

Towards Innovative Low Carbon SMEs

TWINN-LC-SMEs project



The Design Option Paper

Deliverable D8

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Pitch

The growing evidence supporting the presence of climate change, and its devastating consequences,¹ is increasing the urgency for a global shift towards a more resilient, resource efficient, low carbon economy. The SMEs sector accounts for more than half of the private sector added value² making it a significant resource in transitioning towards the global adaptation of a systemic low carbon approach. Evidence suggests the market is curious of ‘low carbon’ innovation, and supporting SMEs to promote adaptation and mitigation innovation as relevant resource efficiency tools in multiple market sectors will encourage their uptake. This, in turn, will drive forward the low carbon economy and create jobs.

Supporting the development of cleantech innovation with multi-sector relevance, and connecting these innovators to market consumers is therefore an important part of encouraging market growth. This however is a complex challenge and requires a robust response model.

¹ IPCC (2014) *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

² Eurostat (2011) *Key Figures on European Business – With a Special Feature on SMEs*, Eurostat Pocketbooks (European Commission).

Executive Summary

*Successful commercialisation of new cleantech innovation is dependent on the ability to transfer and be relevant across multiple market sectors. Innovation Agencies are uniquely positioned to collaborate and share knowledge across the innovation agency community, providing the potential to enhance support to start-ups to reach new markets, whilst also identifying best practice. The strategic objective of the TWINN project is to **facilitate this peer-learning between innovation agencies**. Through a detailed evaluation of existing best practice and context based case studies this Design Options Paper (DOP) has been produced to share the learning from this project and provide guidance on effective peer-learning.*

*The DOP demonstrates how innovation agencies can share knowledge and collaborate to develop a flexible best practice model. It demonstrates how cleantech start-ups value this multi-sector approach, and to meet **national carbon reduction targets** agencies need to understand how to incorporate whole system thinking. It therefore acts as a guide for innovation agencies wishing to establish new market opportunities for cleantech start-ups. To this end it presents **Engaging cross Sector Market Exchanges (EngagingSMEs)**, as a replicable multi-sector added value workshop, designed to be integrated in to a wider cleantech start-up support programme.*

The Europe 2020 Strategy³ states that the successful participation of Small and Medium Enterprises (SME) is critical to ensure its objectives are met, as SMEs are identified as being essential for market growth and job creation. The true value of an SME can, however, be interpreted as their competitiveness within the global market and thus ability to scale up their businesses. This scalability is limited for many cleantech SMEs by their inability to penetrate multiple markets.

Acknowledging the economic advantages for supporting the development of SMEs, as well as the opportunities to adapt to, or mitigate against, the consequences of climate change, many European regions are enhancing their innovation pipelines through supporting the growth of start-ups into successful SMEs. Yet despite common support for start-up SMEs being essential for

³ COM(2010) 2020 final of 3 March 2010 "Europe 2020. A strategy for smart, sustainable and inclusive growth"

demonstrating the strength of the innovation pipeline and economic growth through job creation, support for cleantech innovation varies dependant on the context and priorities of each nation and region.

The innovation agencies involved in this project presented their specific national challenge, to demonstrate the variety of challenges and the significant role context plays in developing and implementing successful cleantech acceleration models. Evaluation of these existing interventions suggests that whilst start-up SMEs are encouraged to develop innovation it is often exploited within a single sector focused environment and not enough is being done to support start-up SMEs to maximise their multisector market opportunities.

To structure the knowledge sharing and learning around addressing these national challenges and developing a multisector collaborative best practice intervention TWINN has followed the Twinning Advanced Methodology. This model enables the development and testing of new methods of peer learning between innovation agencies through peer review, and transferring of learning from existing practices to develop new easily replicated best practice solutions to real challenges which can be followed by those not participating within the project. Following this method has resulted in the development of a comprehensively informed and robust best practice model for multi-sector collaboration towards the progression of low carbon innovation to enter multiple markets, *EngagingSMEs*.

The foundation for the *EngagingSMEs* workshop is the Climate Innovation Exchange, which was developed and piloted as part of the West Midlands Climate KIC Accelerator, as this was considered an example of multi-sector collaboration excellence by the regional partners. This workshop provides an opportunity for their start-ups to meet, and demonstrate their innovation to potential buyers. Building on this with best practice elements from other contributors *EngagingSMEs* is a workshop which brings together expertise from different market sectors to enhance the business support provided to cleantech start-up businesses wishing to bring their low carbon innovation to market. Designed to run as part of a wider start-up support programme, such as the Climate KIC Accelerator programme (which is common to all project participants), to enhance the multi-market sector engagement given to cleantech start-ups SMEs. Understanding

that each nation responds to climate change in their own way this model has been designed to be flexible. On this basis each contributing region has outlined how they would adapt the model for maximum output with their national context, and provided recommendations for replication of EngagingSMEs along with validated regional variations.

This model has been externally and independently evaluated by stakeholders from across the International Climate KIC network to ensure this model stands up to scrutiny.

Chapter 1: An Introduction to TWINN

This Design Option Paper (DOP) presents **Engaging cross Sector Market Exchanges (EngagingSMEs)**, a value add workshop designed to be integrated into a wider cleantech start-up support programme. This workshop seeks to **extend the range of cleantech innovation** across multiple market sectors, through providing start-up SMEs **cross sector innovation collaboration opportunities to address business challenges**. This will **enhance the regional innovation pipeline** and in turn **support the wider goal of national carbon reduction**.

It is the main deliverable of the TWINN project, a peer learning project between Innovation Agencies under H2020 INNOSUP 5; Climate KIC, UK&NI (West Midlands, UK), Società Consortile per Azioni *ASTER* (Emilia Romagna, Italy) and Asociación Valenciana de Empresas del Sector de la Energía *AVAESEN* (Valencias, Spain).

1.1 Identifying the Challenge

The project participants came together and identified the challenge through following the SEDAR mechanism outlined below. During these peer learning sessions, many common observations and interests were raised. The participating Innovation agencies identified several of these to provide foundations to the TWINN project, and this DOP:

- The SME sector accounts for more than a half of the private sector added value⁴, showing this sector to be highly economically valuable. Therefore, encouraging the development of start-ups into successful SMEs is essential.
- Climate change is considered a key investment driver⁵, resulting in a dramatic increase in new Cleantech investment globally⁶. This provides a significant opportunity for the SME sector.
- Innovation is about application so one of the biggest challenges of innovation is having a clear idea of how innovation can be applied to multiple market opportunities and deliver its anticipated impact.

⁴ Eurostat (2011) *Key Figures on European Business – With a Special Feature on SMEs*, Eurostat Pocketbooks (European Commission).

⁵ Blackrock Investment Institute (July 2016)

⁶ UNEP; Bloomberg New Energy Finance

- Successful commercialization of new cleantech innovations is dependent on the innovation's ability to transfer and be relevant across multiple market sectors, as this increases their customer base.

This experience demonstrates a market need for models to support start-up SMEs to develop and commercialise their cleantech innovations within multiple market sectors. Responding to this market need will not only work to increase resource efficiency globally and thus reduce carbon emissions, but also to strengthen the low carbon economy and create jobs.

Innovation Agencies are expertly positioned to answer this market demand. Their experience of working with cleantech start-ups has informed us that:

- First contact is easy, for example at Business Club meetings, the challenge is creating an opportunity to showcase new innovations and receive valuable feedback on innovation improvements and adaptations which would enable the innovation to meet individual commercial needs.
- Start-ups are vulnerable and need a supportive environment to meet experts from different market sectors and discuss solutions to their business challenges in a positive and collaborative way.
- General interest in mutually beneficial collaboration is not enough. True collaboration requires; demand, structured introduction, innovation demonstration and a scalable plan.
- There is a disconnect between supply and demand. Clarity around customer's demand challenges isn't always obvious and many customers don't know how to access new innovative solutions. Whilst start-ups often struggle to access decision makers within large commercial companies to pitch their innovation and receive business advice.
- Start-ups can be very blinkered regarding their expected customer base. Support to demonstrate and exploit opportunities in other market sectors enables them to maximise their commercialisation and scalability.

