



ACTION PLAN FOR LITHUANIA

Developed by

Annex 1 – Action plan

This Action Plan is a document providing details on how the lessons learnt from the Shrec project will be implemented in order to improve the Operational Programme for the European Union Funds' Investments in 2014-2020 Priority axis 4. Promoting energy efficiency and production and use of renewable energy tackled within Lithuania. It specifies the nature of the actions to be implemented, their timeframe, the players involved, the costs and funding sources.

Part I – General information

Project: SHifting towards Renewable Energy for Transition to Low Carbon Energy (SHREC)

Partner organization: Vilnius Tech (Vilnius Gediminas technical university)

Country: Lithuania

NUTS2 region: Lithuania

Contact person: Vilma Puriene | vilma.puriene@vilniustech.lt

Part II – Policy context

The Action Plan aims to impact: Investment for Growth and Jobs programme

Name of the policy instrument addressed: Operational Programme for the European Union Funds' Investments in 2014-2020 Priority axis 4. Promoting energy efficiency and production and use of renewable energy

Currently in Lithuania about 27 percent all energy consumed is produced using alternative energy. The European Union (EU) aims to it would have a climate-neutral economy with zero greenhouse gas emissions.

According to Daiva Garbaliuskaitė, Deputy Minister of the Ministry of Energy of the Republic of Lithuania, the production of green hydrogen, the development of the electric car fleet, the development of offshore wind energy and producing consumers will contribute to the transition to a climate-neutral economy in Lithuania. Thirty years from now, that number will have to reach 80%. Lithuania will have to produce such a part of the final energy consumption itself, and all this energy will have to be produced from non-fossil resources. Such an ambitious vision should be realized in real terms and some efforts is needed to be done in order to achieve it. This is the reason why the Operational Programme for the European Union Funds' Investments in 2014-2020 Priority axis 4. Promoting energy efficiency and production and use of renewable energy was chosen in SHREC project

Part III – Details of the actions envisaged

ACTION 1

THE BACKGROUND

Currently in Lithuania about 27 percent all energy consumed is produced using alternative energy. The European Union (EU) aims to have a climate-neutral economy with zero greenhouse gas emissions. The production of green hydrogen, the development of the electric car fleet, the development of offshore wind energy and producing consumers will contribute to the transition to a climate-neutral economy in Lithuania.

The EU's goal coincides with the goal of this year's United Nations Climate Change Conference (COP 26) to achieve zero net carbon dioxide (CO₂) emissions by the middle of the century. Lithuania's goals to achieve zero net CO₂ emissions by 2050. All electricity consumed in the country, energy used for heating and half of all energy consumed in the transport sector will have to be produced using alternative energy sources. The share of renewable resources in Lithuania's final energy consumption balance in 2020 was 27.36 per cent, which is more than the target set for Lithuania (23 per cent) and more than the EU's own target (20 per cent).

Thirty years from now, that number will have to reach 80%. Lithuania will have to produce such a part of the final energy consumption itself, and all this energy will have to be produced from non-fossil resources. An ambitious vision should be realized in real terms and a lot is needed to done achieve it.

At present, Lithuania imports about 70 percent electricity. Lithuania does not have a large amount of fossil fuels extracted locally. As a result, our market is open to new, locally produced energy sources. Until 2030 Lithuania intends to increase the level of decentralization and create conditions for consumers to generate their own electricity. Lithuania has developed a unique system that allows every electricity consumer to become a producer quickly and easily. Producing customers have the opportunity to generate and consume electricity on their premises or to use a virtual network metering facility. Due to subsidies, the number of producing consumers has increased dramatically in recent years their number has increased more than 200 times.

The main criteria for achieving climate-neutral energy in Lithuania are the development of wind energy, the growing number of producing consumers and the use of renewable energy sources in transport. Wind is the largest source of production, satisfying 13 percent of all Lithuanian energy demand. Currently, the capacity of onshore wind farms operating in Lithuania is 545 MW. The capacity of the onshore wind projects still under development will increase this capacity by another 900 MW. The development of the onshore wind farm in Lithuania is progressing rapidly - this autumn the new foundations of the 14 wind farms being developed by Ignitis renewables, a subsidiary of the state-owned Ignitis Group, were laid.

