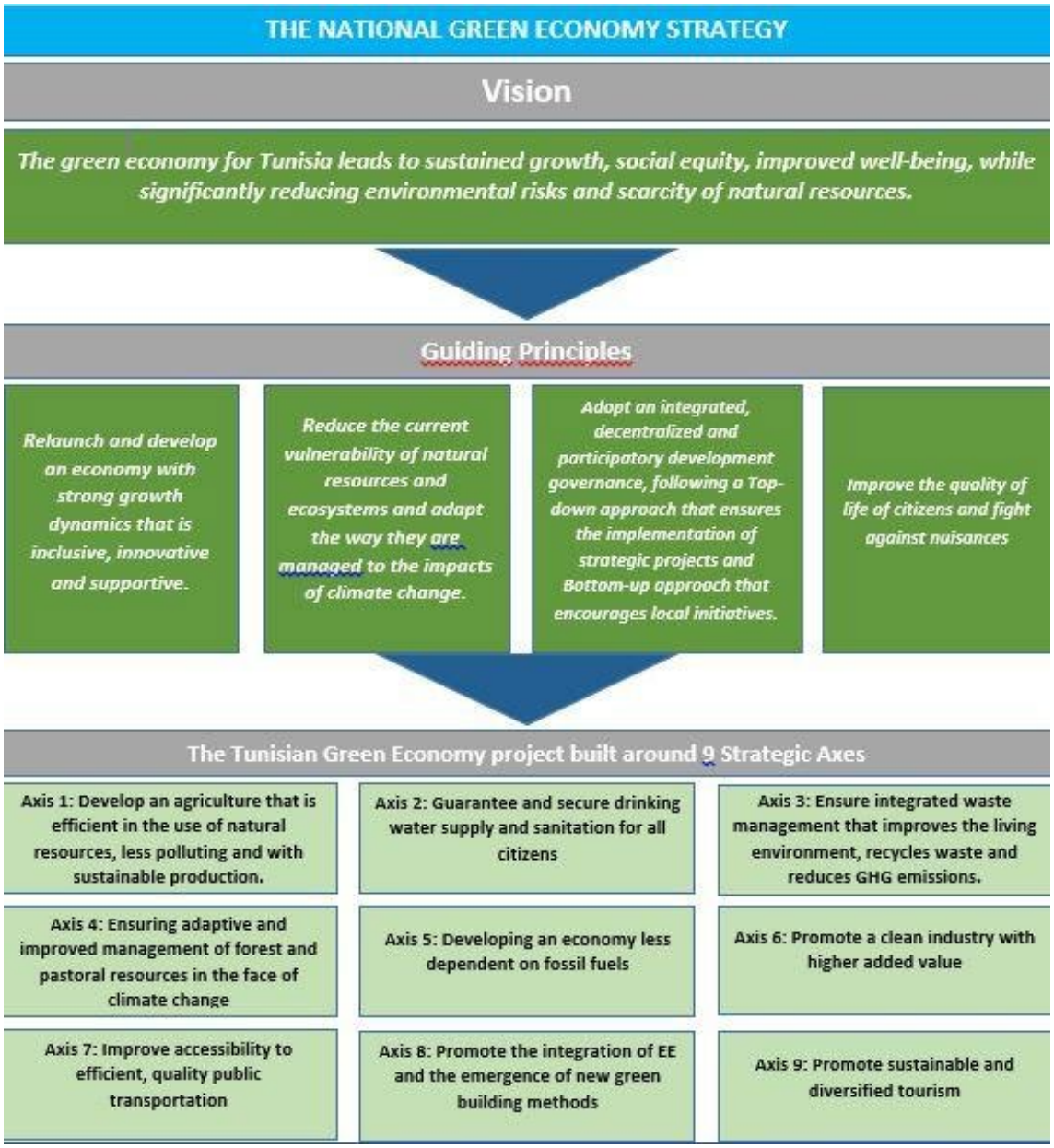
6.1 Today

The Tunisian Constitution of January 27, 2014 has integrated environmental protection in a clear and comprehensive manner while prioritizing certain components of the environment, emphasizing the inseparable links between the environment and sustainable development and establishing certain legislative and institutional guarantees.

Today Important reforms have been carried out or are underway such as:

- An environmental code Project
- The adoption of a new regulatory framework aimed at the liberalization of production, sales and exports electricity produced from renewable energies
- An Energy Transition Fund (reform of the FNME)
- An Investment Fund for Waste Recovery
- Phasing out (3 to 6 years) of the energy subsidy on certain sectors such as cement works
- A national ecotourism strategy
- A project for a new investment code and a Law on Public Private Partnerships
- A program to modernize the information systems in relation to sustainable development (SIDD).

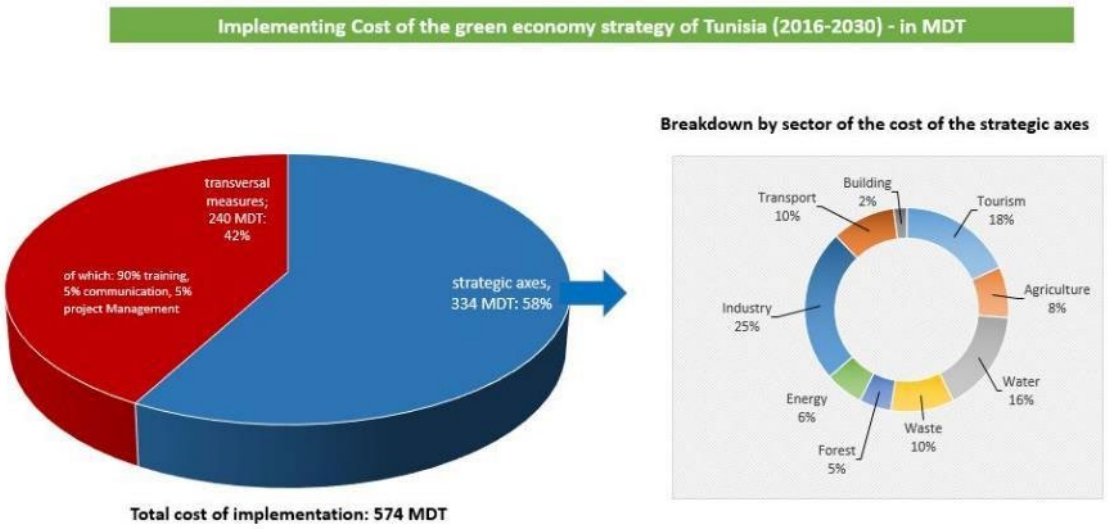
Launched in 2016, the development of the National Strategy for the Green Economy (SNEV) is based on the formulation of a vision of the green economy for Tunisia. This has been the subject of a reflection inspired first of all by the reality of Tunisia, and then by the visions proposed by organizations such as UNEP, OECD, and other countries. From this vision flow the guiding principles that underlie and guide action in favor of the SNEV. These principles are broken down into nine strategic axes.



The investment required for the realization of green economy projects has been estimated at about 33 thousand MDT which would generate more than 263 thousand additional jobs including 200 thousand permanent jobs and would allow a cumulative reduction of emissions of 148 MtCO2 by 2030.

As for the cost of implementing the SNEV (accompanying measures) by 2030, it is estimated at 574 MDT and thus represents 1.7% of the overall investment in projects which is nearly 33 thousand MDT.

The global cost of implementation is divided at a rate of 58% for the strategic axes (334 MDT) and 42% for the transversal measures (240 MDT).



6.2 Tomorrow

Regulations in terms of incentives for investment in sustainable development exist in Tunisia but are poorly developed. Regulations on the green economy, financing and incentives in terms of green investment remain non-existent in Tunisia.

The problem of financing remains among the main difficulties encountered by Tunisian SMEs. Today, a promoter of a local renewable energy project, for example, will find it difficult to finance his project using credits.

Hence the need to propose a mechanism that would allow existing SMEs as well as those to be created in the field of green activities to have easier access to financing mechanisms:

- Set up incentive and adapted financing mechanisms for the priority activities of the Green Economy "green line of credit" that result in reduced interest rates and engineering adapted to the context of the projects. Priority activities will be determined on a case-by-case basis according to national priorities and the impact of the projects seeking funding.

- Develop micro-credit at the local level for projects in the direction of Green Economy

- Provide a payment guarantee mechanism for government contracts that includes automatic payment if the contractual deadline is exceeded.

6.3 Funding

The Tunisian government has implemented a legislative framework which establishes a common legal framework for Investment, where specific subsidies and supporting rules are foreseen for projects “Achieving inclusive regional development” or “Achieving sustainable development”, considered as “projects of national interest”.

Title	TUNISIAN REGULATORY FRAMEWORK Investment Law, Law No. 2016-71 of September 30, 2016 TO FACILITATE INVESTMENT (including SUSTAINABLE INVESTMENTS)
What is it about?	List of eligible investment for sustainable development grant: Are eligible for sustainable development grant: • Investment in Water and air pollution treatment resulting from the activity of the Enterprise; • Projects for the adoption of clean and non-polluting technologies to reduce pollution from their origin or control the exploitation of resources; • Collective decontamination equipment used jointly by a public or private operator for enterprises that carry out the same activity; Financial Incentives: Sustainable development grant equal to 50% of approved investment component with a maximum amount of 300.000 Dinar. http://www.tunisieindustrie.nat.tn/fr/download/cfga/fiches/en/4.pdf
To whom does it apply?	An Investment is any sustainable use of capital made by the investor for the realization of a project that contributes to the development of the Tunisian economy while assuming its risks and this, in the form of direct investment operations or equity investment operations. 1. Direct investment operation: any creation of a new and autonomous project to produce goods or provide services or any extension or renewal operation carried out by an existing company within the framework of the same project to increase its productive and technological capacity or its competitiveness, 2. Equity investment operation: participation in cash or in kind in the capital of companies established in Tunisia, at the time of their incorporation or increase of their share capital or the acquisition of an interest in their capital. - Investor: any natural or legal person, resident or non-resident, who makes an investment. - Company: any unit whose purpose is to produce goods or provide services and which takes the form of a company or sole proprietorship in accordance with Tunisian legislation. - Regional development index: index developed by the Ministry in charge of development, calculated according to economic, social, demographic and environmental criteria to classify the country's areas according to their degree of development. This index is proposed to direct investments towards the least developed regions. Similarly, there are specific advantages in the priority development areas according to this index
Main points	Sustainable development bonus 50% of the value of the approved investment components with a ceiling of three hundred thousand (300,000) dinars. This new premium is granted for investments made in the fight against pollution and environmental protection in particular:

	Water and air pollution control projects caused by the company's activity, Projects adopting clean and non-polluting technologies, allowing the reduction of pollution at source or the control of resource exploitation, Collective pollution clean-up facilities built by public or private operators, on behalf of several companies carrying out the same activity or releasing the same type of pollution
Entry into force and application	2016
Related Articles	http://www.tunisieindustrie.nat.tn/fr/download/cfga/LOI71-2016_fr.pdf

Several financial initiatives have been launched by the government and public authorities to support the green and circular economy:

National Fund for Energy Management (FNME)

The FNME was created by law n°2005-106 of December 19, 2005. It is a special fund of the Treasury intended to promote the policy of energy management, through financial support in the form of subsidies granted to economic operators making investments in energy management actions. This support focuses on three axes:

1. Energy efficiency
2. Renewable energies
3. Energy substitution.

Renewable energy projects benefit from an investment premium of 15% capped at one million dinars and equity participation.

CLEANUP FUND (FODEP)

The Clean-up Fund is a special treasury fund created by law n° 92/122 of 29 December 1992. FODEP is managed by ANPE and financed by the German financial cooperation agency KfW.

FODEP's main missions are

1. To encourage companies to carry out projects aimed at protecting the environment against pollution caused by their activities, or to encourage them to set up projects to rehabilitate and improve the purification efficiency of existing depollution facilities ;
2. Strengthen the curative component by encouraging, through appropriate financing, the use of clean and non-polluting technologies, which are financed up to the value of the investment aimed at protecting the environment ;
3. Support the national effort to upgrade the environmental performance of our companies.