Informed by knowledge shared during peer learning sessions of the experience of working with cleantech start-ups, the TWINN partnership identified the need to develop a workshop to address these key concerns. It would focus on:

- Supporting start-up SMEs to find solutions to their business challenges through cross sector collaboration, which exposes new opportunities to the start-ups and customers within a supportive environment.
- Providing access to cross sector experts to enable start-ups to understand as many market opportunities as possible for their innovation and to provide contacts within these sectors.
- Providing business coaching to demonstrate to start-ups new market opportunities and help them identify challenges which they must overcome to enable their scalability.

1.2 Workshop development and production of the DOP

The TWINN project partners implemented the “Twinning Advanced methodology” to share and transfer existing knowledge of practices for the development of a new enhanced best practice⁷ (see Annex 1 for more information about how this method was applied). The developmental stages of the Twinning Advanced Methodology were used to develop **SEDAR**:

- **S – Study:** Study existing examples of cross-sector innovation collaboration to strengthen support for the development of low carbon innovation across the partnership.
Stakeholder need: We wanted to ensure we were including successfully demonstrated practices to enhance our workshop and ensure value and a robust proposal by utilising existing knowledge.
- **E – Exchange:** Exchange knowledge and learn from others about existing best practice elements.
Stakeholder need: We wanted to share our own learning to add experience and value to the proposal, as well as share this learning with others.
- **D – Develop:** Develop a new value add workshop to enhance existing start up support programmes.
Stakeholder need: We wanted to develop a real solution to the identified challenges.

⁷European Commission “Twinning Advanced” document. See: <https://ec.europa.eu/easme/sites/easme-site/files/Paper-Twinning-advanced-methodology.pdf>

- **A – Analyse:** Analysis and assessment of the implementation and possible adaptations of EngagingSMEs was carried out by independent contributors.

Stakeholder need: To ensure a robust approach we wanted our findings to be scrutinised independently.

- **R – Recommend:** Recommendations for the implementation of the designed practice model EngagingSMEs were elaborated and consulted with the Climate-KIC community.

Stakeholder need: Recommendations for improvements or amendments were taken on board and are reflected in the final enriched DOP.

The approach was developed into three phases and is presented in Figure 1.

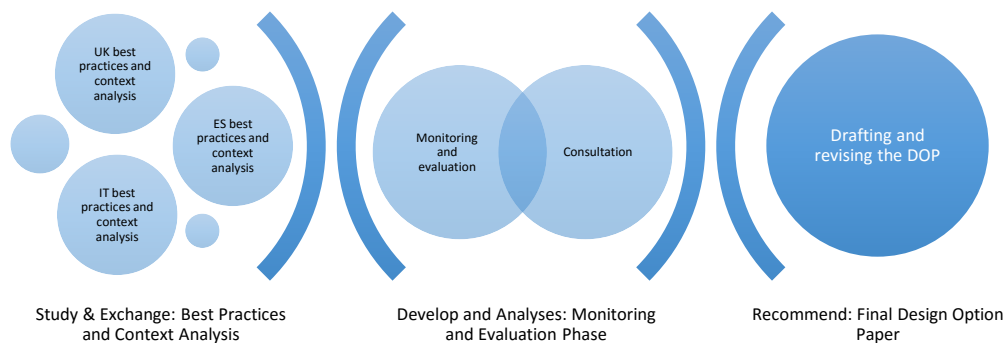


Figure 1: the TWINN process structure

Once we had decided to design a new, superior and replicable model to bring together all our, and others, knowledge and experiences we decided to hire an external consultant to bring expertise of programme design. After following a Climate KIC approved procurement process we decided on Anna Dubel who brought with her experience of delivering and developing proven methodologies of peer-to-peer learning, including a good working knowledge of applying the Advanced Twinning Methodology.

1.2.1 Study and Exchange

Best Practice

The first step taken was to define 'Best Practice'. This would inform the learning we were comparing and provide a base for developing the new workshop.

The TWINN project participants agreed a collective understanding of “best practice” in cross sector start-up support collaboration as:

‘A replicable action or initiative which is consistently shown to provide the most valuable cross sector added value to cleantech start-ups development’

With this definition as a guide the different approaches to foster cross sector collaboration for the benefit of cleantech innovation development were compared to reveal the most successful approaches currently being delivered. This identified ‘best practice’ was then further analysed to explore how we could replicate successful key elements to transfer learning and benefits. This process enabled the participating innovation agencies to co-create the best cross-sector innovation collaboration model based on experience and validated pilots, as well as outlining a need for a new model to be created to bring together all this learning and thus, provide the most optimal results. A summary of the best practice is provided in Table 1.

Table 1: National best practices and related action in partner countries

Best practices	Similar actions if implemented and conditions for the best practice transfer or its improvement		
	Italy	Spain	UK and Ireland
Climate Innovation Exchange (CIE) (UK&Ireland)	Pitching during organised events for investors and during fairs	Accelerator Business Lounge ⁸	
Integration of Climate-KIC Accelerator initiatives with the regional services, including fairs and financing services (Italy)		Access to fairs	organised events
Mentor Board (Italy)		Mentors throughout the whole programme	Mentors engaged in the trainings and the development of the CIE.
Boot camp at the beginning of every Accelerator programme stage	Boot camp as described in the Best practice deliverable		Boot camp as described in the Best practice deliverable

Context: National Priorities

Cultural and contextual challenges add complexity to supporting cleantech start-ups to develop innovation. These challenges require any ‘Best Practice’ methodology to be adaptable to reflect

⁸ The Spanish Business Lounge is a one day event where entrepreneurs and investors meet. The startups part of Climate-KIC Accelerator showcase their business opportunities to the public and participate in a speed matchmaking event with potential clients and partners.

the regional context in which it is being delivered and to answer the regional priorities for cleantech start-up support.

The national context within which the TWINN partners work is different, an overview of each has been provided in Annex 3. These national contexts are significant as they inform national priorities which inform regional priorities then thus represent the arena in which the innovation agencies must act to support cleantech growth.

These different contexts have resulted in each of our partner innovation agencies having different regional priorities. In **Valencia, Spain**, the regional priority is to implement innovation and entrepreneurship activities to boost its competitiveness and position the city as an example of excellence for implementing support activities for innovative start-ups and SMEs. In the **West Midlands, United Kingdom**, the focus is to support the commercialisation of new, clean innovations and in **Emilia-Romania, Italy**, the regional priorities are identified as promoting the culture of entrepreneurship and delivering to the market environmentally friendly solutions. During the TWINN projects these identified priorities were considered when the project partners decided on their different delivery approaches. This was to ensure that the workshop reflected individual needs and worked within the delivering context.

Current Interventions

As has been outlined, tackling climate change and strengthening the low carbon economy through supporting the development of new innovations as solutions to address multi-sector demand needs is essential. Consequently, there are some national and regional interventions already working here. The role of national government is very important in shaping these interventions but also in providing validity and strength to the low carbon economy more generally.

To ensure the success of low carbon policies national governments must develop tools to help them realise their ambitious targets, such as supply push and demand- pull instruments. Del Rio and Bleda⁹ maintain that both forms of instrument must be present for SME's innovations to be

⁹ Del Rio, P., Bleda, M., 2012. Comparing the innovation effects of support schemes for renewable electricity technologies: a function of innovation approach. Energy policy 50, 272-282.

successful in penetrating the market. Other key factors the government influence include clarity around the duration and scale of financial support provides a reassurance not just to the SME developing the innovation but also sends a clear signal to other investors that support will be continued within the sector, which can stabilise a market and influence decisions to investor in that sectors R&D¹⁰. These governmental tools and instruments are therefore significant interventions in addressing these challenges for SMEs trying to develop a rigid low carbon economy. On the other hand the role of regional programmes is essential to provide a direct link between the national government and responses to real regional priorities. Whilst other initiatives, such as Climate KIC also seek to further support the development of cleantech innovations. However, despite these existing interventions there is still a knowledge gap in cross sector collaboration opportunities for cleantech start-ups which TWINN seeks to plug. Table 2 includes a summary of the national and regional existing interventions.