2019 Lithuania and Japan have signed a memorandum of cooperation aimed at strengthening bilateral opportunities for practical cooperation in energy projects. Within the framework of the

Memorandum of Cooperation, the Japanese energy transmission company TEPCO prepared a feasibility study this year, which provides recommendations to the Baltic States on the development of renewable resources. It has been established that the total offshore wind potential of Lithuania reaches 3.4 GW.

Lithuania has started preparations for the development of an offshore wind farm - the government has adopted a resolution until 2030. The development of a 700 MW wind farm in the Baltic Sea has started. The offshore wind project will generate about 2.5-3.0 TWh of electricity annually, which is about 25 percent electricity demand of the whole of Lithuania. The selected area for the development of the wind farm is quite well researched - it is 137 sq. M. area, 30-40 km from the shore, and the wind speed there is about 9-10 m / s. According to preliminary estimates, the project will attract over a billion euros of investment and create over 1,300 new jobs. Over 8 million will be collected annually euro in taxes. The project will have a positive impact on the transport and construction sectors and the development of Klaipeda Seaport. In addition, the project will help up to 30 percent. Reducing electricity imports is a benefit of an offshore wind project in the Baltic Sea.

Another important goal of Lithuania is that the surplus electricity generated by offshore wind will be used for electrolysis and the production of renewable “green” hydrogen. Renewable hydrogen will embrace unprecedented, innovative technology. The use of this technology will be crucial to balance the growth of renewables and help those sectors that are more difficult to decarbonise. 2020 Under the leadership of the Ministry of Energy of the Republic of Lithuania, 19 business, scientific and public institutions have established the Lithuanian Hydrogen Platform, the aim of which is to develop hydrogen technologies in the energy, industry and transport sectors. More than 30 members currently belong to this platform. At present, about 300 thousand tons are produced in Lithuania per year tons of gray hydrogen. Switching to green hydrogen would have a major impact on reducing carbon emissions in industry.

Therefore, electric mobility is considered a turning point for the use of renewable electricity in the transport sector. Therefore, Lithuania has a goal - by 2030 create 6 thousand public and 54 thousand private electric vehicle charging points. Lithuania aims to exploit the potential of biomethane and hydrogen gas by 2030. 5.2 percent biomethane and green hydrogen are used in the transport sector.

Taking into account the above mentioned, it is still a lot need to be done, especially what it relates with the industry application of renewable technologies or replacing regular energy by renewable once. We also should think about the renovation process in Lithuania, which is not promoting or integrating renewable energy sources and technologies, like public building as well.

The Interreg Europe SHREC project, which aims to move towards a low-carbon economy, aims to encourage businesses and households to use renewable energy and invest in CO₂ reduction measures. The implementation of the SHREC project is very timely, as together with partners the aim is to improve regional and national policies by increasing the share of energy from renewable sources in the whole energy group, promoting and facilitating the production and use of renewable energy in enterprises, communities and households. Therefore, SHREC project which addresses

challenges on national policies to increasing the share of energy from renewable sources in the whole energy group is very much in time. Promotion of renewable sources, application of it and integration in public, industry and society is the way to contribute to the climate change initiative and to have a climate-neutral economy with zero greenhouse gas emissions.

This is the reason why SHREC project partners during the interregional seminars and workshops, or good practice study visits were looking for the ways to stimulate the development and utilization RES, technologies, infrastructures, were discussing among partners and with the stakeholders about the challenges and opportunities to support further collaboration between existing infrastructures to increase developments of new once.

During the SHREC project meeting in Groningen (NL) which took place in October, 2019 all partners had a possibility to visit several good practice cases. One of them was Energie VanOns is a licensed energy supply company that buys and sells the locally produced energy cooperatives. A share of the income will return directly to the energy cooperative; therefore, creating more capital to invest in new projects. Over 100 energy cooperatives in the northern region of the Netherlands are a member via three overarching institutions, whereby Energie VanOns supports these local cooperatives on matters such as marketing and communication. The number of customers is growing twice as hard as estimated, since Energie VanOns is ranked as the greenest energy supplier of the Netherlands.