FODEP contributes to the financing of:

1. Facilities to reduce or eliminate pollution by companies (e.g., wastewater pre-treatment plant, air pollution control equipment, etc.) ;

2. Joint depollution installations, carried out by public or private operators on behalf of several industrial companies, grouped by type of activity;

3. Projects for the installation of waste collection, treatment and recycling units;

4. Clean and non-polluting technology projects.

The FODEP assistance is granted in the form of a grant of 20% of the amount of the investment in depollution to be carried out. The investment ceiling is set at 4 million dinars. The subsidy is released in 3 installments depending on the progress of the work, and this after a report by the National Agency for Environmental Protection ANPE.

In addition to the subsidy, companies eligible for FODEP assistance can benefit from a subsidized bank loan (FOCRED - Fonds pour la protection de l'environnement dans le domaine industriel):

1. Covers up to 50% of the clean-up investment;

2. Credit repayable over a period of 10 years, with a grace period of 3 years;

Green Bond

Tunisia, through the Caisse des Dépôts et Consignations (CDC), has just adopted the "Green bond", an instrument to finance projects in the renewable energy sector. The process of accreditation of the CDC by the United Nations Green Fund is underway, to enable it to raise funds to finance green projects.

The principle of a "Green bond" is that a company, association or international organization issues a bond on the financial markets in order to finance a project or activity with environmental benefits. In concrete terms, these products appeal to investors wishing to combine financial returns with positive environmental impact (renewable energy, energy efficiency, sustainable waste and water management, sustainable land use, clean transportation and adaptation to climate change, etc.). Indeed, "Green bonds" have the advantage of having the same pricing system as conventional bonds, the same redemption system and the same risk profile. The real difference lies in the ecological return generated in addition by green bonds.

In fact, companies and communities wishing to embark on this type of approach are looking for three objectives. The first is to communicate their environmental strategies and highlight their commitment. Second, to diversify their creditor base, targeting ethical investors who already integrate environmental, social and governance criteria and, third, to improve the quality of dialogue within the organization between financial and environmental departments within structures.

For their part, investors are seeking to respond to investor demand to invest in favor of ecological transition and also to better master a type of management that integrates environmental criteria, which is set to grow in the years to come. The Green Bond is therefore a real revolution in terms of transparency in the financial world. The challenge is therefore to combine environmental utility and profitability, to cultivate transparency while reaping the benefits of the Green Bond.

The Green Climate Fund

Tunisia has begun the creation of a national body accredited to the Green Climate Fund (GCF) which finances projects aimed at limiting the impact of climate change in developing countries.

The GCF aims to have an impact in terms of mitigation and adaptation in eight sectors identified by its Board of Directors

Attenuation	Adaptation
- Energy production and access - Transport - Forests and land use - Buildings, cities, industries and equipment	- Health, Food and Water Safety - Livelihoods of individuals and communities - Real estate and infrastructure environment - Ecosystems and Ecosystem Services

In addition, the Fund has identified 5 cross-cutting investment priorities with high impacts in the area of mitigation and adaptation:

- transforming energy production and access ;

- creating climate-friendly cities;

- Promoting low-carbon, climate-resilient agriculture;

- promoting large-scale financing for forests and climate change;

- strengthening the resilience of Small Island Developing States (SIDS).

To further support the development of private funding to the green and circular economy, The French Development Agency (AFD) has launched the "Green Finance Label" SUNREF intended to support the activity of granting credit for green investments in Tunisia.

Title	" Green finance label" SUNREF
To whom does it apply?	AFD has made "Green Label" lines of credit available to Tunisian banks to finance projects undertaken by Tunisian companies in the areas of energy management, energy efficiency and renewable energies.
Main points	The financial advantages of this line of credit The environmental credit is granted under the following subsidized financing conditions for green projects: An adapted loan repayment period (up to 12 years, including a 3-year grace period); A subsidized interest rate not exceeding 4.0% (including the bank's margin); A credit covering up to 85% of the cost of the environmental project; A credit ceiling of up to 5 M.€ (the equivalent of 11 Million Dinars). Technical advantages (assistance and support) The National Agency for Environmental Protection will make available to project sponsors, who express the need, technical and financial consultants authorized to provide them with the necessary assistance during all phases of setting up the environmental project. The Program will bear the cost of this expertise.

During this phase of the project, the assistance services will allow the company :

The realization of an Environmental Pre-diagnosis of the company,

The choice of the appropriate solution that best suits the technical and financial capacities of the project owner and at the same time meets the ANPE's environmental requirements,

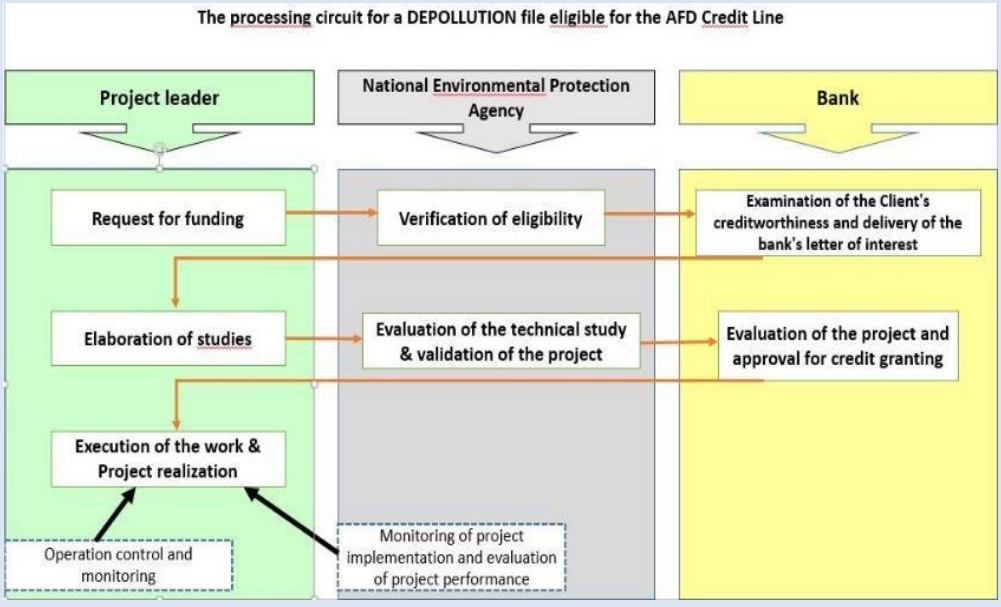
Advice in the selection of a specialized design office, and possibly in the selection of the company, which will be in charge of carrying out the work, as well as in the choice of suppliers of the appropriate decontamination equipment,

Assistance in setting up the banking file and his accompaniment with the banks for the negotiation of the conditions of the Environment Credit, including in particular the interest rate to be applied and the required guarantees,

Accompaniment in the follow-up and the reception of the works of realization of the project

Upon completion of the work, the technical consultant will assist in the commissioning tests and the actual start of operation of the environmental project.

In order to guarantee the sustainability of this environmental investment, the assistance service will help in the implementation of an adequate self-monitoring program and the commissioning and periodic maintenance of the installed equipment..



The following boxes contain a few examples of financial tools/actors addressing Green and Circular Economy.

Equity instruments

Introduction	
Name of organization	United Gulf Financial Services-NorthAfrica
Organization typology	Asset management company
Legal form	General partnership.
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	UGFS-NA is an asset management company licensed by and working under the control of Tunisian Capital Market Authorities CMF. UGFS-NA is managing a fund to support start-ups and young and talented promoters to grow in a very early stage, innovative business, Social Businesses, Small and Medium Enterprises located in regional development areas sectors and ideas. Green and Circular economy is among the potential target sector.
Location (headquarters)	Tunisia
Geographical scope (area of operations)	Tunisia
Instrument description	
Product typology	☑ equity ☐ debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	invest in companies that make positive contribution to the Tunisian economy. Green and Circular economy are therefore among potential target investments is sectors such as BIOTECHNOLOGIE, AGRI BUSINESS, RENEWABLE ENERGY,
Product specificities (what makes this product different from similar products on the market)	- Numerous funds covering practically all sectors of activity - Specific products - long-term investing, build lasting and sustainable value in the businesses investing in.
Range of investment (minimum and maximum)	depending on the availability of funds and the needs of the beneficiaries –UGFS is managing more than 15 specific funds The overall size of the managed funds varies from 10 million dinars to 50 million dinars.
Investment duration	3 to 7 years (depending on the type of fund, as mentioned UGFS is managing more than 15 funds)

Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation
Legal structure of target companies	SA mostly – SARL could be discussed
Phase of growth of target companies	☐ Ideation stage ☑ Early stage ☑ Growth ☐ Scale-up
Conditions and prerequisites to access	- companies make positive contribution to the Tunisian economy and a capacity to be global in a medium term, except armaments, tobacco, alcohol, sexual exploitation and gambling companies
Auxiliary services provided to target companies	- ensure each client receives insightful advices tailored to deliver the best individual solutions - bring know-how, expertise, portfolio intelligence, deep industry knowledge - provide synergy and strategic advice in order to enhance companies' portfolio performances
Additional financial products offered by the organization, besides the one described as best practice	- Private Equity Funds may invest directly in equity securities of the target investment, in the form of debt, or in both equity and debt.
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): - AlgoVita; is a recognized innovative start-up . Developing know-how and intellectual property in the production, extraction and stabilization of molecules of interest from microalgae - CIFEA; Supply chain development for honey farmers in Tunisia. CIFEA plans the process of collecting, distributing, and commercializing its own branded organic certified honey and hive products INVESTMENT AMOUNT: N/A
Contact details	
Address and telephone	Rue du Lac Biwa- Immeuble Fraj – Etg.2 1053 Les Berges du Lac- Tunis- Tunisia.

	Phone : (216) 71 167 500 Fax : (216) 71 965 181 Email: contact@ugfsnorthafrica.com.tn
Web site	https://www.ugfsnorthafrica.com.tn/

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - more than 15 specific funds - more than 15 national and international Investors	*WEAKNESSES:* - no specific fund allocated to the green project
EXTERNAL	*OPPORTUNITIES:* - UGFS is managing more than 15 specific funds, which attracts a lot of potential entrepreneurs and investors.	*THREATS:* - *As there is no specific fund for the Green Line, "green minded" entrepreneurs are less inclined to use this financing instrument.* - *As there is no specific fund for the Green Line, "green minded" investors will not be interested in this institution.*

Introduction	
Name of organization	CDC GESTION
Organization typology	Asset management company
Legal form	public-private partnership
Public/private ownership	☑ public entity ☑ private entity public-private partnership
Description (explicit the interest/ approach towards Green and Circular economy)	CDC Gestion is a management company licensed by and working under the control of Tunisian Capital Market Authorities CMF as a risk mutual fund management company <<FCPR>>. It is the result of a public-private partnership in 2013 between the CDC (Caisse des Dépôts et Consignations) and private stakeholders in Tunisian Finance. CDC Gestion manages investment funds that invest in equity and/or quasi-equity in Tunisian SMEs with high potential with a view to regional, social and environmental development.