¹⁰ Uyarra, E., et al. (2016) 'Low Carbon innovation and enterprise growth in the UK: Challenges of a place-blind policy mix. Technology Forecasting & Social Change 130, 264-272.

Table 2 national and regional current Interventions.

	National Interventions	Regional Interventions	Climate KIC Support
United Kingdom, West Midlands	<ul style="list-style-type: none"> The UK government has also set up a series of departments and organisations responsible for stimulating the low carbon economy through distributing funding to the most appropriate recipients. Government funding flows primarily through the Department for Business, Energy and Industrial Strategy (BEIS), to managing delivery organisations such as InnovateUK, and the various Catapult Centres. One of the most popular kinds of support for SMEs are incubator programmes. The Carbon Trust supports CleanTech start-ups for growth, through de-risking future investment by supporting SMEs to demonstrate their technologies. The Carbon Trust has a very well respected and established incubator programme tailored to the needs of each start-up the possible support offered is comprehensive, and includes market analysis, strategy and business planning, sales, product development, and investment readiness.¹¹ 	<ul style="list-style-type: none"> At a regional level Local Enterprise Partnerships (LEPs) have been designed to respond to economic challenges, however they are under resourced and, as previously noted, lack the policy making to be truly impactful. Across the UK there are also many regional support programmes, such as the West Midlands Business Growth Programme. This £33 Million programme for SMEs provides a package of support to help stimulate innovations, grow SMEs and strengthen supply chains. The programme is part funded by the European Regional Development Fund and is delivered by Birmingham City Council’s Business Development and Innovation Team (BDI)¹², on behalf of the European Regional Development Fund. 	Working across the UK & Ireland geography Climate KIC’s challenge is to create an effective business support opportunity to start-up SMEs wishing to successfully implement low carbon innovations to the market. Climate KIC has two projects aimed at tackling this. The Climate Launchpad is an ideator programme, aimed at supported entrepreneurs with a business idea to develop a business model and the potential for a saleable business. The success of delivering the Climate-KIC Accelerator faces different contextual challenges within each delivery region whilst seeking to implement a cross-sector innovation collaboration programme benefitting start-ups SMEs in the clean-tech sector.
Italy, Emilia-Romania	<p>In 2011 a special task force was developed to sustain start-up creation and the development of a new law in favour of Italian start-ups. Initiatives addressing the challenge may be in new policies as the national law 221/2012, support programmes and also infrastructure for companies in the climate sector. Across Italy there are a series of start-up support programmes and competitions to accelerate the growth of clean tech start-ups. These include:</p> <ul style="list-style-type: none"> INCENse Accelerator (INternet Cleantech ENablers Spark project) - http://www.incense-accelerator.com/ Intesa San Paolo Start-up Initiative Clean Tech - http://www.startupinitiative.com/ Edison Pulse - http://www.edisonpulse.it/ <p>Italy has also taken steps to stimulate the creation of a clean tech cluster, including:</p> <ul style="list-style-type: none"> Progetto Manifattura – Green Innovation Factory: a cluster for the green economy sector developed through re-using the premises of an old tobacco factory based in Rovereto (Trentino). With a total surface of 9 hectares, Progetto Manifattura – Green Innovation Factory is funded by Trento autonomous province and will host start-ups and consolidated companies coming from Italy and abroad. At present, 28 companies are hosted in the cluster. TIS – Techno Innovation South Tyrol: based in South Tyrol the incubator is specialised in alpine technology, energy, environment, food and wellness. 	<p>The Emilia-Romagna region supports green manufacturing systems with the objective to reach the EU strategy for 2020 through reducing greenhouse gas emissions, saving energy and using renewable sources. The green economy is supported across the Emilia-Romagna region through :</p> <ul style="list-style-type: none"> The Regional Strategy for Research and Innovation for Smart Specialisation (S3) and the regional network of the High-tech system; The Regional Rural Development Programme (RDP) 2014-2020; Regional Law for Investment Promotion (14/2014). <p>The regional authority also promotes the States General of the Green Economy coordinated by the regional agency ERVET to promote the various policies and has created “Greener” - the observatory of green regional economy that monitors the phenomena and trends related to the green economy. The regional government also promotes local start-ups through:</p> <ul style="list-style-type: none"> Yearly call for applications funding innovative start-ups: in 2016, counts an envelop of Euro 6 Million co-funded through EU funds of ERDF. S3 Area Network: this is a network of information points available all over the region to diffuse innovation and business creation opportunities¹³. 	Climate-KIC Start-up Accelerator Italy – the 3 stages acceleration programme for climate start-ups - and ClimateLaunchpad – the clean tech business idea competition – both implemented by ASTER on behalf of Climate-KIC

¹¹ <https://www.carbontrust.com/client-services/technology/innovation/clean-technology-incubation-and-venture-support/>

¹² https://www.birmingham.gov.uk/info/20199/business_growth_programme/462/about_the_business_growth_programme

¹³ “S3 Strategy Emilia-Romagna”, available at: <http://www.regione.emilia-romagna.it/s3>

Spain,
Valencia

<p>Italy also boasts a series of start-up incubators:</p> <ul style="list-style-type: none"> • <i>BIC Lazio has a network of 7 incubators in the Lazio region that host start-ups linked to climate, electronics and environment, agro food and forests, space technologies etc.</i> • <i>I3P (Turin, Piemonte), one of the largest university incubators in Italy, currently supports 9 clean tech start-ups out of the 48 start-ups supported by I3P.</i> 	<ul style="list-style-type: none"> • <i>EmiliaRomagnaStartUp¹⁴: it is the reference platform for the whole start-up community in the region.</i> • <i>StartCup Emilia-Romagna: the largest business plan competition in the region, affiliated by the National Award for Innovations (PNI).</i> • <i>Infrastructures for supporting innovative and creative start-ups: There are 30+ incubators and other hubs mapped by ASTER in the region. Some of those, 13 in total, have been co-funded by the regional government in 2014/2015 after a call for applications was published to create new urban hubs to accommodate innovative and creative start-ups.</i> • <i>StartER Fund: provides loans - at lower interest rates - to support investment projects developed by new companies based in Emilia-Romagna. Loans value is between 25,000 Euro and 300,000 Euro and it is given for 18 to 84 months duration.</i> • <i>Emilia-Romagna in Silicon Valley is the project that supports and promotes the two-way link between our region and Silicon Valley. Since September 2015, the Emilia-Romagna Region (via ASTER) is present in Silicon Valley to support regional start-up approach to internationalization and the acquisition of Silicon Valley mind-set.</i> 	
<p>The CDTI – centre for industrial technological development (Ministry of Economy and Competitiveness) promotes innovation and technological development of Spanish startups and SMEs. It gathers all the support and financing activities of R&D projects and its main goal is to improve the technological level of Spanish startups and SMEs through the following activities:</p> <ul style="list-style-type: none"> - <i>Financial and economic-technical assessment of R&D projects implemented by companies.</i> - <i>Managing and fostering Spanish participation in international technological cooperation programmes.</i> - <i>Fostering international business technology transfer and support services for technological innovation.</i> - <i>Supporting the setting up and consolidating technological companies.</i> <p>The Centre is governed by private law in its relations with third parties. This means that it can offer companies user-friendly and flexible support services for the implementation of R&D business projects, international exploitation of technologies developed by the company and to submit bids for industrial-technological supplies to scientific and technology organisations. Therefore, the CDTI provides companies with its own funding and facilities access to third-party financing (Bank Line for Funding Technological Innovation and Subsidies of the EU R&D Framework Programme) for national and international research and development projects. It likewise helps the company to internationally exploit technologies that it has developed, and therefore provides funding for technological promotion and innovation projects and technology transfer, its foreign network and multilateral (Eureka and Iberoeka) and bilateral cooperation projects with Canada, Japan, China,</p>	<p>IVACE – the Valencian Institute of Business Competitiveness is an entity belonging to the Regional Government. Its goals are regional industrial policy management and SME support in terms of innovation, entrepreneurship, internationalisation and funding, as well as the promotion of industrial security, energy efficiency and renewable energies together with the general energy policy management of the Region.</p>	<p>Climate-KIC Start-up Accelerator Italy – the 3 stages acceleration programme for climate start-ups - and ClimateLaunchpad – the clean tech business idea competition – both implemented by AVAESEN on behalf of Climate-KIC</p>