Another good case was Grunneger Power – a local energy cooperative that has over 1000 members in the city of Groningen and neighbouring villages, where it develops i.e. solar parks. Grunneger Power develops energy projects in cooperation with the municipality of Groningen, whereby the municipality contributes financially (loan) or providing real estate (ground for rent). Furthermore, by making use of crowdfunding, financial loans of the bank and strategic marketing techniques Grunneger Power established several energy projects with regard to solar energy production or heat production. The members of Grunneger Power are participating in the cooperative. Grunneger Power has established many projects in different sizes, all with the active involvement of citizens of the local area. Furthermore, they inform (non) members actively on isolation, renewable energy production and energy efficiency. The involvement of these citizens lead to a high rate of social acceptance of the renewable energy projects they are developing. Grunneger Power established a solar park of 7.777 solar panels producing 2.300 MW energy. The number of members increased to over a thousand and is increasing.

During the online project meeting with Italian partners (Piemonte region) we were introduced with a case of Support transition towards a low-carbon economy in all sectors. Piedmont Region promotes the shift towards a low-carbon economy in all sectors through ERDF funds to reduce primary energy consumption of public buildings and to spread innovation in the production systems, by using energy efficiency solutions and renewable energies. The budget allocation was about 200 million Euros, almost equally divided between public entities and companies. The promotion of eco-efficiency in public buildings was implemented through five calls, which financed the 80% of the value proposed (adding a further 10% in the case the Nzeb requirements were met), in support of:

- interventions in the health-hospital area;
- interventions on the real estate assets of the Piedmont Region;
- interventions of local authorities (municipalities, metropolitan cities, provinces and unions of municipalities);
- interventions in the field of social housing;
- interventions to improve the efficiency of the municipal public lighting network.

Regarding the measure activated for companies, with allocated budget of 97 M€. The incentives, partly with non-refundable funds (20%) and partly as subsidized credit (80%), supported:

- high-efficiency cogeneration plants,
- measures to increase the energy efficiency of production processes and buildings,
- the replacement of low efficiency systems and components with more efficient ones,
- installation of new high efficiency production lines;
- installation of plants for the renewable energy production.

Considering the above mentioned and in order to contribute to the implementation of EU RES promotion policy, the following recommendations for SHREC action plan are developed.

ACTION

The process of developing Action Plan starts with identifying key stakeholders required to engage in the development of Action Plan. Through the whole duration of SHREC project, the relative stakeholders were actively involved in the discussions on development, application and utilization of RES possibilities, technologies and infrastructure, on increasing the share of energy from renewable sources in the whole energy group is very much in time. Promotion of renewable sources, application of it and integration in public, industry and society is the way to contribute to the climate change initiative and to have a climate-neutral economy with zero greenhouse gas emissions, on support schemes, etc. at national stakeholder meetings. Stakeholders were also continuously participating, working and contributing to the SHREC activities and good practice examples followed by the World café discussions on how to improve the national RDI policy and its' support instruments.

In the SHREC project we address the policy instrument called Operational Programme for the European Union Funds' Investments in 2014-2020 Priority axis 4. Promoting energy efficiency and production and use of renewable energy. In implementing of this priority, investments were made in activities that include the development of a coherent renewable energy sources (RES) and the promotion of energy efficiency in various sectors: RES in the field of heat and power, as well as in industrial enterprises, the modernization of heat and electricity networks in order to integrate into the market energy from RES; Energy efficiency will be promoted throughout the energy chain (production, supply and consumption). Therefore, in order to effectively address the challenges of energy efficiency and renewable energy production and use, it is necessary to support such activities using the ERDF and the SAF, which will allow the implementation of integrated

approach projects, monitoring the implementation of the Priority Action Program and high-quality reporting.

We are referring to one of these measures called “RES FOR INDUSTRY+”. This measure was dedicated to reduce the intensity of energy consumption in industrial enterprises by increasing the production and consumption of renewable energy sources. The activities funded under this measure were:

installation of RES-using energy production capacity, development and implementation of new technologies for more efficient use of RES in SMEs and big companies in order to use energy to meet the internal needs of enterprises and, if possible, to supply surplus energy to other industrial enterprises or transfer to centralized energy networks.

What is worth to say, that this measure did not enough motivated SMEs and big companies to use such a support and to partly or fully replace regular energy by RES as much as it was thought.

Taking the above mentioned into account it really matches our goals in SHREC – to increase and stimulate the development and utilization RES, technologies, infrastructures. The proposed action will be integrated, i.e. via all the supporting activities in all sectors and especially taking into account the local municipalities.

We suggest Action plan for improvement of policy support measure RES FOR INDUSTRY+ which will be implemented with the following steps. The improvement of policy support measure RES for industry+ adjusting a Piemonte region’s partner experience of ‘*Support transition towards a low-carbon economy in all sectors*’ approach in order to boost the shift towards a low-carbon economy in all sectors through ERDF funds to reduce primary energy consumption of public buildings and to spread innovation in the production systems.

