TRIS
Interreg Europe

European Union
European Regional
Development Fund

ACTION PLAN

Introductions

During semester 3 we reported that in Birmingham and Solihull region we were changing the ERDF priority for the TRIS project and now we were targeting Priority 6 (Resource Sufficiency) and Priority 4 (Low Carbon) ERDF to effect policy changes, this is a change from our Application where it was stated we would target Priority 3 (SME Competitiveness). These changes occurred as most of the ERDF funding under Priority 3 was allocated. Originally in the bid document, section B 2.3 Policy Instrument 3, stated that the regions would target policy instruments relating to Priority Axis 3: Enhancing the Competitiveness of Small and Medium Sized Enterprises. Investment Priority 3d - Supporting the capacity of small and medium sized enterprises to grow in regional, national and international markets and to engage in innovation processes Specific objective: Increase growth capability of Small and Medium sized Enterprises.

The primary aim of Priority Axis 3 SME Competitiveness is to improve the competitiveness of SMEs by increasing the capacity and capability of SMEs and promoting entrepreneurship. A range of Investment Priorities will focus ERDF intervention to support entrepreneurship and increase the growth capacity of SMEs. Investment Priority 3d - Supporting the capacity of small and medium sized enterprises to grow in regional, national and international markets and to engage in innovation processes Existing Small and Medium sized Enterprises face several barriers which restrict their ability to achieve their growth ambitions.

The primary aim of Priority Axis 4 Low Carbon, is looking to support the shift towards a low carbon economy in all sectors, specifically, promoting the production and distribution of energy derived from renewable resources, promoting energy efficiency and renewable energy use in enterprises, supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including in public buildings, and in the housing sector, promoting low-carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multimodal urban mobility and mitigation-relevant adaptation measures and promoting research and innovation in, and adoption of, low-carbon technologies.

The primary aim of Priority Axis 6 Resource efficiency is looking is looking to preserve and protect the environment and promote resource efficiency, by specifically, protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000, and green infrastructure, promoting innovative technologies to improve environmental protection and resource efficiency in the waste sector, water sector and with regard to soil, or to reduce air pollution

The Industrial Symbiosis approach will develop capacity of Small and Medium sized Enterprises work alongside actions to develop capability of Small and Medium sized Enterprises. Both will lead to an increase in jobs created in Small and Medium sized Enterprises and in Small and Medium sized Enterprise productivity. There is overlap with Priority 3 with Priority 4 and Priority 6 as all three has resource efficiency element associated with them and they all help improve the business competitiveness of the SME community. The policy instrument will be enhanced by improving SME competitiveness by allowing business to thrive by using the Industrial Symbiosis approach, as well as enhancing the dialogue between the numerous stakeholders in the region.

In the UK, the ESIF funds are managed at the level of the Local Enterprise Partnership. In Birmingham, the associated partnership is the Greater Birmingham and Solihull Local Enterprise Partnership (GBS LEP). The sustainability/ low carbon work for the GBS LEP is coordinated through Birmingham's 'Green Commission' (a cross-sector partnership that develops projects and programmes to reduce carbon emissions in Birmingham and surrounding areas). As part of its activity, there is a group of people drawn from the Green Commission membership that collaborated on developing and, more recently, assigning funding to the ESIF low carbon priorities; this is an ongoing area of work.

The areas targeted in this action plan relate to ERDF Priority 6 (Resource efficiency) and Priority 4 (Low Carbon), and well as sharing the lessons learnt from the TRIS project .

The actions can be grouped in the following areas

1) Sustainable Urban Development Strategies (SUDS) (ERDF Priority 4, Low Carbon and ERDF Priority 6 Resource Efficiency)

2) Alternative Raw Material of Low Impact (ARLI), (ERDF Priority 1 innovation and Priority 6 Resource Efficiency)
3) Birmingham and Solihull Industrial Symbiosis (BASIS) (ERDF Priority 6, Resource Efficiency)
4) BCC Clean Air (ERDF Priority 4, Low Carbon)