¹⁴ www.emiliaromagnastartup.it

South Korea, India and South Africa. In addition, the CDTI is empowered as the competent entity to issue binding motivated reports of the projects funded by any of its lines (Royal Decree 2/2007). These documents will provide greater legal security to Spanish companies with an approved project and funded by the CDTI when seeking tax rebates for costs incurred in the R&D activities of those projects. Finally, the CDTI manages and helps Spanish companies to obtain high-technology industrial contracts generated by different national and European organisations, such as the European Space Agency (ESA), the European Laboratory for Particle Physics (CERN), the European Synchrotron (ESRF), Hispasat and Eumetsat.

1.2.2 Develop and Analyse

Combining Best Practice

The below methods were identified and combined as part of this approach to develop the best practice model:

- **Face-to-face workshops**, these fostered an initial group relationship and provided an opportunity to present, and learn about, existing best practice models for cleantech start-up support initiatives. During these workshops the TWINN participants also designed the DOP content structure and innovative best practice model based on Twinning Advanced Methodology learning (for further information see Annex 1).
- **Web conferences**, were established regularly to ensure project development and enable continual knowledge share and learning between the innovation agencies.
- **Desk study**, was performed extensively throughout the programme on a variety of resources to develop a comprehensive understanding of different approaches and prepare the DOP.
- **Participant Observation**¹⁵, was performed by the project partners of their existing start up support models which have elements of cross sector innovation collaboration. This enables us to use existing learning to the fullest when developing the new ‘Best Practice’ workshop.
- **Collaborative writing**, was used to ensure input from all project participants during the preparation of the DOP.
- **Review**, the final DOP was circulated around start-up support Experts from within the Climate KIC community to enrich this document.

The results of this process were the development of **Engaging** cross Sector Market Exchanges (*EngagingSMEs*), a value add workshop designed to be integrated into a wider cleantech start-up support programme. This workshops seeks to **extend the range of cleantech innovation** across multiple market sectors, through providing start-up SMEs **cross sector innovation**

¹⁵ <http://www.qualitative-research.net/index.php/fqs/article/view/466/996>

collaboration opportunities to address business challenges. This will enhance the regional innovation pipeline and in turn support the wider goal of national carbon reduction.

Continual Improvement

Following the development of EngagingSME it was tested and evaluated. The implementation process framework of the TWINN project utilised the dynamic and interactive nature of the advanced twinning partnership process, that fosters continuous re-evaluation, as is presented in Figure 2.

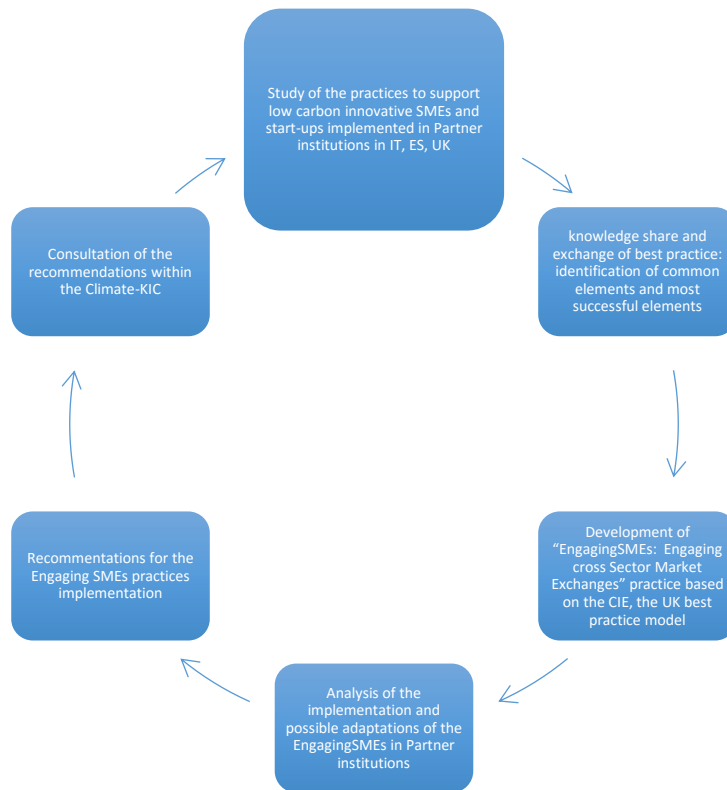


Figure 2: The detailed TWINN peer learning and best practice design process

1.2.3 Recommend

The results of this process are described in chapter 2.

Chapter 2: Engaging cross Sector Market Exchanges (EngagingSMEs)

2.1 Introduction

Start-up support for Clean-tech SMEs is already in place globally, and rather than seek to replace existing models the TWINN project partners propose an added value element to support these existing programmes. Furthermore, the examples of integration of cleantech accelerator initiatives with the regional services such as access to fairs or the financing services are improving the effectiveness of this SMEs support programme. EngagingSMEs is therefore designed as an accompanying, market focused, element of larger start up support packages, such as the Climate KIC Accelerator programme. It aims to encourage start-ups to work within multi-sector and interdisciplinary task groups, made up of innovators, technical advisors, industrial experts and facilitators, with the intention of breaking down sector and discipline siloes and instead encouraging start-ups to explore opportunities beyond those immediately apparent to them.

This workshop draws together all our learning and expertise from successfully piloted best practice component from existing cleantech start-up support programmes. The Climate Innovation Exchange (CIE) (see Annex 2 for more details) developed and piloted by Climate KIC UK delivery partner Innovation Birmingham as part of their Accelerator programme was identified by the TWINN project partners as a strong exemplar of cross-sector innovation collaboration which benefits start-up SMEs in the cleantech sector. This provides the base for the development of the workshop. Building on this the partners integrated best practice and outlined regional contextual differences which may affect successful delivery. The result was the “EngagingSMEs, Engaging cross Sector Market Exchanges” best practice model.

A collaborative platform for rapid engagement and solution generation, EngagingSMEs incubates around 10 start-ups intensively over the **course of 2.5 days** as well as providing much needed following on support to enable the start-ups to tackle their existing development challenges, scale up their business and target new market sectors though considering new perspectives and approaches. Through encouraging learning, research and development EngagingSMEs aims to

provide a supportive arena within which to develop their start-ups. Designed to break down siloes between sectors and disciplines and bring forward clean cutting edge innovations to all sectors, EngagingSMEs draws on skills and experiences both within and beyond traditional sectors to support the development of start-ups and encourage their engagement with as many market sectors as possible. This encourages the start-ups to appreciate where their business fits in the smart, knowledge-driven, low carbon economy and allows them to expose their innovation to new sectors and opportunities they may not have previously explored. Further this opportunity seeks to provide resolutions to business challenges which had been previously unconsidered, as well as making new contacts and enhancing their understanding of further investment opportunities, thus encouraging the start-up to consider what impact scaling up their business may have.

EngagingSMEs has been developed to encourage the following benefits to SMEs:

- Increases self-confidence and self-esteem,
- Promotes professional career growth,
- Enhances skills,
- Identifies weak areas and turns them into potential successes,
- Enhances problem analysis,
- Gives a focused attention in the aspect of training and development.