	CDC Gestion is a local partner involved in accelerating the growth of SMEs and supporting their development.
Location (headquarters)	Tunisa
Geographical scope (area of operations)	Tunisia
Intrument description	
Product typology	☑ equity ☐ debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Companies implanted in regional development areas, Agricultural development projects, Pollution Control and Environmental Protection Projects and Technological and innovative companies.
Product specificities (what makes this product different from similar products on the market)	- Specific products ; - VARIABLE FINANCING SOLUTIONS offering adapted financial instruments - Not requiring real guarantees or personal cautions, it acts as a risk sharing company. - offers a complete selection of products and services - cover all sectors and regions - Working in collaboration with regional authorities and various economic and financial actors to facilitate administrative procedures. - various service activities (hotels, health, insurance, culture, etc.) are eligible for funding from CDC Gestion.
Range of investment (minimum and maximum)	100 Million Dinars ; total fund managed finance up to 65% of the company's needs
Investment duration	10 years
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation

Legal structure of target companies	SA mostly – SARL could be discussed
Phase of growth of target companies	☐ Ideation stage ☑ Early stage ☑ Growth ☐ Scale-up
Conditions and prerequisites to access	- Companies eligible for tax benefits relating to the reinvestment of revenues and benefits
Auxiliary services provided to target companies	- monitoring, reporting and valorisation, accompaniment and advising.
Additional financial products offered by the organization, besides the one described as best practce	Quasi-equity instruments
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): - SPCS Technopole Sector: The Sousse Competitiveness Cluster Company "SPCS" is specialized in the management and development of the technopole focused on mechatronics, offshoring and non-polluting industry. INVESTMENT AMOUNT: N/A
Contact details	
Address and telephone	Residence LAKEO , road Lac Michigan berges du Lac 1053 Tunis Tél : + 216 71 862 660 Fax : + 216 71 862 730 Mail : contact@cdcgestion.tn
Web site	http://www.cdcgestion.tn

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - The cdc's CSR vision - Working in collaboration with regional authorities facilitate administrative procedures	*WEAKNESSES:* - no specific fund allocated to the green project

	- presence in all the regions of the Tunisian territory - the sustainable development vision -	
EXTERNAL	*OPPORTUNITIES:* - public-private partnerships	*THREATS:* - As there is no specific fund for the Green Line, "green minded" entrepreneurs are less inclined to use this financing instrument. - As there is no specific fund for the Green Line, "green minded" investors will not be interested in this institution.

Debt instruments

Introduction	
Name of organization	Taysir Micro-finance '' Rascalni"
Organization typology	Microfinance Institution
Legal form	Private company
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	Taysir Microfinance is an organization who aims to promote the financial, economic and social inclusion of small economic actors through microcredit and honorary loans. The Rascalni project is a fund dedicated to the recycling of plastic waste.
Location (headquarters)	Tunisia
Geographical scope (area of operations)	Tunis, Ben Arous, Beni Khaled, Kairouan, le Kef et Siliana
Instrument description	
Product typology	☐ equity ☑ debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets

Scope of operations - Industry/tags (identify Green and Circular economy targets)	The "Rascalni" project operates in socio-economic activities (job creation) and environmental activities (circular economy) impact focused on the plastic recycling industry,
Product specificities (what makes this product different from similar products on the market)	• The project supports the entire value chain: collection, sorting, storage, transport and processing • Contribute to the socio-economic and financial inclusion of project promoters in the plastic waste recycling sector while promoting a positive impact on the environment. • Supporting marginalized trades
Range of investment (minimum and maximum)	100.000 TND
Investment duration	18 months
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation
Legal structure of target companies	Any kind of company
Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	projects aimed at job creation in the field of plastic waste recycling : Collection, storage, contact between collectors and industrialists, processing, and international marketing
Auxiliary services provided to target companies	free training in the field of waste recycling, sales techniques, and project management
Additional financial products offered by the organization, besides the one described as best practice	complementary no-interest loans to young entrepreneurs,
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): Results of Rascalni project over 10 Months - 10,000 Kg of plastic waste collected in 10 months - Less waste is scattered in the streets next to the sorting bins. - 573 direct/indirect jobs consolidated

	INVESTMENT AMOUNT: 100.000 TND
Contact details	
Address and telephone	contact@taysirmicrofinance.com Tel : 29 500 500 51 rue 6670، El Omrane supérieur، Tunis 2062
Web site	http://www.taysirmicrofinance.com/

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - Strong knowledge of small entrepreneurs marginalized by the banking system	*WEAKNESSES:* - Financing of activities without substantial guarantees. - the project only covers a few governorates
EXTERNAL	*OPPORTUNITIES:* - Many people are interested in collecting and recycling plastics. - Several households actively contribute to this activity and coordinate with the collectors.	*THREATS:* - The drop in plastic prices that depends on oil - Weak financial capacity of entrepreneurs. - Regulations exist but there is no national strategy for environmental protection based mainly on waste management.

Introduction	
Name of organization	Banque Tunisienne de Solidarité ''Credit Vert''
Organization typology	Financial Institution
Legal form	Public company
Public/private ownership	☑ public entity ☐ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	BTS specialised in meso-finance for the promotion of very small enterprises. Through its adherence to the ISO 26000 standard (RSO), the BTS is committed to protect the environment via financing sustainable development through the financial product ''Green Credits''.
Location (headquarters)	Tunisia

Geographical scope (area of operations)	Tunisia
Instrument description	
Product typology	☐ equity ☑ debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Financing projects which support green economy and have a positive impact on the environment and sustainable development.
Product specificities (what makes this product different from similar products on the market)	- Green projects benefit of specific financing (90% credit and 10% own contribution). - The reimbursement period can be up to 7 years. - A grace period ranging from 3 to 12 months depending on the nature of the project. - A preferential annual interest rate
Range of investment (minimum and maximum)	5 Million of Dinar line of credit
Investment duration	5 years
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation
Legal structure of target companies	The project must be in the form of a individual company or a single-person limited liability company (SUARL).
Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	- A technical and financial study of the project oriented green and circular economy. - The total cost of the project, does not exceed 150000 DT for the graduates of higher education and 100000 DT for other levels. - Be at least 20 years of age and not more than 60 years of age.

Auxiliary services provided to target companies	- Specific technical support provided by specialized structures (Tunis International Centre for Environmental Technologies). - Assistance in the preparation of the credit file provided by partner structures (CONECT, UNOPS, ANGED, CITET, ANME, Development Association, etc.).
Additional financial products offered by the organization, besides the one described as best practce	- Subsidies and investment grants awarded by the State within the framework of national programmes depending on the project activity (FODEP, FOCRED, PROSOL, ECO-LEF, etc.). - Extension of the reimbursement period for credits up to 4 years within the framework of the allocation granted to projects eligible for FONAPRAM
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): OMEGA TUNISIE ; extraction of essential plant oils for medical and pharmaceutical use INVESTMENT AMOUNT: N/A
Contact details	
Address and telephone	56 Ave Mohamed V, Tunis 1002 Tel: 71 844 040 E-mail : bts@bts.com.tn
Web site	https://www.bts.com.tn/credit-vert/

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - a credit line specific to green economy - Solidarity bank which aims to finance young entrepreneurs	*WEAKNESSES:* - delays in administrative procedures.
EXTERNAL	*OPPORTUNITIES:* - The BTS is the first destination for young graduates wishing to launch their own project. - the only public bank that offers loans to young graduated students.	*THREATS:* - The green economy is still in its infancy compared to other countries - It is not well known by the population except for a few specialists

Grant instruments

Introduction	
Name of organization	International Bank for Reconstruction and Development (IBRD) Global Environment Facility GEF Project "Sustainable Management of Oasis Ecosystems in Tunisia".
Organization typology	financing organisation
Legal form	Private company
Public/private ownership	☐ public entity ☑private entity
Description (explicit the interest/ approach towards Green and Circular economy)	The Project aims to improve the sustainable management of natural resources and promote livelihood diversification in targeted traditional oases. implemented by the ministry of the environment and sustainable development, financed by a grant from the Global Environment Facility (GEF) and through the World Bank (WB)
Location (headquarters)	Tunisia
Geographical scope (area of operations)	Gabès, Gafsa, Kébili and Tozeur.
Instrument description	
Product typology	☐ equity ☐ debt ☑ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Traditional oases; microprojects focused on - oasis cleaning, Protection of oases against flooding, silting and the ravages of wild boar, - Restoration and protection of oasis biodiversity - Improved productivity and services of the oasis ecosystem through increased sustainable land and water management practices. palm waste composting and palm grove rejuvenation

Product specificities (what makes this product different from similar products on the market)	- The Project "Sustainable Management of Oasis Ecosystems in Tunisia" focuses on three main areas of intervention: (i) the establishment of an enabling environment for a better management of oases at national, regional and local levels; (ii) the implementation of the national strategy for the sustainable development of small-scale oases (six selected oases, representing the variety of traditional Tunisian oases); and (iii) the planning of sustainable management of oases at the local level, and the implementation of priority activities in the pilot sites of the project, their monitoring and evaluation. - The beneficiaries of this program: individual promoters, associations, GDA (agricultural development groups), SMSA (mutual society for agricultural services). However, special attention will be paid to young people, entrepreneurs and women.
Range of investment (minimum and maximum)	5.7 million US$
Investment duration	5 years
Return expectation	☑ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☐ capital reimbursement and return expectation
Legal structure of target companies	
Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	- microprojects Focused on one of the priority areas of intervention of ODPs, i.e. sustainable land and water management, protection of biodiversity and support for diversification of livelihoods and modes of subsistence. - Microproject must cover the geographical area of coverage of the GDEO Project - In-kind contribution equivalent to at least 30% of the total cost of the micro-project - The GDEO Project contribution shall not exceed US$50,000. - The duration of implementation of a microproject may not exceed 12 months.

Auxiliary services provided to target companies	stakeholder capacity building : - training and technical assistance - specific support by scientific research institutions
Additional financial products offered by the organization, besides the one described as best practice	N/A
Investment example in Green and Circular Economy	115 micro-enterprises and 1750 jobs created TARGET COMPANY (focus on Green and Circular Economy component): - Installation of a green waste composting unit - Valorisation of oasis sub-products (cattle feed) INVESTMENT AMOUNT: US$30,000/ Microproject
Contact details	
Address and telephone	Address : Immeuble Le Boulevard, 3ème Etage Cité les Pins, Les Berges du Lac II 1053 Tunis, Tunisie Tel: +216 31 37 30 00 sayari@worldbank.org
Web site	https://www.banquemondiale.org/fr/country/tunisia

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - Involvement of all stakeholders; communities, GDAs, ASSOCIATIONS, NGOs, cooperatives - Consideration of environmental and social aspects	*WEAKNESSES:* - the pilot project concerns only 6 oases
EXTERNAL	*OPPORTUNITIES:* - Oases represent the main source of employment and income in southern Tunisia; so the project is	*THREATS:* - Increasing effects of climate change - Urban encroachment

	very attractive for several entrepreneurs in the oasis regions	

Introduction	
Name of organization	World Bank Project of Ecotourism and Desert Biodiversity
Organization typology	financing organisation
Legal form	Private Company
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	The objective of the Ecotourism Project and of Desert Biodiversity in Tunisia is to contribute to the preservation of the desert biodiversity in the 3 selected national parks financed by the Global Environment Facility managed by the World Bank (GEF/IBRD), implemented under the aegis of the Ministry of the Environment (MOE) and in collaboration with the General Directorate of Forestry of the Ministry of Agriculture.
Location (headquarters)	Tunisia
Geographical scope (area of operations)	3 national parks located in the south ; parks of Dghoumès (Governorate of Tozeur), in Jbil (Governorate of Kebili) and the national park of Bouhedma (Governorate of Sidi Bouzid).
Instrument description	
Product typology	☐ equity ☐ debt ☑ grant
Focus on Green and Circular economy	☑ Green and Circular economy is the only target ☐ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	micro-enterprises in ecotourism and related activities and sustainable income generation. These are micro-projects aimed at promoting ecotourism in the park and neighbouring areas (catering, accommodation, information centres, guides, adequate means of travel within the park, crafts, agricultural activities, shops dedicated to local products...), the creation of permanent "green jobs", the conservation of biodiversity
Product specificities (what makes this product	- The beneficiaries of this program: individual promoters, associations, GDA (agricultural development groups), SMSA (mutual society for agricultural services)... However, special

different from similar products on the market)	attention will be paid to young people... entrepreneurs and women. - The project has three components: (i) Promotion of favourable conditions for the Management of Protected Areas, the strengthening of the Sustainable Land Management and ecotourism development; (ii) Supporting the implementation of Integrated Management of Natural Resources of the targeted National Parks and their zones adjacent; (iii) Project Management.
Range of investment (minimum and maximum)	The total amount of the project is US$ 9.05 million including a GEF grant of US$ 4.27 million
Investment duration	5 years
Return expectation	☑ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☐ capital reimbursement and return expectation
Legal structure of target companies	
Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	- microprojects Focused on one of the priority areas of intervention of the Project, - Microproject must cover the geographical area of coverage of the Project
Auxiliary services provided to target companies	stakeholder capacity building : - training and technical assistance - Raising the awareness of local populations
Additional financial products offered by the organization, besides the one described as best practice	N/A
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): - lodging in hostels for ecotourism