Part I General Information

Project	**Transition Regions Towards Industrial Symbiosis (TRIS)**
Partner Organisation	**Birmingham City Council** **Industrial Symbiosis Ltd**
Other Partner Involved (if relevant)	
Country	**UK**
NUTS2 region	**West Midlands England**
Contact Person	**Dr Adrian Murphy**
Email Address	**Adrian.Murphy@industrialsymbiosis.co.uk**
Phone number	**00 44 121 433 2681**

Part II Policy Context

The Action plan aims to impact	**Please tick fields that are relevant**
Investment for growth and jobs programme	☒
European Territorial Cooperation programme	☐
Other Regional development policy instruments	☐
Name of the policy instrument addressed	**Greater Birmingham and Solihull Local Enterprise Partnership ESIF Priority 4 Local Carbon and Priority 6 Resource Efficiency**

Part III Details of the action envisaged

Action 1: Sustainable Urban Development Strategies **(SUDS)**

The background (please describe the lessons learnt from the project that constitutes the basis for the development of the present action)	Within the Greater Birmingham and Solihull Local Enterprise Partnership (GBSLEP) region of the UK, Industrial Symbiosis Ltd and Birmingham City Council (partners in the TRIS consortium) were influential in changing the regional policy and ultimately the national policy determining how ESIF funds are allocated in England. Knowledge was gained during several interregional meetings; • PP4 had ring-fenced some of their funding to finance IS projects in the region. This was replicated in the call. • A staff exchange visit where PP8/LP visited PP2/3 many ERDF projects were presented. PP2/3 approach to SME engagement influenced the structure of this call. This call covers two priority areas; Priority 4 – Low Carbon; Priority 6 – Resource Efficiency. The call was influenced

	as one of the LP employees was instrumental in developing the draft call and he included lessons learnt for the staff exchange visits to PP2/3 • The call was also influenced following knowledge exchanged from the Hungarian Peer to Peer Visit to Budapest where project Mi6 was presented. Mi6 persuaded the national authority to increase the terms of reference to go beyond purely low carbon but to include resource efficiency. This knowledge is also included in the call. The GBS LEP area Sustainable Urban Development (SUD) strategy is aligned to maximise the economic impact of the High-Speed Rail line (HS2) arrival in the area. This means making the very best use of the land and economies of scale that can be achieved through aligning the planning, design and investment in infrastructure and development to ensure optimal levels of sustainable developments that make the most of the investment going into HS2 as a new high capacity public transport network. Innovative site engineering including sustainable urban drainage systems, energy and environmental grids will ensure the optimal development, environmental and sustainability outcomes in the growth of new business, service centres and residential communities around the key investment nodes along the route in the Core City area i.e. Curzon terminus station (supported through the Eastside Masterplan); Washwood Heath Rolling Stock Maintenance Depot; and HS2 Interchange Station. While the SUD Strategy is strongly aligned to the delivery of projects with a focus on the areas named in the strategies above and the HS2 rail corridor linked to them, in practice we will consider projects from the whole of the Birmingham and Solihull geography that contribute to these. The SUD Strategy allocation is provided from Priority Axis 4 and 6 of the European Structural and Investment Fund. This is a natural fit with HS2 as the delivery of this has limited funds for such measures and recognises European Regional Development Fund SUD investment as a key fund to achieve some of its aims stated in the local HS2 Environmental and Landscape Prospectus (ELP). The SUD funds will focus on the added value it can bring to the mainstream HS2 work through