2.2 Preparation

Ahead of delivering EngagingSMEs there are elements of preparation required to ensure the smooth running of the activity and create its maximum impact.

- The delivery of EngagingSMEs requires involving other experts, especially to participate in the mentor boards. These experts from across multiple industry sectors provide the cross-sector collaboration element of this project. Developing the mutual trust and willingness to engage is a time consuming and challenging element which should not be underestimated. These experts are senior managers involved in larger industry groups, local city councils, industry professionals and other valuable stakeholders, and will help

the start-ups find innovative solutions to real business challenges. During the rest of this DOP they will be referred to as Innovation Collaborators.

- The start-ups will be presenting their actual business challenges to the cross-sector collaborators to explore the opportunities to find solutions to genuine business challenges. Some background information is required to understand what the challenges are the companies want to address and what markets they believe they should be operating within. Each contributing SME would be required to complete a questionnaire addressing general questions about their business and business challenge, this will help the project manager delivering EngagingSMEs for the innovation agency, match the start-up to the most relevant industry sector expert collaborator. Such as:
 1. *What element of your business would you like to concentrate on for the workshop?*
 2. *What is the value proposition and market of your proposed product, process or service?*
 3. *What are the challenges that you would like to interrogate through collaborative working?*
 4. *What do you want to change / what impact do you wish to make through your project, and how? (social, environmental, technological, political, financial, etc.)*
 5. *Are there any specific ideas or concepts you would like to explore that may help to add value to your project?*
 6. *What are your and your team's skills / knowledge gaps?*
- Development of the kick off conference, as described below, should also be given key significance to ensure there is added value for SMEs from influential speakers.
- The open nature of EngagingSMEs introduces questions around Intellectual Property Rights, which are still new in some regions. To combat this companies will be required to submit confidentiality agreements at the start of the activity and no company shall be required to outline information which is not currently in the public domain. This will create a protective space without risk for companies.

2.3 Delivery and implementation

Half Day Conference

- To provides a welcome and overview to the programme, and an introduction of the multi-sector whole systems approach being followed by the workshop.
- Led by multi industry expert speakers discussing how we can add value to improve the market strength of innovations.
- The conference includes strategic and policy talks to provide an introduction to emerging new market sectors and priority sectors for investment and development.
- The keynote address shapes the rest of the programme by addressing questions around demand led solution design, identifying new market opportunities and pitching.
- This conference will also include talks from technical experts, such as: digital rights lawyers, marketing professionals and business coaches discussing commercialisation and routes to market.

Half Day Bootcamp

- Collaborative innovative workshops, continual business coaching, and knowledge share sessions delivered within an open and explorative, but trusting, environment.
- Designed to build on the training the start-ups will have received during their core business coaching and provides more extensive and company specific information.
- The start-ups will be taught to scrutinise their business plans, financial projections and future requirements.
- Provides opportunity to identify and prepare for some of the tough questions the innovation collaborators may pose to them when discussing their innovation's challenge.

Mentor Panels with Innovation Collaborators

- This section of the workshop provides the most direct access to cross-sector innovation collaboration, as the meet industry experts and will work with them to seek to address their business challenges, which are hindering growth or commercialisation.
- Start-ups will introduce their business through a pitch to the innovation collaborators identifying their innovation value proposition and successes as well as the challenges they are facing in commercialising or scaling up their business.
- Presenting to this panel provides unprecedented access to industry experts to pose business challenges, receive individual feedback and discuss key issues such as; market potential, marketing strategy, access to investors, commercialisation and how to approach, pitch to and work with large customers.
- These sessions are followed by networking with multiple market stakeholders.
- Following these sessions, the start-ups attend a critical progress review and reflection session with their business coach to help them maximise the value of this feedback and ensure it is used to fully develop the business. The business coaches will then be on hand to work with the start-ups to develop implementation plans for the cross sector advise and suggest next steps in development to allow their innovation to penetrate multiple markets.

Half Day bootcamp

- Led by start-ups' business coaches who will share their extensive knowledge of commercialising innovations within multiple market sectors.
- This bootcamp provides extensive analysis opportunities regarding the solutions posed to the company challenges during this process.
- The coaches draw of the personal experiences and expertise to help the start-ups develop effective business plans to reflect their new developments and scrutinise their financial projections and future requirements.
- Designed to build on the standard business coaching provided by the foundation start-up support programmes and provides a more extensive, company specific focus on commercialising their business for entry into multiple market sectors.
- Coaches will cover; understanding experts financials, exploring the investor process, and designing validation experiments for adaptations recommended.
- The final element of this session involves the start-ups bringing together all their new learning to pitch their enhanced products to a new potential market sector. Peers, coaches and experts involved in the mentor boards will evaluate and critique this pitches to provide advice as to risk and potential market entry barriers.

2.4 Follow-up

There are two key areas of follow-up which will ensure the start-ups have fully maximise this opportunity:

Recommendation reports

Following this programme each participating start-up will be presented with a recommendation report, developed by the business coaches. This report outlines the learning and solutions posed to them during the process and include details of opportunities in new sectors and potential new customers, as well as a roadmap to success which is developed by the business coaches.

Evaluation

An evaluation process is established with all stakeholders to ensure maximum impact and success, as well and encouraging continuous improvement and to strengthen trust within the contributing networks. This will include; Participating SMEs, Participating Partners of TWINN who will implement EngagingSMEs, Local stakeholders involved in the development and delivery of EngagingSMEs, and Contributors from local networks and ecosystems.

2.5 Recommendations for Replication

To replicate the various elements of EngagingSMEs the TWINN project partners have identified several key considerations for successful replication:

Delivery Time

This is a local consideration both in terms of the stage of the local start -up support programme EngagingSMEs would contribute to and business cycles. In general, it is worth noting that spring and autumn tend to be periods where businesses and investors are more receptive to contributing to intensive business activities. In winter period (the end and the beginning of the year) the companies are often engaged in reporting and business planning. In the summer is the holiday season, which usually makes the decision-making processes much longer.

Duration

The recommended duration would be to keep the programme as concise as possible to ensure maximum value for the companies whilst also providing the companies time to focus on their day to day business needs. This shows an understanding of the value of the time commitment

required. Although the TWINN partnership believe the recommended 2.5 day programme outlined above would produce the optimum results individual innovation agencies expertise and resources will also need to be considered.

Quality of Participating SMEs

To ensure the contributors see the value of participation the standard of start-up businesses must be high. We would therefore recommend either an additional selection process or implementing EngagingSMEs as part of final stage SME support.

Include multiple market sectors

The engagement of as many markets sectors experts as possible is a vital element of this workshop, the strength of which will determine the success of implementation. As it facilitates exchange of knowledge, technologies, capital and workers between corporates and start-ups that may result in open innovation projects, corporate investments or simply supporting the development of start-up markets, or new entrepreneur's management skills. Recommendation in this section will show how each of the regions seek to encourage participation and collaboration from such actors.

Develop ongoing Business Mentoring

Develop a neutral, stable group of multi-sector executives and senior managers who will engage with the start-ups not just during this pitch but are prepared to provide a small amount of support to the start-ups throughout the process, this will ensure there is a trusting environment within which to discuss challenges. This group also provides invaluable knowledge for how to approach large corporates with innovations, contacts to do so and a clear understanding of the financial and legal associated challenges. Further this provides the start-ups with strong links into the various market sectors the mentors represent, thus providing the start-ups an in road to their new opportunities.

2.6 Budget and Resources

The experience of the TWINN project partners indicates that running the EngagingSMEs Workshop over 2.5 days will require a budget of circa €6,500. This budget is for direct delivery only and does not include project management time as this would be covered by the foundation start-up support initiatives, the base support provided by the innovation agencies that EngagingSMEs is enhancing.

The main budget items for delivering this workshop have been outlined below.