	- handicraft shops, INVESTMENT AMOUNT:
Contact details	
Address and telephone	Address : Immeuble Le Boulevard, 3ème Etage Cité les Pins, Les Berges du Lac II 1053 Tunis, Tunisie Tel: +216 31 37 30 00 sayari@worldbank.org
Web site	https://www.banquemondiale.org/fr/country/tunisia

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - Consideration of environmental and social aspects - an excellent knowledge of the institutional framework and regulatory requirements for development ecotourism - Involvement of all stakeholders; communities, GDAs, ASSOCIATIONS, NGOs, cooperatives	*WEAKNESSES:* - The scientific research aspect is omitted in the project. - The project does not include risk management procedures.
EXTERNAL	*OPPORTUNITIES:* - a very attractive project for many entrepreneurs in the interior regions where the tourism sector, especially ecotourism, is not exploited.	*THREATS:* - Absence of a legal framework for ecotourism

Introduction	
Name of organization	PNUD
Organization typology	United Nations Development Programme
Legal form	Organization
Public/private ownership	☐ public entity

	☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	The project "Development by the private sector of grid-connected wind power in Tunisia", initiated by the Agence nationale pour la maîtrise de l'énergie (ANME) and the United Nations Development Programme (UNDP), aims to promote conditions for investment by private operators in the renewable energy sector and in particular wind power.
Location (headquarters)	Tunisia
Geographical scope (area of operations)	Tunisia
Instrument description	
Product typology	☐ equity ☐ debt ☑grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	This project aims to reduce the use of hydrocarbons in the production of electricity by power plants while increasing the contribution of renewable energy in the country's energy mix by supporting government efforts to open up the wind energy market to the private sector.
Product specificities (what makes this product different from similar products on the market)	- Development of a regulatory and institutional framework conducive to grid-connected renewable energies - Strengthening the technical and organizational capacities of stakeholders - Launch of a privately developed wind power program - Assistance for project management, monitoring and evaluation.
Range of investment (minimum and maximum)	Total project cost $4 Million ($2 Million a GEF grant and the rest a national counterpart, paid in kind).
Investment duration	3 years
Return expectation	☑ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☐ capital reimbursement and return expectation
Legal structure of target companies	l'Agence nationale pour la maîtrise de l'énergie (ANME)

Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	- Establishment or group of establishments working in the industrial, agricultural or tertiary sectors - Projects with an Installed Capacity must not exceed the power subscribed by the producer with STEG (societé tunisienne electricitè gas)
Auxiliary services provided to target companies	Wind Energy Training Program
Additional financial products offered by the organization, besides the one described as best practice	- N/A
Investment example in Green and Circular Economy	TARGET COMPANY (focus on Green and Circular Economy component): - Sidi Daoud (STEG) 55 MW - Metline - Kchabta (STEG) 120 MW Démarrage +70 MW Extension INVESTMENT AMOUNT:
Contact details	
Address and telephone	Rue du Lac Windermere, Immeuble le Prestige Business Center, Tour A, Les Berges du Lac 1053, Tunis, Tunisie. Tél : +216 36 011 680 E-mail : registry.tn@undp.org
Web site	http://www.tn.undp.org

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - Procedures In line with international guidelines - Exploitation of Existing wind energy potential in Tunisia	*WEAKNESSES:* - Limited local industry

	- Saving on conventional energy subsidies	
EXTERNAL	*OPPORTUNITIES:* other international institutions (such as the World Bank and GIZ) are also involved in renewable energy issues and that they are currently leading studies on the topic in Tunisia	*THREATS :* - Risk of disinterest of Tunisian actors if regulations are unclear - Lack of operational support from guardianship ; STEG resistance into moving the project forward - PPI (private-public partnership) Group not engaged - Risk of predominance of foreign investors to the detriment of Tunisian actors

7. THE GREEN AND CIRCULAR ECONOMY MARKET IN EGYPT

7.1 Today

At the moment there's no specific legal framework addressing green/circular economy in Egypt, but there are nevertheless several elements that are supporting the development of such sector.

First of all, in the national legal framework, sustainability aspects are mainly addressed by the General Law for Environment (Law No. 4, passed in 1994, Amended by Law No. 9 for 2009)

What is it about?	Law No. 4, passed in 1994 (Amended by Law No. 9 for 2009) It is the main environmental law in Egypt concerning environmental protection. This law established the Egyptian Environmental Affairs Agency (EEAA) as the competent authority. The EEAA has the power to set criteria and conditions, monitor compliance and to take action against violators of these criteria and conditions. Various decrees have also been passed dealing with drainage of liquid wastes and protection of the River Nile and other waterways from pollution. Law 4 states that the licensing authority must assess the environmental impacts of proposed facilities. The assessment shall include a statement of all elements of the facility's self-monitoring. The law has been designated as the highest coordinating body in the field of the environment that will formulate the general policy and prepare the necessary plans for the protection and promotion of the environment. It will also, follow-up the implementation of such plans with competent administrative authorities. Law 4 / 1994, amended by law No. 9 /2009, is as any orgnizing rule in a certain society that can be defined, 'the system of rules which a particular country or community

	recognizes as regulating the actions of its members and which it may enforce by the imposition of penalties.' And, one of its articles included establishing the EEAA as as the competent authority. The EEAA has the power to set criteria and conditions, monitor compliance and to take action against violators of these criteria and conditions.
To whom does it apply?	It applies on entities concerning to environment.
Main points	It contains of six parts as following: 1) Preliminary part: it has four chapters concerning 1) general provisions (article 1), 2) Environmental Affairs Agency (ARTICLES 2 to 13 Bis), 3) Environmental Protection Fund (ARTICLES 14 to 16), and 4) Incentives (ARTICLES 17to 18). 2) Part one: PROTECTION OF LAND ENVIRONMENT FROM POLLUTION: It has two chapters; the first concerning development and environment (articles 19 to 28), the second is about hazardous material and waste (articles 29 to 33). 3) Part Two: Protection of air environment pollution (articles 34 to 47 Bis-1); 4) Part Three: Protection of water environment from pollution (articles 48 to 83). 5) Part four: penalties (articles 84 to 101) 6) Final provisions, articles 102 to 104)
Entry into force and application	1994
Related Articles	Ministry of Environment : http://www.eeaa.gov.eg/en-us/services/eia.aspx https://www.ercegypt.com/files/ESIA/Chapter%203_Policy,%20Legal%20and%20Administrative%20Framework.pdf

Then, a relevant action implemented by the government to promote sustainable production principles at the industrial level has been the creation of the Egypt National Cleaner Production Centre (ENCPC), established in 2005 by the Ministry of Trade and Industry (MTI) in close cooperation with the United Nations Industrial Development Organization (UNIDO) as a service provider for the Egyptian Industry. The ENCPC is part of the UNIDO/UNEP National Cleaner Production Centers and also part of the Egypt Technology Transfer and Innovation Centers (TTICs).

The centre acts as a vehicle for promoting green technologies transfer and innovation for the Egyptian Industry. ENCPC provides technical assistance for technology transfer in the fields of resource efficiency, industrial waste valorisation in addition to energy efficiency and renewable energy applications. In addition to that, the centre initiates the implementation of Innovative Designs and supports companies to carry out constant product development.

What is it about?	the Egypt National Cleaner Production Centre is a key organization that promotes green technologies transfer and innovation to the Egyptian Industry
To whom does it apply?	Investors in green economy
Main points	It is one of the initiatives that are being developed in order to promote the development of new innovative SMEs, to create green job opportunities while reducing the environmental impact of industrial waste and improve the lives of Egyptian citizens. ENCPC has been involved in many initiatives to promote environmental awareness in Egypt. One of the most important initiatives is promoting solar heating technologies to the Egyptian industry. This is done through awareness raising sessions in different industrial zones to promote the idea as well as to train the personnel who will work in this field. Another important project is ¨The Industrial Waste Management and SME Entrepreneurship Hub¨. The project aims to create the first waste exchange system in Egypt through mapping of the industrial waste at the enterprise level in the selected pilot area. ENCPC will also empower entrepreneurs working in the field of waste management to start their own business through a training programme. They also support them in acquiring the required certificates that provide their products with a clear advantage in both local and international market, and linking them with large enterprises.
Entry into force and application	Established in 2005
Related Articles	https://www.unescwa.org/ar/egyptian-national-cleaner-production-center https://www.devex.com/organizations/egypt-national-cleaner-production-center-encpc-48907

Finally, the government launched in 2016 the Sustainable Development Strategy (SDS), which represents a roadmap for maximizing competitive advantage to achieve the dreams and aspirations of Egyptians in a dignified and decent life.

SDS has followed the sustainable development principles as a general framework for improving the quality of lives and welfare, taking into consideration the rights of new generations in a prosperous life; thus, dealing with three main dimensions: economic, social, and environmental dimensions.

In addition, SDS is based upon the principles of "inclusive sustainable development" and “balanced regional development"; emphasizing the full participation in development, and ensuring its yields to all parties. The strategy, as well, considers equal opportunities for all, closing development gaps, and efficient use of resources to ensure the rights of future generations.

No doubt that Egypt’s SDS is crucial and highly required; one of the reasons why we need the SDS Egypt Vision 2030 is to align SDS objectives with those of the post-2015 United Nations Sustainable Development Goals (SDGs) and the Sustainable Development Strategy for Africa 2063.

SDS Egypt vision 2030 emphasizes the importance of environment in many pillars:

- Ninth Pillar: Environment. Environment is integrated in all economic sectors to preserve natural resources and support their efficient use and investment, while ensuring next generations' rights. A clean, safe and healthy environment leading to diversified production resources and economic activities, supporting competitiveness, providing new jobs, eliminating poverty and achieving social justice.
- Tenth pillar: Urban development. A balanced spatial development management of land and resources to accommodate population and improve the quality of their lives.

7.2 Tomorrow

According to a report entitled "**United Nations Partnership Development Framework (UNPDF) 2018 to 2022: United for a Sustainable Future**", Egypt has made a progress in improving the way natural resources are used. However, the country continues to face a number of environmental challenges including water scarcity, air pollution, natural resources degradation, waste mismanagement and climate change consequences. These challenges result from the intersection of a limited natural resource base, particularly shared Nile waters, ineffective management of existing natural resources, and a population that has grown from 26 million in 1960 to over 96 million today. The resource intensive and unbalanced nature of economic growth has aggravated these problems by leading to depletion of fossil fuel resources and high levels of air pollution and waste.

Environmental problems risk undermining Egypt's ability to meet its goals in terms of raising agricultural production. They can also push large segments of population who live on fragile environments into displacement and poverty, complicating the attainment of poverty reduction objectives of the SDS. Higher temperatures are expected to adversely impact tourism revenues as well.

Responding to environmental challenges, however, can itself act as an engine of growth. The SDS takes a holistic approach to the environment, considering it as one of the three strategic dimensions of sustainable development. The SDS environmental dimension is composed of two pillars, namely environment and urban development. The UNPDF supports the achievement of national development goals that are outlined in the SDS as well as the realization of the 2030 Agenda for Sustainable Development (2030 Agenda) and the Sustainable Development Goals (SDGs). The UNPDF, in addition to responding to the two pillars of the environmental dimension, provides the framework within which UN's support to the economic dimension's energy pillar of SDS is organized. The above noted three relevant pillars of the SDS, in addition to relevant national strategies, including the National Biodiversity Strategy and its actions plans, call for sustainable management of natural resources inclusive of energy and sustainable management of urbanization processes. This outcome supports balanced spatial development and management of land and national resources that accommodates the growing population and ensures improved living standards. Egypt can generate many jobs in areas such as agriculture, solid waste management and renewable energies, particularly solar. Moreover, well-planned urbanization, economic agglomeration and specialization can create many sustainable jobs.

The UN system will build on its historical sectoral work in areas such as agriculture, water, energy, land and waste management, biodiversity conservation and climate change mitigation to devise an integrated and inclusive approach to sustainable development.