	innovative actions under PA4 and PA6. This strategy will in particular seek to align European Regional Development Funds to support the innovative development of emerging technologies to conserve biodiversity and the natural environment The Sustainability Appraisal of the Birmingham Development Plan Revised Sustainability Report (the 'Sustainability Appraisal') (2015) as direct evidence of the opportunity to add value to the environmental and climate change aspects of the HS2 Growth Strategy through application of a list of 13 potential sustainability characteristics of the area. The HS2 stations will become major gateways into the region and the city centre. Harnessing local assets will be critical, particularly through the development of innovative approaches. The second key theme running through the HS2 ELP is the focus on sustainability and pollution. This covers both the natural and the built environment. Under the built environment the ambition is to promote the innovative actions from European Regional Development Fund Priority Axis 4 to impact on the production and distribution of energy, on its energy efficiency including renewables and promoting low carbon strategies including sustainable urban mobility. The call from the Managing Authority was to assist the many SME businesses involved in the construction sector to enhance their resource efficiency and low carbon during the construction of a major Rail Infrastructure project linking London to Birmingham. The call is looking to fund a project to support the shift towards a low carbon economy and preserving and protecting the environment and promoting resource efficiency in Greater Birmingham and Solihull. The value of the call is 9,110,768 euros, with the match this equates to 18,221,536 euros, the IS element of this call influenced by TRIS is 3,323,252 euros, the call is currently open and closes 30th April 2019.
Action (please list and describe the actions to be implemented)	Under Article 7 of the European Regional Development Fund (ERDF) EU Regulations, certain responsibilities are delegated to Urban Authorities. As a consequence, the UK Government asked several Core City Urban Authorities in England to submit Sustainable Urban Development Strategies (SUDS). This requirement results in the Urban Authorities receiving Intermediate Body (IB) status and being responsible for a

	ring fenced 10% of their ERDF allocation (the remaining 90% is overseen by the national body responsible for ERDF, Department for Communities and Local Government (DCLG). At the Greater Birmingham and Solihull (GBS) regional level, the TRIS partners held numerous meetings with the GBS regional SUDS representatives to inform and influence the UK regional/national SUDS policy, and ensure that resource efficiency and greenhouse gas emissions were included in the regional strategy for SUDS implementation
Players involved (please indicate the organisations in the region who are involved in the development and implementation of the action plan and their roles)	Industrial Symbiosis Ltd, International Synergies Ltd, Birmingham City Council, and many of the Local Enterprise Partnerships were the stakeholder engaged with Department Communities and Local Government to change UK Policy.
Timeframes	First Call for project already published by Department Communities and Local Government.
Cost (if relevant)	The total call value is PRIORITY AXIS 4 £5,375,709 (circa 6 million euros) plus PRIOIRITY AXIS 6 £2,848,855 (circa 3 million euros). The ESIF Funding influenced by TRIS is circa 3 million euros, in the resource efficiency arena.
Funding source (if relevant)	ERDF

Action 2: Alternative Raw Material of Low Impact (ARLI)

The background (please describe the lessons learnt from the project that constitutes the basis for the development of the present action)	The initial concept of the ARLI project came from discussions with the Hungarian partner IKFA, as they had worked in the construction arena for many years and highlighted the issues relating to construction waste in their region. The TRIS UK partners helped devise and write the bid documentation for ESIF funding for the ARLI project delivered by the University of Birmingham. The ARLI project is delivered in the region by the University of Birmingham, and this is the first project they have delivered in the Industrial Symbiosis/innovation arena. During the Peer to Peer visits Prof Chris Rogers saw Industrial Symbiosis in action and this inspired his team to develop and seek funding from the managing authority for the ARLI project. Prof Chris Rogers heard an inspirational speech on circular economy presented by Magnus Hedenmark as well as hearing a presentation from Murat Mirata. Murat presented a number of case studies

	form Sweden alongside many good practices from across the world involving material substitution and reuse. For the avoidance of doubt this project would not of happened if the TRIS project didn't invite Prof Chris Rogers to the Peer to Peer visits as the inspiration to submit the ARLI project would not of happened. The University of Birmingham is offering its expertise and knowledge to assist businesses in the region. The university is delivering a collaborative R&D approach with these businesses. The ARLI team of experienced academics and engineers will support businesses to develop products and processes that provide efficiency gains in the use of raw or waste materials and deliver improved environmental impact with cost effective solutions. One of the main aims of the project is to identify waste streams or other materials that could be transformed into higher value materials for construction and other manufacturing industry applications. The team can also look at process improvements to aid efficiency and environmental impacts.
Action (please list and describe the actions to be implemented)	The project is funded through the European Union's ESIF framework and is led by University of Birmingham. The focus of the project will be working with SMEs and identifying innovative opportunities to deliver, Better infrastructure asset management, Preventative maintenance and New materials from waste.
Players involved (please indicate the organisations in the region who are involved in the development and implementation of the action plan and their roles)	The University of Birmingham and SME businesses in the region.
Timeframes	Project started 1st April 2017 and runs for 3 years
Cost (if relevant)	ESIF funding influenced €2.000,000
Funding source (if relevant)	ERDF