Coaching for 2 coaches @ €300 per coach per day over 2.5 days	€1,500
Marketing and Other resources	€500
Half day conference: Venue and catering	€500
Speakers Travel and Subsistence	€500
Mentor Boards: Venue hire and Catering	€1,000
Travel for mentor board contributors	€500
Bootcamp: Venue hire and Catering	€2,000
Total	€6,500

It is understood that that these costs will vary between innovation agencies both in terms of national costs and innovation agency resources. However, it is our belief that Innovation Agencies will probably stay roughly around these approximations.

Marketing and other resources

To boost engagement and an understanding of the EngagingSMEs workshop as something unique and distinct from the foundation start-up support programme the TWINN project partners have identified some materials:

- Pop-up banners with the event name,
- Promotional materials to encourage participate applications,
- Promotional material to share through networks and attract industry experts,
- Post event dissemination literature to promote the successes of the workshop and engagement opportunities for upcoming events.
- Pens/ large paper to write down ideas during workshops.

Chapter 3: EngagingSMEs adaptation to reflect regional contact

Early in the project the significance of regional context was identified. To reflect this TWINN partners have elaborated how the EngagingSMEs workshop can be adapted to reflect requirements of different regional contexts. This section focuses on these adaptations and the varying processes of implantation in each region, in line with the common process outlined above.

Foundations

Very early in the development of the TWINN project the project partners identified the unique contexts in which each of the partner countries would seek to implement EngagingSMEs, and the significance of this in terms of ensuring successful practice transfer.

The delivering innovation agency should therefore take some time to review the context in which the project is being delivering and consider this when shaping it. This will enable the workshop to focus on specific elements which most reflect the regional and national priorities as well as including stakeholders who best support the development of success against these priorities.

As previously indicated identifying and collaborating with the right stakeholders is essential to the success of this project. For this reason, identifying a delivery manager with the right networks is vital. Significant consideration should be given to the most appropriate stakeholders to engage and fostering an ongoing relationship with them.

Level of Involvement

The EngagingSMEs workshop, as described above, has been designed to provide the greatest success rate, however variations in regional priorities, resources and current start-up support infrastructure means that there are two possible levels of EngagingSMEs adaption by innovation agencies: **Limited and Fully integrated.**

For some innovation agencies, the opportunities for delivery will be **Limited** and will involve small pilots as demonstrations of successful impact in regional where there is a reluctance to change

their existing portfolio and where resources are limited but there is a desire to maximise impact for SMEs.

Others will be in a stronger position to embrace new opportunities for developing their clean tech start -up support programmes and wish to adapt EngagingSMEs in a more **Integrated** way. This involves and more complete integration and participation of stakeholders and supporters form across the eco-system as well as wider programme implantation of the identified Best Practices.

There is a split between partner delivery agencies with Emilia-Romania and the West Midlands proposing an integrated approach and Valencia taking a more Limited approach.

Stakeholder Involvement

Crucial to the success of EngagingSMEs is the strength of the participating stakeholders and contributors. Ensuring the understanding of the programme and its intended outcomes, establishing their ongoing support for the programme and the SMEs involved and outlining future opportunities for collaboration is essential. Preliminary stakeholder engagement work will ensure the strongest pool of contributors who are able to fully represent different views of different sectors and understand the development routes for SMEs wishing to penetrate markets with their innovation. Identifying stakeholders with a shared vision for supporting the development and commercialisation of clean tech innovations across multiple sectors is a key driving force here in identifying contributors.

3.1 Case Study: Replication in Bologna, part of the Emilia-Romania Region (Italy) by ASTER

Level of Involvement

ASTER have chosen to take a **fully integrated** approach to engagement with EngagingSMEs and deliver a full pilot. Their key stakeholders within the innovation agency were very much engaged with the programme and see the potential in the project for their clean tech start-ups. There was also an existing strong stakeholder network which could be leveraged for this pilot without too much additional work required.

Activity Format

Pre-activity:

To ensure the highest level of participants the delivery team opened a call for applicants from across their networks, both currently participating the Climate KIC accelerator and others. Identifying the best industry leader from within their extensive network will also be essential and will be given appropriate resource.

Activity design:

The conference will start off with a half day conference on “Innovation and Technologies for economic Growth”. The topics of the conference will demonstrate the importance of engaging with multiple opportunities across market sectors, for the purposes of commercialisation and growth.

This conference will be followed by a 2-days training Bootcamp organised on the topic “experiment design” and follow-up sessions with experts to define a minimum viable product and a set of questions to collect feedback from experts.

The final element will be ‘session with experts’, a group of consultants (maximum 5) who will be engaged for providing feedback to start-ups on specific aspects linked to developing their products. With will see the start-ups pitch their enhanced innovations and business plans as well as identify current developmental challenges faced for comment from the expert panel. The panels will be an opportunity for the start-ups to receive feedback and comments on their

challenges and suggestions to progress to market entry as well as meet potential clients and network contacts.

These industry experts will provide long term ongoing support to the start-ups through their wider start up support as part of the Climate KIC Accelerator. This is an important element for strengthening links and ongoing interest within the Ecosystem.

Following the main activity, the start-ups will be supported with individual meetings with members of ASTER mentor board, experts on fund raising, IPR, etc. These follow up meetings will take place over the following 4 days. They will also be provided to support to showcase their innovations at national conferences and exhibitions.

ASTER have decided to enhance the length of the EngagingSMEs programme to enable them to focus on more personal follow up and bootcamps. This reflects the focus of their wider start up support package.

3.2 Case Study: Replication in Valencia (Spain) by AVASEAN

Level of Involvement

AVASEAN have chosen to take a **Limited** approach to engagement with EngagingSMEs and instead seek to embed founding principles in their existing support offering, due to budgetary constraints. They will focus on integrating the key elements of the activity and rely on their existing programme to introduce and follow up after the programme. AVASEAN are, however, committed, to ensuring the most effective multi-sector clean tech support collaboration options.

Activity Format

Pre-activity:

The aims of the activity will be disseminated across the AVASEAN network to encourage a wide spread level of engagement with the programme. The SMEs involved will be those who are currently progressing onto stage 2 of the Climate KIC Accelerator to ensure consistent introduction and ongoing support to the start-ups as well as to ensure the start of the SME is appropriate for this pilot.

Identifying the best experts from within their extensive network to participate in the B2B meetings will also be essential and will be given appropriate resource.

Activity design:

The activity commences with a 2 day Bootcamp led by international expert Ron Bloemers. Ron is the Founder & managing partner of Start-U-up and with previous experience in McKinsey. His significant expertise in developing and running a successful start-up will support the SMEs to consider new market opportunity to address. Specifically they will be able to focus on specific challenges in business development and discuss them with Business Experts to find solutions. The boot camp will be focused on validating the business model and how to make a financial plan. Follow-up sessions with mentors will be organised after the event to help consolidate the business model and draft the financial plan.

The bootcamp will be followed by half a day of matchmaking session. This will see the start-ups and industry experts representing a variety of sectors, meeting each other in a speed talking event. The structure of the AVASEAN Accelerator is that the start-ups will have already met some of these industry experts at previous events so this will provide them a vital second meeting with relevant industry experts and support start-up development. These B2B meetings will replace the pitches and be a personal opportunity for the companies to explore the business challenges and possible opportunities to export their innovation into the new market sectors.

Following these in-depth conversations, the start-ups will continue their business mentoring to implement some of the suggestions. They will also receive support to present their innovation and national showcases and exhibitions to increase the market visibility of their innovations.

3.3 Case Study: Replication in West Midlands (UK) by Climate KIC UK & Ireland

Level of Involvement

Climate KIC UK, and delivery partner Innovation Birmingham, have chosen to take a fully **integrated** approach to engagement with EngagingSMEs and deliver a comprehensive pilot. The key actors within the innovation agency are very much engaged with the programme from the initial Climate Innovation Exchange pilot and see value in providing cross-sector collaborative opportunities to cleantech start-ups. There was also an existing strong stakeholder network which could be leveraged for this pilot without too much additional work required and an understanding of delivery requirements from having delivered the CIE.