The UNPDF aims to support national efforts to manage Egypt's natural resources, and its urban environments, in an inclusive, sustainable and productive manner to mitigate environmental hazards and foster a greener economy and society. This support will also strengthen national capacities to fully participate in, benefit from and comply with international conventions and protocols on biodiversity and climate change.

The key focus areas to be supported by UNPDF, inter-alia, include the following:

- Advocate for interventions that promote more efficient and sustainable use of scarce water and agricultural land resources;
- Promote agricultural productivity through supporting refinement and operationalization of agricultural, food security and nutrition policies and strategies;
- Promote containment of encroachment of agricultural land and sustainable urban planning interventions;
- Promote innovative schemes for recycling solid waste for productive use and management of hazardous waste;
- Strengthen the capacity of Egyptian entities for promoting sound management of biodiversity resources, including for eco-tourism and innovative ways of involving communities;
- Enable the Government to fully discharge its obligations under and benefit from facilities offered by relevant global conventions and protocols;
- Support the development and implementation of national and sectoral climate change adaptation plans, tools and programmes;
- Promote energy efficiency, eco-innovation and low carbon development approaches, including promotion of sustainable modes of transport services and public space improvement;
- Promote the use of renewable energies, notably solar;
- Build national capacities for disaster risk reduction; and
- Promote an enabling environment for sustainable urban development.

Meanwhile and according to a report published in April 2018 by **SwitchMed and UNIDO,** funded by the European Union, entitled "**Roadmap for Scaling up Resource Efficiency**[3]", Egypt's Ministry of Environment has been working in recent years with the support of international partners, especially the United Nations Environment Program (UN Environment) to pave the way for mainstreaming green economy and sustainable consumption and production-related policies as tools to achieve sustainable development. The Sustainable Consumption and Production Action Plan (2016) and the Green Economy Work plan and Strategy (2010) were developed in line with Egypt's 2030 Sustainable Development Strategy adopted by the Cabinet.

The first policy measure proposed in the National Action Plan is to facilitate industry access to finance through the provision of financial packages that promote different Sustainable Consumption and Production (SCP) industrial applications to be implemented to create green industry applications, including waste to energy, waste management and water and energy savings. Another important policy measure is to support and encourage eco-innovation.

In terms of Industry and natural resources, due to the large number of industrial establishments (about 50,000) covering all sectors, replicability of projects in the same industry sector is high. This can be

[3] https://www.unido.org/sites/default/files/files/2020-01/SwitchMed%20Magazine%20-%20Egypt.pdf

achieved through dissemination of information and success stories as well as capacity building on Best Available Techniques (BAT) and training in the 'Transfer of Environmentally Sound Techonolgy Project' TEST approach. There are also 118 Industrial parks where collective solutions could be addressed.

To develop a roadmap of scaling up resources efficiency, the report develops a set of goals:

Financial support is one of the main enablers for 'Resources Efficient and Cleaner Production' (RECP) as highlighted by the majority of stakeholders. Within the framework of MED TEST II component, UNIDO has signed a cooperation agreement with EBRD to provide financial support and a pipeline of RECP investment projects through the Green Economy Financing Facility (GEFF). ENCPC also formalized a partnership with 'Egyptian Pollution Abatement Program' EPAPIII which allows projects that achieve compliance through RECP measures to receive financial support within EPAPIII. Continued efforts will be led by ENCP in Egypt to promote green financing in order to meet the private sector demand for sustainable financing.

Activities of this goal are: Assess existing local financial institutions and exploit existing financial mechanisms; Introduce new green financing mechanisms; Cooperate with CBE initiative (SME loans at low interest rate).

Awareness and Capacity Building: Boosting the demand for RECP investments by the private sector requires extensive awareness, increasing the business case for resource efficiency, promoting the results of MED TEST II, as well as the strengthening of national service providers' base through training on BAT, RECP and TEST approach.

Activities that are included within this goal are: Raise awareness of stakeholders and service providers to increase demand for RECP projects; Reinforce competences of service providers; Introduce RECP to University Curriculum

Sector Technology Adaption: The large number of industrial establishments and the representation of the Industry Sectors in the Federation of Egyptian industries facilitate a collective approach for the implementation of BAT and RECP measures through positive incentives, technical support and the development of guidelines with the goal to increase the number of facilities implementing BAT and RECP.

Activities include: Encourage industries to implement BATs; Provide technical support; Develop

Support Innovation Award: The Industrial Council for Technology and Innovation is presenting two types of innovation awards: one for equipment and the other for processes. ENCPC can assess and propose candidate applications in order to encourage innovation in RECP.

Activities: Utilize existing MTI Innovation Award for promotion of RECP

Encouraging BAT implementation in Egyptian industries will result in accelerating the uptake of RECP projects since BATs are designed to increase resource efficiency. There has been previous work in this direction and it is important to build on it. As to awareness and capacity building, Arabic guidelines will be necessary to address a wider target group. One of the major barriers to implementation of investment needing RECP measures is the access to financing.

Already implemented RECP initiatives including MED TEST demonstrated that there is a business case for RECP in the Egyptian industry. Promoting RECP concepts on a national level, within the various industrial sectors, is extremely important in supporting Egypt's reform program that aims to spur the economy and enhance the country's business environment. Gradually the adoption of the RECP concept throughout Egypt's industry would improve the competitiveness of Egyptian products on the local market, and their ability to compete on the export market, while also supporting a better resource resilience for the economy.

Renewable energy, as referred above, is one of the concerns of the Egyptian Government. At this regard the government has taken some enabling procedures to invest rapidly in this sector. According to a report developed by **UNIDO**, entitled '**Egypt Industry; a COVID- 19 Triggered Transformation, UNIDO Solar-water Heating in Industrial Process (SHIP) project in Egypt – May 2020',** the removal of subsidies drove the Egyptian industry to improve its energy efficiency and invest rapidly in renewable energy. This was in line with the national strategy and its ambitious target of having 20% of electricity generated from renewable sources by 2022 and 42% by 2035 (IRENA, 2018). The rapid increase in the Egyptian industry energy efficiency and energy sustainability was reinforced through investments of IFIs, namely EBRD through its 30 Million and 140 Million Euros Egypt Green Economy Finance Facilities I and II.

Starting 2014, the Egyptian industry started aggressively to invest in renewable energy and energy efficiency. Quickly renewable energy markets in Egypt started to grow rapidly at decentralized scale. The Egyptian government put in place both feed-in and net-metering schemes to support private investment in renewable energy. Coupled with increase in energy prices, this has driven the solar heating market to grow at about 10% annually (SHIP project – this growth has spiked in the beginning of 2020 to about 50%) and decentralized photovoltaic (PV) market to double almost every year since 2014 (IFC various studies from 2017 to 2019). This has created an active local industry with manufacturing starting to take hold in both PV and domestic solar heating markets. Egyptian industry was moving steadily to invest in PV systems within the net-metering scheme and solar thermal heating systems. UNIDO has followed its IEE project with Solar Heating Industrial Processes (SHIP) project, which targets both thermal energy efficiency and industrial solar heating systems equally. The project has seen over 300 entities signing up to benefit from technical assistance on the topic. Various industrial facilities have started to consider energy efficiency in their operations with larger facilities moving faster than SMEs.

Energy efficiency and renewable energy are taken based on long foresight into energy pricing. Perhaps the most critical reason for the Egyptian industry drive to improve energy efficiency and invest in renewable energy is not the increase in energy prices. It is the conviction that the government is determined to remove energy subsidies. Investments in energy efficiency or renewable energy require a long-term projection of traditional grid or fuel energy prices to assess their feasibility. Once industries have started to see clear commitments from the government to remove subsidies, investments in renewable energy and energy efficiency became more viable.

Government of Egypt needs to maintain a clear signal on its stance on energy pricing. In the wake of COVID-19, as mentioned above, the Government has announced a reduction in energy prices for the entire industrial sector. One needs to consider that this sudden decision made previous investments in energy efficiency and renewable energy less viable and less profitable. The Government of Egypt had a long history of retracting on energy subsidies removal, which had caused industry to always see investments in energy efficiency or renewable energy as risky and uncertain. There is a risk for the Egyptian industry to fall back in its improvement of energy sustainability. Clear signals and plans on energy pricing need therefore to be provided by the Government.

There could be a slowdown in capacity for implementation of renewable energy project.. In Egypt, the domestic firm Solar Egypt has postponed the production of 4 solar plants as a consequence of the pandemic.

The situation remains more uncertain for small project developers with less cash at their disposal. Ensuring adequate access to low-cost debt and other financing mechanisms will be key to ensuring that developers can maintain operations now and in the long term. Given the risks around executing new projects at this time, we would also expect to see energy procurement contract prices increase in the

near- to mid-term. Hence, a stimulus package will also help SMEs in renewable energy survive the crisis ensuring the Egyptian renewable energy sector can continue to grow.

COVID-19 could drive the industry to retract on improving energy sustainability leading to deterioration in competitiveness with dangerous long-term consequences. As discussed above, COVID-19 would pose challenges in the increased cost of input material as well as decreased productivity and hence profitability. A possible reaction from the industry is to cut spending and defer investments in energy efficiency and renewable energy. The industry may instead resort to investing in technology with low efficiency. This poses a significant set-back to Egypt economy and will put Egyptian industry on a tract of lowering competitiveness which cannot be sustained.

Investments in renewable energy and energy efficiency can be part of the solution not a casualty of the crisis. On the other hand, investments in renewable energy and energy efficiency can be part of a healthy recovery. The expected decrease in profitability in phase 2 can be countered by investing in improving energy sustainability. This will be a win-win situation. On the short term, it will help renewable energy and energy efficiency markets to continue flourishing, hence continuing to create sustainable and green jobs. It will also increase the industry profitability. In phase 3 this will make Egyptian industry ready for the tough competition ahead by becoming more efficient and resilient.

Government of Egypt should double down on increasing energy efficiency and uptake of renewable energy in the Egyptian industry. Businesses' stronger resilience and long-term flourishing are linked to increased productivity and competitiveness driven by a more efficient use of resources. Resource efficiency allows industries to produce more and better with fewer resources and at a reduced cost, keep the position in the market, retain workers and even create new jobs, and open up new markets that demand products manufactured in a sustainable way. Egyptian government should reduce the energy expenses burden on the Egyptian industry by expanding finance programs promoting sustainable energy. These finance programs can be at a subsidized interest rate or include other incentives. This approach will ensure Egypt does not derail from its energy efficiency and energy sustainability targets, and that the Egyptian industry transforms into a more competitive one.

The Government can use the current situation to launch sustainable stimulus packages focused on clean energy technologies with communication on long term energy pricing plan to further guide investments. Stimulus packages to counter the economic damage from COVID-19 offer an excellent opportunity to step up efforts to mitigate climate change and ensure that the essential task of building an affordable, secure and sustainable energy future does not get lost amid the flurry of immediate priorities. The stimulus package should also clearly focus on inclusion of SMEs who have benefited less in the previous years from finance programs for renewable energy. Announcing energy pricing plans for the coming five years is critical for the mobilization of energy efficiency and renewable energy investments. Since such investments are usually committed on the target of future returns from energy saving, ambiguity can be a significant deterrent for their deployment. The above will simultaneously increase competitiveness of industry, remove energy subsidies burden from the state and also reinforce Egypt energy security which will become even more a priority in the current circumstances.

7.3 Funding

According to the national newspaper AlAhram, the government of Egypt is tapping into a new pool of international investors looking for fixed-income instruments by moving ahead with steps to issue green bonds.

The Ministry of Finance announced in a statement that it had chosen Credit Agricole, Citibank, Deutsche Bank, and HSBC to market the issue. Egypt's minister of finance had earlier said that the government

would not issue further Eurobonds for the remainder of the current fiscal year and would instead revert to instruments such as green bonds to cover its financing needs.

The exact size of the issue has not yet been announced. The minister said that Egypt planned to issue $3-7 billion in international bonds during this fiscal year. So far, only $2 billion worth of Eurobonds have been issued.

A green bond is a type of fixed-income instrument that is specifically earmarked to raise money for climate and environmental projects, unlike regular Eurobonds which can be directed to any use.