Action: TO IMPROVE SUPPORT MEASURE CALLED RES FOR INDUSTRY+ UNDER THE OPERATIONAL PROGRAMME FOR THE EUROPEAN UNION FUNDS’ INVESTMENTS IN 2014-2020 PRIORITY AXIS 4. PROMOTING ENERGY EFFICIENCY AND PRODUCTION AND USE OF RENEWABLE ENERGY BY BROADENING THE DEFINITION OF APPLICANTS, BESIDE THE SMES AND BIG COMPANIES TO INCLUDING THE PUBLIC ENTITIES (LOCAL MUNICIPALITIES, CITIES) AND ORGANIZATIONS.

This action is the core of the proposed action plan for improvement of the Operational Programme for the European Union Funds’ Investments in 2014-2020 Priority axis 4. Promoting energy efficiency and production and use of renewable energy and will be implemented with the following steps.

1. Upgrade the existing policy support measure RES FOR INDUSTRY+, in particular the by broadening the definition of possible applicants. This action was funding only the reduction of the intensity of energy consumption in industrial enterprises (SMEs and big companies) by increasing the production and consumption of renewable energy sources. But it was not including the rest

part of the energy consumption sources like public organizations, entities, local municipalities, cities with its lighting systems and etc. therefore, the new and upgraded funding area would look like this:

1UPG. To reduce the intensity of energy consumption in industrial companies, public entities, organizations, local municipalities and cities by increasing the production and consumption of RES.

The support scheme and financial rate should be different depending on the applicant:

1.1.the promotion of reduction of intensity of energy consumption in public entities, organizations, local municipalities and cities could be financed the 80% of the value proposed (adding a further 10% in the case the Nzeb requirements were met), in support of:

- interventions in the health-hospital area;
- interventions on the real estate assets of the municipalities, cities;
- interventions of local authorities (municipalities, metropolitan cities, provinces and unions of municipalities);
- interventions in the field of social housing;
- interventions to improve the efficiency of the municipal, city public lighting network.

1.2.the promotion of reduction of intensity of energy consumption in industrial companies, partly with non-refundable funds (20%) and partly as subsidized credit (80%), supported:

- high-efficiency cogeneration plants,
- measures to increase the energy efficiency of production processes and buildings,
- the replacement of low efficiency systems and components with more efficient ones,
- installation of new high efficiency production lines;
- installation of plants for the renewable energy production.

The upgraded measure will contribute to the implementation of smart specialization strategy. Recently, the government has upgraded the Smart specialization areas. Energy efficiency and RES are taking one of the priority areas.

The Role of the University in the implementation of the action

University is proactively involved in the assistance of the representatives of the Ministry of Energy in providing the expertise and knowledge for drafting the updated support scheme based on the learnings gained in SHREC. University also will be one of the beneficiaries as the cities, industry and businesses will collaborate with the researchers in order to develop and employ energy efficiency solutions. Moreover, the university is proactively initiating awareness-raising campaigns for society, students, public authorities, and others in order to increase the knowledge of the benefits of RES application. Therefore, the university plays an important intermediate role in the ministry and society by networking and cooperating with all quadruple helix parties with the goal of practically employing the proposed action plan measures.

PLAYERS INVOLVED

Key players involved:

2. Ministry of Economy and Innovation of the Republic of Lithuania (owner of the Priority axis 4 and RES FOR INDUSTRY+ measure);
3. Ministry of Energy of the Republic of Lithuania (owner of the policy development)
4. Innovation Agency (implementing agency);
5. Public Investment Development Agency (responsible for the renovation processes and implementing).

The key player in this action plan is the Ministry of Economy and Innovation of the Republic of Lithuania as she is the owner of the Priority axis 4 and RES FOR INDUSTRY+ measure and the whole ERDF funding of 2014-2021 period and the new one for 2021-2027. But, the Ministry of Energy also is very important as the ministry is the first which develops the National energy policy, RES as well. That's is why, we were engaging the representatives from both ministries into our project activities via the good practice study visits, or to participate in the project interregional seminars and world café discussions, as well as the proactive participation in the stakeholder group meetings.