Activity Format

Pre-activity:

The first pilot of this programme will be tested on a small group. The opportunity to apply to participate in EngagingSMEs will be open to all cleantech start-ups who have successfully reached stage 2 of the Climate KIC Accelerator programme, replacing the Climate Innovation Exchange Element. This is to ensure that there is a consistently high standard of the start-ups involved and that they have all had a basic level of business training to help them progress their businesses to a level where they can talk about external actor participation. Furthermore, these companies will already have a relationship with the business coaches which they will continue to formulate during this programme. The project will therefore be promoted to all successful stage 2 applicants.

Each of the start-ups accepted onto the programme will be asked to provide some background information about their business and their business challenges, which can be provided to the business panel in advance. They will also all be asked to sign a non-disclosure agreement to protect valuable IP during group working, should this become available.

Significant time will be spent identifying the best experts from across an extensive network to participate in the business panel, and other networking opportunities. Keynote speakers for the

conference will also be identified early in the process to ensure the highest level of value for the participants from their talk.

Activity design:

The workshop will follow the preferred model outlined above.

Conference - The conference will start off with a half day conference on “Innovation and Technologies for economic Growth”. The topics of the conference will demonstrate the importance of engaging with multiple opportunities across market sectors, for the purposes of commercialisation and growth.

Half day intensive bootcamp - Following the enhanced business coaching elements the bootcamp will seek to work with the start-ups to identify their remaining challenges which are preventing their successful launch into market and identifying several market engaging opportunities. This exercise will result in the start-ups creating a set of questions to pose to the experts on the final afternoon.

Mentor panel with Innovation Collaborators -The Innovation Collaborators -maximum 5 per panel to prevent an overwhelming expertise for the start-ups- will provide feedback to start-ups on specific aspects linked to developing their products and their identified business challenges. This will see the start-ups pitch their enhanced innovations and business plans as well as identify current developmental challenges faced for comment from the expert panel. The panels will be an opportunity for the start-ups to receive feedback and comments on their challenges and suggestions to progress to market entry as well as meet potential clients and network contacts.

These industry experts will provide long term ongoing support to the start-ups through their wider start up support as part of the Climate KIC Accelerator. This is an important element for strengthening links and ongoing interest within the Ecosystem. Follow-up sessions with mentors will be organised after the event to help consolidate the business model and draft the financial plan.

Half day intensive Bootcamp - Possibly the most valuable element of the workshop this section of the bootcamp will see the start-ups start to draw up a plan to action the identified solutions and work towards commercialisation in multiple market sectors.

Follow up -The start-ups will then continue with their business coaching and training as part of the Climate KIC accelerator where they will receive further business coaching, networking opportunities with multisector representatives, expert advice on fund raising and IPR as well as opportunities to showcase their innovations at national conferences and exhibitions.

All follow up identified above will be followed to ensure maximum value for the start-ups in this pilot and subsequent workshops.

Chapter 4: Analysis

The Twinning Advance Methodology was used to deliver the EngagingSMEs project, using this methodology has enabled the project partnership to achieve:

- Quality management of the project,
- A peer review and learning between international innovation agencies,
- The development of a new innovative workshop which draws together piloted best practise elements, in a twinning process to transfer best practice.

TWINN has proved to be a successful project which has resulted in a strong new cross-sector innovation collaboration workshop; EngagingSMEs. During the development of this workshop the following lessons were learnt:

- External facilitation proved very useful to direct the peer learning sessions and keep conversations on track. During knowledge sharing sessions it is easy for contributors to provide large amounts of details about project elements which are not relevant and the facilitator ensures the time is sent appropriately without sounding bias to one practice over others.
- There are lots of SME support infrastructure commonalities between innovation agencies and this provides a foundation to which specialist added value workshops, like EngagingSMEs, can be added to enhance specific areas.
- Building on pilots which have already demonstrated success provides a stable foundation to developing new best practice approaches. Further testing new collective approaches with small groups highlights any risks. Doing this also enables the coordinator to make tweaks to reflect contact and test them before rolling the model out to large numbers.

EngagingSMEs as a programme will be analysed following the completion of the TWINN project when the pilots are launched. It has however been possible to analyze elements of the activity which have been tested individually.

4.1 Element Evaluation

Some of the key elements have been delivered by partners before. Although this has been in different contexts these pilots provide an understanding of the benefits and advantages of implementation.

Bootcamp

To fully maximise the value of the bootcamp, both before and after the mentor boards, attendees must commit to it. The initial decision to pilot a bootcamp came after three years of experience delivering start-up support programmes. This method has proved successful in levelling the business knowledge within start-ups, developing SMEs and enhancing engagement. The training comes with a lot of information that needs to be processed and digested, but also provides start-ups with high level know how on all significant aspects a cleantech business.

Pilots (implemented within the Accelerator programme of the project participants) have shown the bootcamp to be an extremely important element of the EngagingSME programme as EngagingSMEs will follow a main Accelerator programme this boot camps provides the enhanced company specific knowledge they will need to make their businesses a success, and enables them to identify challenges to pose to experts and extensively analyse the solutions to the challenges they consider throughout the process.

The bootcamps provide an opportunity for coaches to give SMEs intensive business coaching and tools to develop their business models and identify challenges in scaling in a safe arena. Peers, mentors, coaches and other experts evaluate and critique the pitches and provide advice as to where risk lies and what are the barriers to success. Furthermore, these sessions enable SMEs to use the business coaches as sounding boards for the SMEs to pitch their challenges before talking to the sector experts to make sure they are phrasing their challenges in the most positive way, and thus being seen as wanting to engage with the larger companies rather than not being ready to.

Pilots indicate that the most effective cleantech business boot camp should include standard topics. These are outlined in Table 3.

Table 3: Bootcamp basic topics

<u>Assessment</u>	<u>Feasibility</u>	<u>Execution</u>
Personal assessment	Market, industry, and competitive assessment	Building your brand
Building effective teams	Business model development	The importance of capital efficiency
Formulating and articulating a unique value proposition		Harnessing resources through financing
Identifying business challenges which are prohibiting commercialisation or scaling		Customer acquisition

Mentor Boards

Pilots demonstrate that mentor boards provide start-ups access to industry experts to learn from them in a safe and nurturing environment, whilst also providing an opportunity for the start-ups to discuss opportunities for how their innovations could penetrate their market sector.

These meetings also provide invaluable knowledge for how to approach large corporates with innovation, contacts to do so and a clear understanding of the financial and legal associated challenges. Further, they provide the Start-ups strong links into multiple market sectors, and thus provide the start-ups an in road to new opportunities.

4.2 Knowledge share and lessons learned

Delivery of EngagingSMEs will take place following the completion of the TWINN project. It will therefore not be possible to analyse actual outcomes of implementation of this workshop adaptation, however informed by pilot outcomes and knowledge sharing the following expected end user outcomes have been identified:

- Progress market readiness of innovation,
- Support the commercialisation of new innovations and penetration into new market sectors,
- Increases self-confidence and self-esteem,
- Promotes professional career growth,
- Enhances skills,
- Identifies weak areas and turns them into potential successes,
- Enhances problem analysis,
- Gives a focused attention in the aspect of training and development.

The knowledge sharing process applied within the project can be described in 4 key elements:

- Observations of Climate-KIC Accelerator programme implementation in the project partner countries through video broadcasts and taking part in the organised events.
- Definition of the best practices obtained within workshops and continued discussions and case studies analyses.
- Analyses of Climate-KIC Accelerator programme implementation in project partner countries to identify the best practices that could constitute the Climate-KIC Accelerator benchmark model.
- Consultation of the Climate-KIC Accelerator benchmark model within the Climate-KIC community.