Action 3: Birmingham and Solihull Industrial Symbiosis (BASIS)

The background (please describe the lessons learnt from the project that constitutes the basis for the development of the present action)	The Birmingham and Solihull Industrial Symbiosis Project, or BASIS, aims to create a diverse network of businesses across the Local Enterprise Partnership (LEP), with the aim of supporting their transition to become more resource efficient and cost-effective businesses. IVACE knowledge was exchanged relating to Valencia's regional economic strategy, and ring-fencing finance for an IS approach. This knowledge help structure discussions with Greater Birmingham and Solihull Local Enterprise Partnership. Additionally, the

	approach adopted in Hungary in targeting the SME community was replicated in the GBSLEP region. The ring fence approach for purely IS activities in the region were discussed with the GBSLEP and managing authority prior to submitting the bid for funding. Following these discussions money was ring fenced for the delivery of IS using a similar approach to that adopted in Valencia.
Action (please list and describe the actions to be implemented)	The project is funded through the European Union's ESIF framework and is led by Birmingham City Council. International Synergies is the primary delivery partner and will be responsible for the engagement with industry to provide resource efficiency support. The focus of the project will be working with SMEs and identifying opportunities to delivery industrial symbiosis benefits within the network, forming the mechanism for delivering the required project outputs of business assists (12 hours). The Industrial Symbiosis approach seeks to work closely with SMEs to quantify their wastes and seek resource efficiency improvements that deliver financial savings. These underutilized resources can be process, by-products, discarded waste materials, low grade energy, waste water discharges, logistics (empty vehicle movements), capacity (such as warehouse or office space) and shared expertise. Through the project's delivery of one to one business support and attending business opportunity workshops, the aim is to connect industry in a way that one companies wasted resource becomes another's valuable process input. These discreet new business opportunities will deliver substantial cost savings, generate sales from new markets and contribute towards creating an environmentally sustainable local economy. **Besides this profitable trading of waste resources, the project team can give free support in the following areas:** • Supporting applications for waste permits, licenses and exemptions from the Environment Agency • Conducting compliance, waste, water and energy audits • Providing consultancy support for the implementation of environmental management systems

	• Providing staff training in environmental issues and management • Signposting to available grants to financially aid the implementation of capital improvements
Players involved (please indicate the organisations in the region who are involved in the development and implementation of the action plan and their roles)	Birmingham City Council and International Synergies are the delivery partners for this project.
Timeframes	Project started 1st April 2017 and runs for 3 years
Cost (if relevant)	ESIF funding influenced €1.600,000
Funding source (if relevant)	ERDF

Action 4: BCC Clean Air

The background (please describe the lessons learnt from the project that constitutes the basis for the development of the present action)	Following on from the 'Industrial Symbiosis Good Practice' report Sept 2017- outlining the transformation for industrial competitiveness for Tyseley Energy Park (TEP) and the potential impact for stakeholders including SMEs as a result of the £50m investment into the wood bio-mass plant to produce 10mega watts of renewable energy that presents new industrial opportunities- the result of this development led to planning permission being approved for the key development of alternative low carbon and low/zero emission energy fuels, for local vehicle fleets in the City of Birmingham. Birmingham City Council have since worked with TEP to develop this opportunity to develop the alternative fuel re-fueling hub to provide hydrogen and electric charging (from the wood bio-mass renewable energy plant), CNG, LPG and bio-fuels, with compression, dispensing and storage powered by renewable energy. The use of these alternative fuels in the regional transport fleets in the City Centre will reduce the harmful pollutants emitted to the atmosphere. The City of Birmingham needs to reduce the pollutants in the City Centre to match EU limits and the clean air zone will allow this to happens as cleaner fuel for the vehicle fleets will now be available from TEP. This development now requires industry & business freight & logistics companies to transition to alternative fuels including the renewable energy and application to new product and service development opportunities. The Sept 2017 report noted the potential for learning or transfer. The proposed