Egypt's Financial Regulatory Authority (FRA) approved the legal framework for issuing green bonds in July 2018, with the aim of providing financial tools to fund eco-friendly projects in the fields of new and renewable energy, construction, and transport. The guidelines were developed with the support of the IFC, the private-sector arm of the World Bank, and are based on the International Capital Market Association (ICMA)'s Green Bond Principles.

The types of projects included in these guidelines include renewable energy, energy efficiency, clean transportation, terrestrial and aquatic biodiversity conservation, climate-change adaptation and sustainable water and wastewater management. Fossil-fuel power generation projects are excluded from eligible projects.

The advantage for Egypt of having a debut green bond issue is that it can fund specifically "green" projects and diversify Egypt's existing Eurobond investor base by accessing specialised ESG funds leading to additional demand, explained Amr Helal, CEO for North Africa of Renaissance Capital.

In addition to this, one of the initiatives toward boosting green economy is that supported by the European Union. According to a report issued by 'a clima-south- a project funded by the EU), "The Green Economy Financing Facility (GEFF) for Egypt has been launched to boost energy efficiency and renewable energy projects in the country. The €140 million programme for Egypt, supported by the European Union, will provide loans for energy efficiency and small-scale renewable energy investments by private companies through a group of participating banks, including the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB) and the Agence Française de Développement (AFD).

The following boxes contain a few examples of financial tools/actors addressing Green and Circular Economy.

Equity instruments

Introduction	
Name of organization	Flat6Labs
Organization typology	Accelerator and Incubator
Legal form	Foundation – nonprofit corporation
Public/private ownership	☐ public entity ☑ private entity Started by Sawari Ventures and AUC in 2011, Cairo is home to the first Flat6Labs office in the MENA region
Description (explicit the interest/ approach	"Flat6Labs is a regional startup accelerator program that fosters and invests in bright and passionate entrepreneurs with cutting-edge ideas.

towards Green and Circular economy)	We provide seed funding, strategic mentorship, a creative workspace, a multitude of perks, entrepreneurship-focused business training, and directly support our startups through an expansive network of partner entities, mentors and investors. We create an environment where you can advance your company an incredible amount in a short period of time.
Location (headquarters)	Egypt
Geographical scope (area of operations)	Egypt (it works as well in, Jeddah, Abu Dhabi, Beirut, Tunis and Bahrain.
Intrument description	
Product typology	☑ equity ☐ debt ☑ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	We invest in 10 startups per cycle (at each location) and we have 2 cycles each year, so we generally invest in around 20 startups each year We fund a wide variety of categories ranging from technology-enabled startups to design studios to farming solutions and everything in between
Product specificities (what makes this product different from similar products on the market)	The mentoring programs they offer to startp-ups is a unique one. For each startup we select, we invest $30-50K in seed funding in exchange for minor equity in the company depending on which accelerator your choose to apply to and join from across MENA We invest in 10 startups per cycle (at each location) and we have 2 cycles each year, so we generally invest in around 20 startups each year.
Range of investment (minimum and maximum)	$30-50K
Investment duration	
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation (Upon joining Flat6Labs, we acquire 10-20% stake of equity in the company of all participating team. We also acquire another negotiable amount of equity when we choose to further invest in a company by graduation time)

Legal structure of target companies	They are supporting start-up companies working in technology. (not necessary registered companies, as far as we know)
Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☑ Growth ☐ Scale-up
Conditions and prerequisites to access	We don't have a score sheet for applicants; we simply review applications. We interview teams and judge based on the idea, the market size, the team's readiness and the business model.
Auxiliary services provided to target companies	They offer seed funding, mentoring, training, legal support, office space, networking and exposure. In addition "we We provide our startups with over $300K in perks and benefits, providing our entrepreneurs with some of the best resources available to build their companies.".
Additional financial products offered by the organization, besides the one described as best practce	We fund a wide variety of categories ranging from technology-enabled startups to design studios to farming solutions and everything in between.
Investment example in Green and Circular Economy	1 - Farminal is a dairy farm management technology solutions company with a focus on delivering niche complementary solutions for large and medium sized dairy farms. The company's main competitive advantage is its use of image analysis to deliver cow care. 2- Conative Lab: An IoT-enabled water quality monitoring and alarming system for aquaculture 3- Tagaddod is a renewable energy and waste management start-up, started in February 2013 and operating in Cairo –Egypt. Currently focusing on clean fuels, Tagaddod is working on Bio-diesel production from Waste Vegetable Oil (WVO).
Contact details	
Address and telephone	info@flat6labs.com
Web site	https://www.flat6labs.com/

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - A leading Startup Accelerator in Egypt;	*WEAKNESSES:* - They fund projects with relatively big amounts that may decrease the opportunity of micro-businesses.

	- has an excellent team and wise management; - They build strong communication with different stakeholders at the national level.	- Their approach is not dynamic; it's probably the same attitude since inception.
EXTERNAL	*OPPORTUNITIES:* - Their services are widely needed by young people who seeks finding funding and mentoring opportunities; - They have considerable relation and cooperation with leading organization in Egypt such as American University and Sawari Ventures. -	*THREATS:* - High competition from other accelerators; - Lack representation in governorates of Egypt, except in Cairo where they are based.

Introduction	
Name of organization	Sawari Ventures LLC
Organization typology	Funding and investing Entities – VC(S)
Legal form	Foundation – nonprofit corporation
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	Sawari Ventures is an investment management firm based in Cairo, driven by a passion for fostering innovation and entrepreneurship. Sawari Ventures is an international venture capital firm that invests in people turning visionary ideas into market-leading companies in the Middle East and NorthAffrica.
Location (headquarters)	Egypt
Geographical scope (area of operations)	Egypt
Intrument description	
Product typology	☑ equity ☐ debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target

	☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	Funding/Investment, Commercialization, Technology Trends, fintech, education tech, health tech, and renewables, among other sectors.
Product specificities (what makes this product different from similar products on the market)	-
Range of investment (minimum and maximum)	Sawari Ventures expects to announce soon the close of an Egypt-only venture capital fund that will invest an average of USD 1.5 mn apiece in 25 growth stage companies
Investment duration	Sawari Ventures is a EGP 1 bn venture capital fund focused on Egypt, Tunisia and Morocco. It invests in companies that have a team, a product, and customers that need capital to grow. Venture capital is the prime source of funding for high-growth companies because debt doesn't work for them. They're growing so fast that they can't afford to take on the risks of borrowing money. The company allows them to take risks.
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation
Legal structure of target companies	They support entrepreneurs to transform their ideas into successful companies with more focus on technology sector.
Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☑ Growth ☐ Scale-up
Conditions and prerequisites to access	
Auxiliary services provided to target companies	By identifying, backing and helping the growth of innovative and scalable companies, Sawari Ventures Fund I is helping support a key element of a healthy and dynamic capital market which in turn supports economic growth, entrepreneurship and job creation.
Additional financial products offered by the organization, besides the one described as best practice	

Investment example in Green and Circular Economy	Vimov develops a new generation of consumer experiences on mobile platforms. Circle Tie is Multi-platform location-based mobile social networking application with a gaming component. Roll out in Cairo and Dubai. Kngine is developing a next-generation context-based search engine utilizing its proprietary algorithms.
Contact details	
Address and telephone	info@sawariventures.com
Web site	http://www.sawariventures.com/companies https://enterprise.press/stories/2018/12/10/sawari-ventures-nearing-close-on-egypt-focused-vc-fund-announces-close-of-usd-35-mn-north-african-fund/ https://enterprise.press/stories/2020/02/20/my-morning-routine-ahmed-el-alfi-chairman-of-sawari-ventures-12419/

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - A leading international venture capital that invests in people - Their strong vision and belief in the transformative power of entrepreneurial thinking. - They have a turning role in creating accelerators that become in turn supportive to start-ups.	*WEAKNESSES:* - They focus on technology-based businesses. - Their website isn't updated (under-construction).
EXTERNAL	*OPPORTUNITIES:* - They have and can have a more great outreach in the MENA region as they target young people who represents the majority of the population of the MENA	*THREATS:* - Their focus on only early stage business may weaken their opportunities in more outreach; - It's more well-known, through articles in media, by experts and accelerators than young entrepreneurs.

Debt instruments

Introduction

Name of organization	QNB AlAhli
Organization typology	Large, medium and Small finance
Legal form	Private bank / financial institution
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	The European Bank for Reconstruction and Development (EBRD) is boosting small businesses and green investments in Egypt with a US$ 82 million financial package to QNB Alahli, one of the country's largest commercial banks, for on-lending to local enterprises. The financing consists of a US$ 17 million loan under the Green Economy Financing Facility (GEFF) for Egypt, two loans of up to US$ 54 million cumulatively, of which US$ 13.5 million is co-financed by the Green Climate Fund (GCF); and a loan of up to US$ 11.3 million for small businesses. QNB Alahli will on-lend the EBRD's funds to private companies to invest in climate change mitigation and adaptation measures through the reduction of energy and water usage, sustainable land management or renewable energy. The package will be supported by technical assistance of US$ 3.1 million and grants of US$ 9.0 million to be provided by the European Union, the EBRD's SEMED Multi Donor Account and the GCF. QNB Alahli is one of the EBRD's largest clients in the financial sector in Egypt, focused on supporting small businesses, trade and the green economy.
Location (headquarters)	Qatar
Geographical scope (area of operations)	Egypt
Intrument description	
Product typology	☐ equity ☑debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and	All sectors

Circular economy targets)	
Product specificities (what makes this product different from similar products on the market)	- Financing the cost of solar energy systems, roof solar panels, solar batteries and other solar energy products - Offers competitive interest rate - Free life insurance coverage throughout the loan duration - Fixed monthly instalments all over the loan duration - Automatic deduction of the installments either from the current or checking account
Range of investment (minimum and maximum)	The financing, provided by EBRD consists of a US$ 17 million loan under the Green Economy Financing Facility (GEFF) for Egypt
Investment duration	-
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation
Legal structure of target companies	Any
Phase of growth of target companies	☐ Ideation stage ☑ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	- Financing up to 80% of the solar energy product cost - Loan amount could reach EGP 400,000 - Loan duration up to 84 months - Available for QNB ALAHLI payroll clients, employed and self-employed clients - Minimum age is 21 years and the maximum age is 60 years at loan Maturity
Auxiliary services provided to target companies	-

Additional financial products offered by the organization, besides the one described as best practce	Cash loan, express loan, cash loan against car license, durable goods loan, home renovation loan, education loan, smart facilities, salary advance, loan calculator, Easy auto, used car loan, car loan without sales prohibition, motor bike loan.
Investment example in green and circular economy	
Contact details	
Address and telephone	Info.QNBAA@QNBALAHLI.COM
Web site	https://www.ebrd.com/news/2020/ebrd-and-qnb-alahli-boost-green-investments-and-small-firms-in-egypt.html https://www.qnbalahli.com/sites/qnb/qnbegypt/page/en/enloanscreditfacilities.html

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - The diversity of their products; - Flexible policies and procedures; - Innovation. - They have a dedicated finance for green economy	*WEAKNESSES:* - Their fund for green economy focuses on only one sector, solar energy system. - Lack of updated information about their progress on the funds received from the EBRD to green finance. - Micro-entrepreneurs do not probably have access to their services.
EXTERNAL	*OPPORTUNITIES:* - Wide-national market in Egypt - The international and national momentum concerning green finance	*THREATS:* - Competition from other banks; - The ability of borrowers to repay in time their dues.