Innovation agency is also important player, as it will be the implementing body for the RES in companies and industry. On the other hand, Public Investment Development Agency as well as she is responsible for the renovation processes and implementing in public houses, areas, cities and municipalities.

It is important to mention that the Managing Authority – the Ministry of Economy of the Republic of Lithuania took part in the development of Action plan and endorses the current document. Ministry of Energy also took a strong role in the development of the Action plan.

Other important stakeholders that are participating in the consultations while launching and presenting new support schemes:

1. Education and research organizations;
2. NGOs, social partners;
3. Lithuanian innovation centre.

The above-mentioned stakeholders are very important in order to have a successful implementation of our action plan. Some of them were contributing from the beginning as stakeholders in our project, giving the ideas, discussing, taking part in SHREC project meetings – seminars, world café discussions. They also contributed with the ideas to the development of this action plan. These organizations have representatives in the decision-making groups, bodies, therefore their support during the decision-making process will be also very valuable.

The decision-making process also includes these steps: the Ministry of Economy and Innovation should prepare the draft of the upgraded measure and provide it for final approval for national Monitoring committee (see webpage: <http://www.esparama.lt/administravimas/stebesenos->

komitetas), coordinated by the Ministry of Finance. This committee is the most important and the final the decision-making process. What is worth to mention, the national Monitoring committee meets only several times per year, therefore it is very important to keep up with the committee work time schedule.

Still, it is critical that relevant stakeholders would be engage in the process. Relevant stakeholders are likely to be individuals and/or organizations or group of organizations that have:

- An expressed mandate to improve the economic wellbeing of the region and its citizens.
- A desire to create a regional innovation ecosystem linked to the RIS3.
- The capacity and capability to identify and develop the region-specific smart specialization.
- A commitment to support development and implementation of Action Plan.
- The capacity, capability and authority to play an integral role in the region's RES application process.

After the measure RES FOR INDUSTRY+ will be upgraded, we propose to change the name of the measure as it defines broader applicants and the meaning of support is broader than the industry.

4. TIMEFRAME

The suggested timeframe depends on several issues and risks which we should take into account.

1. First – the development of all the related and additional documentation of the upgraded RES FOR INDUSTRY+ measure in order to start piloting.
2. Second – to prepare it in line with the worktime schedule of national Monitoring committee and to get the final approval from the national Monitoring committee.
3. And the third – to have savings from other OP for the European Union Funds' Investments in 2014-2020 Priority axis 4. Measures.

The suggested and planned timeframe for implementation of the action plan:

1. Upgrade the existing policy support measure RES FOR INDUSTRY+ measure: June, 2022–September, 2022. To develop all the related and additional documentation of the upgraded RES FOR INDUSTRY+ measure in order to start piloting.
2. To approve the designed measure: October–December, 2022. To get the final approval from the national Monitoring committee.
3. To pilot the upgraded measure RES FOR INDUSTRY+ January–June, 2023. Just to mention, that for this action to be implemented we will need to have savings from other OP for the European Union Funds' Investments in 2014-2020 Priority axis 4. Measures or the funds from new period of 2021-2027 could be used as well.

5. COSTS

Preliminary costs that might occur could be the additional staff costs for implementing the proposed action plan. According to the preliminary data, they could reach max. around 15 000€ (4 persons from two institutions: The Ministry of Economy and Innovation and Innovation agency will work on measure improvement for about three months). The staff costs will be covered from the Ministry of Economy and Innovation and Innovation agency budgets.


6. FUNDING SOURCES

Resources needed: The upgraded RES FOR INDUSTRY+ pilot Call budget could be up to 1.5 M €. Support for the public entities, organizations, cities and municipalities to promotion of reduction of intensity of energy consumption could be financed up to the 80% of the value proposed (adding a further 10% in the case the Nzeb requirements were met), the rest could be financed by the applicant.

Support for the industrial companies to promotion of reduction of intensity of energy consumption, could be financed partly with non-refundable funds (20%) and partly as subsidized credit (80%). The funding sources will be EU Structural funds for period of 2014-2020. Of course, as it was already written above – the piloting will be implemented in case we will have savings from other OP for the European Union Funds' Investments in 2014-2020 Priority axis 4. Measures or could be funded from the new 2021-2027 period support.

We support to develop this action plan.

Žilvinas Danys



Ministry Of Energy Of The Republic Of Lithuania
Head Of Innovation Group

Vilnius, Lithuania
2022-06-28