	development is set to address this to aide application and integration into industry and business operational models for their freight & logistics and new modes of operation for product and service development. A key requirement as noted in the report and from TEP development experience is the need for a good communication system in place to assist the dialogue between, alternative fuel investors, businesses, Birmingham City Council. During the first interregional meeting held in Birmingham in June 2016, the LP discussed with all the TRIS partners the ambitious carbon reduction targets set by the City. This laid the platform for an open discussion to understand the how other regions tackle this issue. PP5 discussed numerous approaches in Sweden. The approaches adopted in Sweden were discussed at the next IS Lab meeting in Birmingham, several of the IS Lab stakeholders expressed a desire to attend the next interregional meeting in Sweden to gain interregional knowledge. These representatives included David Horsfall from Webster & Horsfall, (landowners and potential investors for renewable fuel market), and Chris Rogers from the University of Birmingham. At the next interregional meeting in Sweden in January 2017, PP5 demonstrated the approach of using low carbon fuels in the city transport fleet. During discussions in Sweden it was highlighted by the Swedish Authorities of the need to involve local stakeholders, neighbours and SME community to obtain buy-in to this approach. This knowledge and experience was then taken back by the LP and David Horsfall who then used this knowledge to influence the regional stakeholders, neighbours and SME community.
Action (please list and describe the actions to be implemented)	A low/zero emission re-fueling and renewable energy communication action with business support intervention is a priority now given this opportunity to assist industry and business in the take-up and integration within their business fleets of cleaner energy for transport ; communicate with alternative fuel and vehicle manufacturers to impact on the next generation renewable energy/fuel design systems; health benefits of cleaner fleets on air quality; communication of integration and use of renewable energy and alternative fuels for new product and service development.

	• 'B2B' Industry, Business & SME engagement through media campaign of PR including business/industry trade press; business/industry/SME engagement events; on line website with FAQs& links with TEP location map and details of alternative fuels and renewable energy opportunities; social media feeds. • Support at least 20 businesses through 'One-to-one' Business support interventions including fleet review and transition arrangements to alternative fuels/renewable energy. • Development of at least 5 Industry/Business case studies of fleet review and transition arrangements to alternative fuels/renewable energy. • Support at least 2 businesses to expand their business operations with the use/integration of renewable energy for the development of new products or services. • Development of at least 1Industry/Business case studies of fleet review and transition arrangements to alternative fuels/renewable energy.
Players involved (please indicate the organisations in the region who are involved in the development and implementation of the action plan and their roles)	• **BCC**- Co-ordination of communication plan alongside business/industry support interventions. Co-ordination of engagement events. Database development of local, regional and national freight & logistics industry/Business and representative organizations e.g. Freight Transport Association. Supporting at least 2 businesses to expand their business operations with the use/integration of renewable energy for the development of new products or services. Developing at least 1 case studies as a result. Dissemination through stakeholder networks & database. • **Energy Savings Trust**- Supporting at least 20 businesses through 'One-to-one' Business support interventions including fleet review and transition arrangements to alternative fuels/renewable energy. Developing at least 5 case studies. Dissemination through their networks. Support engagement events. • **Procured freight & logistics/industry/Business specialist PR, website & social media specialist partner-** B2B' Industry, Business & SME engagement

	through media campaign of PR including business/industry trade press; business/industry/SME engagement events ; on line website with FAQs& links with TEP location map and details of alternative fuels and renewable energy opportunities; social media feeds. • **TEP/ Webster & Horsfall**- Provision of re-fueling hub, co-ordination of alternative fuel providers; arrangements for industry/business TEP site visits and re-fueling options discussions with industry & Businesses. Support engagement events.
Timeframes	April 2018-Sept 2020
Cost (if relevant)	€6m
Funding source (if relevant)	European Funding from FCHJU and national funding from ULEV

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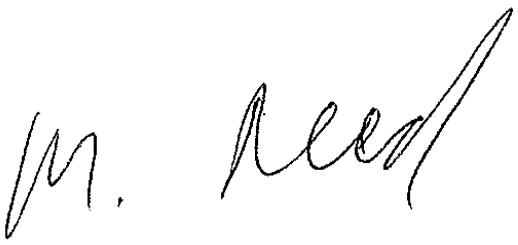
Signature :	
Stamp of organisation (if available)	**No available**