Introduction	
Name of organization	Alexandria Business Association – Small and Micro Enterprise Project (ABA-SME)
Organization typology	Microfinance

Legal form	NGO, registered by the Ministry of Social Affairs with No. 952, and licenced by No. 1017 with the Egyptian Regulatory Authority
Public/private ownership	☐ public entity ☐ private entity Other: NGO (not public, not private, it's NGO working under the umbrella of Ministry of Solidarity and the Financial Regulatory Authority)
Description (explicit the interest/ approach towards Green and Circular economy)	ABA-SME is a non-profit microfinance institution (MFI) that focuses since its inception in 1990 on providing micro entrepreneurs in particular youth and women financial and non-financial services.
Location (headquarters)	Egypt
Geographical scope (area of operations)	Egypt
Instrument description	
Product typology	☐ equity ☑debt ☐ grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	All sectors
Product specificities (what makes this product different from similar products on the market)	1- Direct contact between ABA-SME and beneficiaries; 2- Tailored products based on current and potential clients' needs. 3- Sustain development of products and services according to the needs of market and clients. 4- Social support programs for staff and clients
Range of investment (minimum and maximum)	250 EGP – 100,000 EGP
Investment duration	From 6 to 12 months
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☑ capital reimbursement and return expectation

Legal structure of target companies	Micro and small enterprises. They can be formal or not formal activities. However, at a certain level of amounts of loans, that exceeds EGP 12,500, companies should have a tax card.
Phase of growth of target companies	☐ Ideation stage ☑ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	Financial needs, Potential to run sustainable activity At certain stage, enterprise should be formal in terms of compliance with taxes, insurance and others...
Auxiliary services provided to target companies	Provides varied financial and non-financial services such as literacy classes, grants for start-ups, technical support and business development services.
Additional financial products offered by the organization, besides the one described as best practice	A set of financial products that target and meet the needs of micro and small entrepreneurs from different financial and economic backgrounds.
Investment example in Green and Circular Economy	Among other sectors ABA-SME provides financial support to agriculture and food sectors. There is no specific financial product that only directed to green economy. However ABA supports many activities that is contributed to environment such as 'recycling of used materials, 'trade of agriculture waste, trade of filters (for water, air, oils..etc), food manufactory. Meanwhile, and under the framework of GIMED, we are exploring the development of green activities and green credit to our small and micro business clients.
Contact details	
Address and telephone	52 El-Horrya Avenue, Alexandria – Egypt
Web site	www.aba-sme.com

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:*	*WEAKNESSES:*

	- Powerful leadership of the organization and highly-qualified staff; - Their strong belief on their vision and mission that aim empowers small and micro-entrepreneurs - The diverse of products and services; - The considerable experiences of the organization on ground - Direct contact between staff and clients -	- The relatively micro amounts given by the organisation that may not be suitable to medium and large businesses. - Despite the organization supports all sectors including agriculture and food, there is no dedicated finance to green economy.
EXTERNAL	*OPPORTUNITIES:* - The ability to have more outreach across Egypt - The financial and non-financial services provided by the organization is required by wide segments of micro and small business. - Good networking and strong relations with national and international bodies in Egypt and abroad.	*THREATS:* - Unprecedented high-competition from not only non-for-profit organizations but also from traditional banks; - Restriction made by new micro-finance in Egypt in addition to New Law for Civil Associations / non-governmental organizations. - Unrest in market.

Grant instruments

Introduction	
Name of organization	SwitchMed initiative
Organization typology	
Legal form	
Public/private ownership	☑ public entity ☐ private entity
Description (explicit the interest/ approach towards Green and Circular economy)	SwitchMed is an initiative led by the Regional Activity Centre for Sustainable Consumption and Production (SCP/RAC).
Location (headquarters)	Barcelona (Spain)

Geographical scope (area of operations)	Its activities benefit 8 countries in the Southern Mediterranean: Algeria, Egypt, Israel, Jordan, Lebanon Morocco, Palestine and Tunisia.
Instrument description	
Product typology	☐ equity ☐ debt ☑ grant
Focus on Green and Circular economy	☑Green and Circular economy is the only target ☐ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	SwitchMed supports and connects stakeholders to scale-up eco and social and eco innovations. The programme supports policy makers, eco-innovative small and medium sized enterprises, industries, start-ups and entrepreneurs in the Southern Mediterranean countries, which have identified job creation and natural resource protection as priority issues that also contribute to their economic stability.
Product specificities (what makes this product different from similar products on the market)	-
Range of investment (minimum and maximum)	-
Investment duration	-
Return expectation	☑ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation ☐ capital reimbursement and return expectation
Legal structure of target companies	Any
Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☑ Growth ☑ Scale-up
Conditions and prerequisites to access	
Auxiliary services provided to target companies	Capitalizing on the results and lessons learned from Phase I, Phase II is structured with three main components: 1. Direct support to the private sector (implemented by UNIDO and SCP/RAC);

	2. Creation of an enabling policy environment (implemented by UNEP and SCP/RAC); 3. Coordination, networking and communication (implemented by UNIDO and SCP/RAC). Phase II is expected to see an increased number of green businesses activities, enhanced competitiveness of the private sector through the adoption of resource efficiency production strategies, and a more cohesive and enabling policy environment for a green and circular economy in the southern Mediterranean countries.
Additional financial products offered by the organization, besides the one described as best practce	New companies and start-ups are key enablers of green and circular economy business models needed for the transition towards sustainable consumption and production patterns. Under the lead of the Regional Activity Centre for Sustainable Consumption and Production (SCP/RAC). Enhanced business support services are provided for both business support organisations and entrepreneurs to foster the creation, incubation and acceleration of sustainable business models. **How do we do this?** · By creating 'Switchers Support National Partnerships' · By developing sustainable business development tools · By supporting access to finance through the Switchers Fund · By building a network of change-makers through the Switchers Community
Investment example in Green and Circular Economy	SWITCHMED led one of the most important initiatives to support and scale up natural resources in Egypt. One considerable example is launching the 'Roadmap for Scaling-up Natural Resources' that took place on cooperation with UNIDO. The Switchers Support National Partnership of Egypt gathers Business Support Organizations willing to promote a more efficient design, management and implementation of business development services supporting Egyptian green and circular entrepreneurs. ● 12 trainers / mentors trained in sustainable business development; ● 252 enterpreneurs supported to develop their green business model (25 % women); ● 16 entrepreneurs coached to improve their green business model; ● 33 financial actor engaged; ● 22 green business oreated ● 7 entrepreneurs supported to access to finance.

	Some examples can include: • ECO Food Dehydrators – food security through dehydrators that aims to preserve the environment by reducing the number of wasted crops; • Hand 2 Hand: transforming the city of Zagazig into a model of sustainability through collaboration on waste management. The project aims to reduce carbon dioxide in the atmosphere by preventing the burning of garbage and reducing demand for chemical fertilisers.
Contact details	
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SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - Its dedication to circle economy; - It works on all levels; governments and peoples	*WEAKNESSES:* - Not very known with ordinary people; - All their initiatives are only in English that deprive many people to be in.
EXTERNAL	*OPPORTUNITIES:* - High-outreach in Egypt and other countries - They are working in a required field, circular economy	*THREATS:* - Capacity of funded project to be sustainable.

Introduction	
Name of organization	GESR / Governorate Economic and Social Revival
Organization typology	Hub for start-ups
Legal form	Private entity – **Foundation**
Public/private ownership	☐ public entity ☑ private entity
Description (explicit the interest/ approach	ESR is a program affiliated to Misr El-Kheir Foundation, showcasing its responsibility to contribute to a knowledge-based economy, through

towards Green and Circular economy)	supporting innovators and technology startups solving social challenges in the fields of Water, Energy, Food, Health, and Education
Location (headquarters)	Egypt
Geographical scope (area of operations)	Egypt
Intrument description	
Product typology	☐ equity ☐ debt ☑ Grant
Focus on Green and Circular economy	☐ Green and Circular economy is the only target ☑ Green and Circular economy is among the potential targets
Scope of operations - Industry/tags (identify Green and Circular economy targets)	GESR supports entrepreneurs and innovators throughout the various stages of the innovation cycle; from idea to prototype, turning their prototypes into market-fit products, and helps them finding the matching investment opportunities.
Product specificities (what makes this product different from similar products on the market)	- Funding: Seed funding along entrepreneurs' journey from idea to final product - Legal Support: Legal advisors to help startups' registrations, in addition to any legal advisory - Training: Technical and business trainings to cater the needs of each startup - Marketing and PR Coverage: Full marketing and PR coverage during and after the incubation period - Access to mechanical & embedded system workshops, to develop prototypes - Co-working space: Co-working space with access to full office services, free workshops, and free Wi-F - GESR TEAM: Supportive team of experienced calibers to help startups through their journey - Networking: Network of trainers, investors, and consultants, locally and internationally, along with Misr El-Kheir network
Range of investment (minimum and maximum)	
Investment duration	
Return expectation	☐ no return and no reimbursement expectation (pure grant) ☐ capital reimbursement, no return expectation

	☑ capital reimbursement and return expectation
Legal structure of target companies	
Phase of growth of target companies	☑ Ideation stage ☑ Early stage ☐ Growth ☐ Scale-up
Conditions and prerequisites to access	The startup will be eligible if it has: 1) 40 % integrated team; 2) 30 % business market potential; 3) 15 % Product innovation; 4) 15 % social impact.
Auxiliary services provided to target companies	
Additional financial products offered by the organization, besides the one described as best practce	GESR incubator offers an incubation program from 6-9 months with seed funding, mentorship and training, technical, and accounting support that helps innovators and social entrepreneurs to develop their functional prototypes into registered social enterprises with solid business plans.
Investment example in Green and Circular Economy	CRINA: Crina has designed and manufactured a machine to produce the Crina material from palm tree waste, which is used in furniture upholstery for its durability. The machine has an automatic input system instead of the conventional manual system currently used. This enhances safety for workers and leads to higher productivity, reaching 4 tons a day from ¼ ton per day using the manual method. Bermoda: Bermoda converts agricultural waste, especially sugar cane, into high-quality, eco-friendly organic fertilizers. The startup applies aerobic composting of agri-waste using bacteria with the purpose of adding nitrates and phosphorus and providing ideal conditions for the process of decomposition. Hence, Bermoda composts are natural, high nutrient alternatives for farmers instead of the chemical fertilizers that, in the long run, affect the crops negatively.Some other conpanies: Sun-City, Green light,
Contact details	
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Web site	https://gesr.net

SWOT ANALYSIS		
	HELPFUL	**HARMFUL**
INTERNAL	*STRENGHTS:* - Affiliated with distinguished civil organization, Misr ElKheir - Its focus on green economy and other related matters such as education and health; - Their policies in tracking the impact of their intervention - The diverse of their products and services.	*WEAKNESSES:* - They focus only on early stage businesses; - They provide relatively small grants for start-ups. - They are based only in Cairo.
EXTERNAL	*OPPORTUNITIES:* - The novelty in matching circular economy with technology and education.	*THREATS:* - Lack of demand (due to the small grant they provide)

BRICK 5: FAQs FOR INVESTORS

1. WHAT ARE THE BENEFITS OF INCLUDING GREEN AND CIRCULAR ECONOMY INVESTMENT IN THE PORTFOLIO?

Investors should incorporate the transition to a circular economy into their investment and ownership decisions because:

- the principles of a circular economy affect nearly all industries and their global value chains. Addressing sectors that have a high environmental impact and high potential for circularity can provide opportunities for investment and economic growth;
- shifts in regulation, technology and consumer demand are rapidly evolving and fuelling the transition to a circular economy;
- there is growing expectation from society, governments and beneficiaries that investors embed sustainability outcomes associated with the Paris Agreement and the Sustainable Development Goals (SDGs) into their investment approaches.
- The circular economy could reduce companies' need for primary raw materials and their associated costs, leading to greater cost efficiency and profitability for investors and investees.
- A Circular Economy could help contribute $4.5 trillion in additional economic output by 2030, and $25 trillion by 2050 - driving new revenue sources and reduced costs

2. IS GREEN INVESTING PROFITABLE?

The German Central Bank has issued a report on the sustainable finance market, where it also analyses the Performance of sustainable equity investments.

Sustainable investment strategies restrict investment opportunities. This typically worsens the risk/return profile of an investment, because the a priori selection of permissible investments results in portfolios that bear concentration risk and are more exposed to unsystematic risk. However, corporate profits can also depend on risks that were previously disregarded in financial analysis, such as climate risks. By helping to make previously neglected risks more visible, sustainability analyses and criteria can thus enable investors to make financially successful decisions. The fact that investing in sustainable enterprises can be financially attractive to investors, or at least does not have to put them at a disadvantage, is exemplified by a comparison between the very broad stock index MSCI World and its sustainable sub-index MSCI World ESG Leaders over the past ten years as well as by a comparison of their European counterparts over the same period.

Relative performance of sustainable and conventional stock indices

31 July 2009 = 100, daily data, log scale

Source: Bloomberg. **1** Environmental, social and governance.
Deutsche Bundesbank

MSCI & MSCI ESG Leaders

While the MSCI World (Europe) includes over 1,600 (400) medium-sized and large companies from 23 (15) countries throughout the world (Europe), the MSCI World (Europe) ESG Leaders comprises the approximately 800 (200) best-performing companies according to MSCI's internal ESG requirements. Alongside this best-in-class approach, negative screening is also used in the construction of the ESG Leaders indices.

3. HOW TO MEASURE THE IMPACT OF GREEN INVESTMENTS?

To mobilise and align finance to the SDGs and, most importantly, to achieve impact, both public and private actors need to implement effective impact measurement and managing practices. Impact management enables investors, enterprises and other stakeholders to include positive and negative

impact considerations into investment and business decisions. Impact measurement allows organisations to set impact objectives, monitor impact performance and evaluate impact.

The increasing focus of investors on “impact” has led to the development of a large number of principles, frameworks, standards and certifications, tools and indicators for impact management and measurement. The crowded nature of this space and the multiplicity and different understanding of terms and concepts makes it hard to navigate.

As stated in the EVPA report “Navigating impact measurement and management. How to integrate impact throughout the investment strategy”, since the impact ecosystem grows and other actors join the space, it is important to recognise the central role that impact should play in investors’ approaches and strategies. This awareness is fundamental to also address the issues related to impact integrity and impact washing, which risk to become huge given the increasing multitude of players self-identifying as impact investors. Investors for impact are instrumental in this process as they lead to the development of Impact Measuring and Managing (IMM) practices.

In 2013, EVPA launched a five-step process for measuring and managing impact. This framework has informed the European Standard for impact measurement and management developed by the European Commission group of experts on social entrepreneurship (GECES).

The five- step framework is a circular process that practitioners should reiterate to constantly improve and refine their IMM system.

- Step 1 consists in setting objectives. When defining the investment strategy, investors for impact should define their own impact objectives. Then, during the deal screening and, more in-depth during the due diligence and deal structuring phases, investors should set long-term impact objectives together with the SPOs under scrutiny.
- Step 2 entails the stakeholder segmentation and analysis, which start during the due diligence and deal structuring phases. The continuous engagement with stakeholders takes place during the investment management phase.
- Step 3 is about defining outputs, outcomes, impact, and selecting indicators during the due diligence and deal structuring phases, and monitoring whether the progresses are in line with the objectives during the investment management phase.

- Step 4 consists in verifying and valuing the impact that has been generated. This is analysed in-depth during the investment management phase and, in some cases, repeated after the investment has exited, i.e. during the exit follow-up phase.
- Step 5 consists in reporting back to the relevant stakeholders and the broader community. During the investment management phase, the reporting takes time at a pre-agreed frequency.

BRICK 6: ONLINE RESOURCES AND TOOLS FOR SUSTAINABLE FINANCE

1. EXTERNAL RESOURCES FOR SUSTAINABLE FINANCE

The following table suggests a non-exhaustive list of services and tools currently available that investors engaged in sustainable finance could screen. Most of them are focused on climate-related aspects.

Climate data portals and platforms		
Data portals and datasets for information on climate variables (e.g. atmosphere, ocean, climate indices, reanalyses and satellite data, etc.)	Aqueduct Tools	Aqueduct's tools map water risks such as floods, droughts, and stress, using open-source, peer reviewed data.
	Climate Central	Climate Central's Program on Sea Level Rise strives to provide accurate, clear and granular information about sea level rise and coastal flood hazards both locally and globally, today and tomorrow. The program dedicates its efforts to helping citizens, communities, businesses, organizations, and governments at every level to understand the consequences of different carbon pathways and to navigate the shifting waters of our warming world.
	Climate Explorer	Web application to analyse climate data. It includes range of climate model outputs, observational data and climate indices.
	Oasis Hub	Aggregates catastrophe, extreme weather and environmental risk data, tools and services, as well the provision of data set enhancement, development and data aggregation services.
	ThinkHazard!	Provides a general view of hazards, for a given location, that should be considered in project design and implementation to promote disaster and climate resilience.
	Climate Change Knowledge Portal (CCKP)	The Portal, created by the World Bank, provides an online platform for access to comprehensive global, regional, and country data related to climate change and development. The CCKP contains environmental, disaster risk, and socio-economic datasets, as well as synthesis products, such as the Climate Adaptation Country Profiles and Climate Smart Agriculture Profiles, which are built and packaged for specific user-focused functions in a particular country or sector. The portal also provides intelligent links to other resources and tools.

	Cities, states and regions data	Carbon Disclosure Project (CDP) provides hundreds of data sets on local action towards a global sustainable economy.
	Europe	The PESETA IV study aims to better understand the effects of climate change on Europe, for a number of climate change impact sectors.
Sectoral/geographical impacts data		
Databases/studies focused on climate impacts to specific economic sectors or geographical area.	ENCORE (Exploring Natural Capital Opportunities, Risks and Exposure)	A tool to help users better understand and visualise the impact of environmental change on the economy. By focusing on the goods and services that nature provides to enable economic production, it guides users in understanding how businesses across all sectors of the economy depend on nature, and how these dependencies might represent a business risk if environmental degradation disrupts them.
	Transport – rail	UIC (International Union of railways) is a sectoral association that provides data on known climate impacts to rail infrastructure and case studies.
	Transport – ports and waterways	PIANC (Permanent International Association of Navigation Congresses - The World Association for Waterborne Transport Infrastructure) is a sectoral association that provides data on known climate impacts to port infrastructure and case studies.
	Real Estate and Infrastructure	The Global Real Estate Sustainability Benchmark (GRESB) report provides information on how leading real estate and infrastructure companies and funds are taking action to address climate resilience.
	Mining	The International Council on Mining and Metals is a sectoral association that provides data on known climate impacts to mining and metals firms and case studies.
	The Global Opportunity Explorer	Rooted in over five years of research involving over 17,000 business leaders and 17 expert panels, the Explorer guides you through hundreds of sustainable solutions and market opportunities which address the Sustainable Development Goals (SDGs).
Analytical tools, platforms, and methods		
	TCFD guidance on physical climate	Presents a set of recommendations for corporates to follow to inform and support early efforts to adopt the TCFD recommendations. Areas covered

Tools, methods, and services for the finance sector, including: - portfolio screening for exposure to physical climate risks; - investment appraisal; - financial modelling. Most of such services are provided by consultancy firms.	risks and opportunities	include metrics for physical climate risk management and disclosures, metrics for climate resilience opportunities, and metrics for climate intelligence for business strategy and financial planning.
	2° Investing Initiative	Platform designed to help financial institutions integrate climate objectives and long-term climate-related risks into their portfolio management. It is possible to find a number of different tools and analysis, all open-source and IP-rights free.
	Acclimatise Aware	Provides an easy three-step process to screen a company or project for exposure to physical climate risks using climate model projections and observed climate data.
	Four Twenty Seven	Four Twenty Seven's on-demand climate risk scoring application provides instant insights into the forward-looking physical climate risk exposure of real asset portfolios via an intuitive, browser-based interface.
	JBA Risk Management	Provides flood maps, catastrophe models, analytics and consultancy services.
	XDI dashboard	The XDI Platform brings together asset level data sets with extensive climate models to provide deep analysis of an organisation's exposure to climate change and extreme weather risk. Five key products provide powerful on-demand quantitative insights for decision makers, financial managers and investors. From high level assessment to granular detail.
	Climetrics rating	By publishing free-to-search ratings, the Climetrics rating enables all investors to make well informed decisions; finding funds that invest in companies better at managing material issues related to climate change, water security and deforestation.
	SAVi	SAVi is an assessment methodology that provides policy-makers and investors with a comprehensive analysis of how much their infrastructure projects and portfolios will cost throughout their life cycles, taking into account risks that are overlooked in a traditional valuation.
	FTSE Russell	FTSE Russell is a global provider of benchmarks, analytics, and data solutions with multi-asset capabilities. FTSE Russell maintains two core data models: the ESG Ratings and data model assesses

		operational ESG risks and performance, while the Green Revenues data model classifies and measures revenue exposure to products that deliver environmental solutions.
	NATHAN (Natural Hazards Assessment Network)	The basis for NATHAN is the global hazard data that has been systematically recorded at Munich Re over the last four decades. This extensive scientific knowledge, combined with risk modelling developed in-house, forms the basis of the tool, which comprises national and global risk evaluations, spatial analyses and claims overviews.
	CatNet	CatNet®, developed by Swiss Re, is used to assess the risk, from individual locations to entire portfolios, by combining hazard, loss, exposure and your insurance information with selected background maps and satellite imagery.
	CRIS	The CRIS method allows asset managers and investors to know the level of risk of their portfolios so that they can manage this risk, track it over time and engage in dialogue with the underlying companies about their vulnerability to climate change.
	Jupiter Intel	Jupiter offers services for predicting specific perils and combined impacts. Each service is built on top of the Jupiter ClimateScore™ Intelligence Platform. Services are currently available for predicting the probability and climate impact of flood, fire, heat, drought, cold, wind, and hail events, providing climate-driven analysis from 1 hour to 50 years in the future. Predictions are probabilistic and scenario based. Jupiter leverages billions of computed data fields per metro region and models for multiple hazards per region.
	Climate Value-at-Risk	Climate Value-at-Risk (Climate VaR) by MSCI is designed to provide a forward-looking and return-based valuation assessment to measure climate related risks and opportunities in an investment portfolio. The fully quantitative model offers deep insights into how climate change could affect company valuations.
Sharing climate data and case studies		
Databases of case studies of integration of climate	Climate Mainstreaming Resource Center	The Climate Mainstreaming Resource Center aims to facilitate the access to information on the integration of climate considerations in the

considerations by financial institutions		operations of financial institutions. It provides case studies written and submitted by supporting institutions, which share how they are integrating climate change in their operations.
	TCFD case studies	Shared case studies are designed to enable organizations to share their experience and provide peer-to-peer learning on how to integrate climate-related information within existing reporting practices. Organizations provide an overview of the challenges they have overcome and what they have learnt in their disclosure process that can help others.
Courses		
Training courses for finance professionals on climate change issue and sustainable finance.	UNEP-FI Climate Change: Risks and Opportunities for the Finance Sector Online Course.	The Training Programme run by the UNEP FI Climate Change Working Group and UNEP FI Training Department offers an online course and in-person worskhops on this important issue.
	Swiss Sustainable Finance (SSF) e-learning tool	Online education tool on sustainable investments tailored specifically to the needs of finance professionals. As of April 2020, the e-learning tool is available to the broad public. The e-learning consists of four online modules, which each take approximately two hours to complete. Integrated case studies as well as sustainability profiling of clients offer an interactive learning experience of practical value. The e-learning is available in English, German and French.
	TCFD online courses	The climate-related financial disclosure online courses are designed to help organisations fill the knowledge gap and enhance their disclosures of climate-related information. Theses courses are suitable for anyone interested in learning more about climate-related disclosure and the TCFD.
Specific tools for public actors		
Specific services to support public entities in implementing climate finance operations.	the Solutions Gateway	An online resource platform for Local Governments where they will be able to find possible Low Emissions Development (LED) Solutions for their cities. It contains sectoral and cross-sectoral packages of activities, structured along local government responsibilities and spheres of influence, to support cities in the development of low-emission strategies, plans, and projects. There is a Finance decision-making support tool to help

		Local Governments identify possible financing options to implement selected projects and realize their Low Emission Development Strategies.
	Climate Finance Readiness Training- CliFiT	dynamic, interactive approach to raising awareness and capacity-building among public bodies in developing countries and emerging economies. The overall objective of the training is to provide tailor-made support, strengthening the ability of countries to build a coherent national framework for climate finance, access international climate finance and spend funds in an effective and transparent manner.