The following observations were made in relation to knowledge sharing around the start-up support process through comparing the experiences of the participating partners:

- The best practices, preliminarily identified before the project implementation, were critically verified during the peer-learning workshops in the project. That led to the mutual peer-learning of the innovation agencies within the project.
- Understanding the requirements of your audience is important and this can be a challenge if their focuses are too varied. It is suggested to identify a target innovation sector to target for each workshop as this will allow consistency and allow a deeper level of understanding and conversation. Furthermore, it provides a hotbed for start-ups to be inspired to collaborate.
- Facilitation is very important. Simply bringing together a mixture of exciting start-ups and industry experts will not necessarily result in optimum results. A respected and trusted guide throughout the process will support the start-ups to maximise the value of the engagement and great real outcomes. Without this facilitation it is possible that the excitement in the room may result in a very high level and hypothetical conversation which is unlikely to produce any realistic opportunities or solutions.
- Placing the continuous peer learning within the core activities of the programme design has mainstreamed the peer learning of innovation agencies within the programme.

- Building on pilots which have already demonstrated success provide a stable foundation to developing new best practice approaches. Further testing new collective approaches with small groups provides a derisked opportunity to demonstrate effectiveness and success. Doing this also enables the coordinator to make tweaks to reflect context and test them before rolling the model out to large numbers.

4.3 Further opportunities for continuous and adaptive peer-learning

The developed process could be continued in the future by the project partners or it could be applied in other locations based on the adaptive management framework that could construct a clear conceptual framework of sustaining learning processes between the innovation agencies focusing on low-carbon SMEs in the future. Such approach is effective and was applied in several studies¹⁶. Based on the process depicted in Figures 1 & 2, Figure 3 was developed presenting iterative and circular partnership implementation process framework mechanism to sustain the exchange of best practices or continuous improvement of actions after the project is finished.

¹⁶ Fumika Ouchi, Twinning as a Method for Institutional Development: A Desk Review. The World Bank Institute, The World Bank Washington, D.C., May 2004, available at: <http://siteresources.worldbank.org/WBIINT/Resources/EG04-85.pdf>, accessed 15.07.2016
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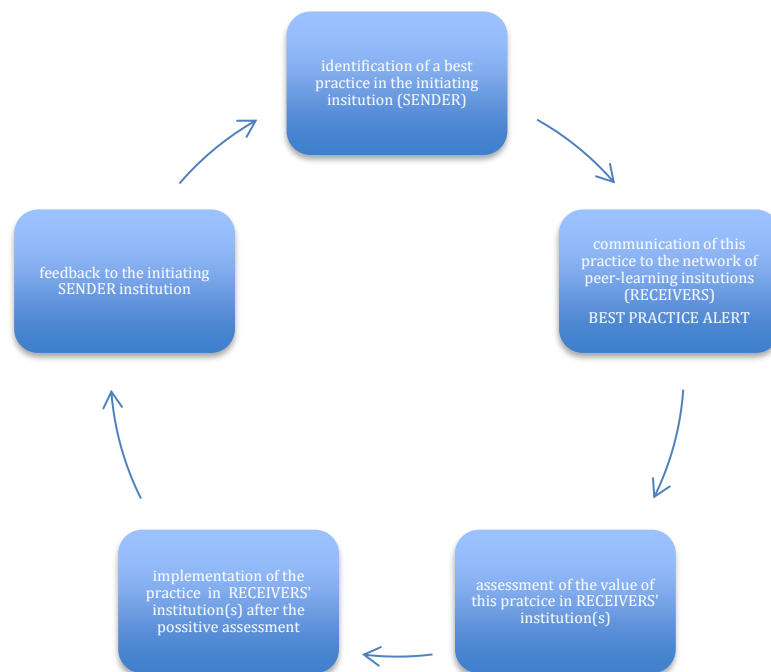


Figure 3: The sustainable peer-to-peer learning process: continuous (adaptive) peer-learning cycle

4.4 Dissemination

The DOP has been circulated within the Climate-KIC community and has been made available to national and regional innovation agencies in several European countries encouraging them to engage more frequently in peer learning activities. The objective for the promotion of the Twinning Advanced approach and DOP within the Climate-KIC community is to support further peer-learning process through the dissemination of results, including the consultation of the DOP within the Climate-KIC community and Climate-KIC community feedback-driven draft deployment driven amendments.

The dropbox and gdocs tools were used to exchange documents and ideas between the partners. The information about the project was presented in the national websites of project Partners.

4.5 Next steps

The TWINN partners have committed to keep experiencing with and sharing the learning resulting from this project. Following the completion of this project the partners next steps will be:

- Climate KIC, through Innovation Birmingham, is planning to deliver a first complete pilot of the engagingSMEs workshop as part of their Climate KIC Accelerator at stage 2.
- ASTER is planning to deliver a first complete pilot of the engagingSMEs workshop as part of their Climate KIC Accelerator at stage 2.
- AVASEAN is planning to deliver a first partial pilot of the engagingSMEs workshop as part of their Climate KIC Accelerator at stage 2.
- All partners will continue to share knowledge and learning to enhance their understanding the experience and outcomes of the EngagingSMEs workshop.

Annex

Annex 1, Application of the Twinning Advanced Methodology

The TWINN project utilises the “Twinning Advanced methodology” which consists of transferring existing knowledge of practices for the development of enhanced practices¹⁷, and is based on the following steps¹⁸:

1. Identify a shared area of challenge in SME support that several innovation agencies have experience in addressing.

In TWINN, the challenge is to develop a best practice business support model for the implementation of a cross-sector innovation collaboration programme benefitting start-up SMEs in the cleantech sector.

2. Bring together a group of innovation agencies who wish to address the challenge(s) together through peers based learning and sharing of their respective experience.

Project participants:

Climate-KIC UK Limited, UK

AVAESEN - Asociacion Valenciana de Empresas del Sector de la Energia, ES

ASTER - Societa Consortile per Azioni, IT

3. Develop a Design Options Paper (DOP) based on a mutual design work and some optional pilot exercises, to serve as a guide for other interested innovation agencies to follow.

The knowledge about the identified best practice model – Climate Innovation Exchange - developed within the Climate-KIC Accelerator programme by the West Midlands Climate-KIC UK team will be shared with the innovation agencies from Spain and Italy. These Innovation Agencies will also contribute their best piloted best practise models or activities.

The key driving forces for successful implementation of these best practices will be analysed, together with the transfer conditions, obstacles and possibilities concerning, in particular, the target groups for the programme and the process by which the programme operates.

4. Joint or individual design of new and better practices based on the DOP.

The participating Innovation Agencies will share their experiences of best practice models to develop an enhanced best practice model. The EngageingSMEs workshop is the outcome of the TWINN project.

The DOP also proposes a mechanism to sustain the continual exchange of best practice models between innovation agencies after the project finishes.

¹⁷European Commission “Twinning Advanced” document. See:<https://ec.europa.eu/easme/sites/easme-site/files/Paper-Twinning-advanced-methodology.pdf>

¹⁸ <https://ec.europa.eu/easme/sites/easme-site/files/Twinning-Advanced-methodology.pdf>

Annex 2, Climate Innovation Exchange

The Climate Innovation Exchange (CIE) is a cross-sector innovation collaboration programme benefitting start-up SMEs in the cleantech sector in UK and Ireland. It is identified as the best practise model from the UK, further details of this can be found in D2.

The Climate Innovation Exchange workshop was developed as an element of the Climate KIC Accelerator programme at stage 2 within the UK West Midlands programme. The goal of this stage is to help participants translate the business fundamentals developed in Stage 1 into concrete value propositions and connect them to markets and clients. A collaborative platform for rapid prototyping, CIE incubates start-ups and is designed to break down siloes between sectors and disciplines and bring forward clean cutting edge innovations, drawing on skills and experiences both within a beyond traditional sectors to support the develop of Start-ups. The programme will support participants to appreciate where their business fits in the smart, knowledge-driven, low carbon economy. Within the UK and Ireland governmental innovation policy traditionally focuses on STEM subjects (Science, Technology, Engineering and Mathematics), yet this fails to recognise the significance of sectors, such as the creative sector. Opening opportunities to expose their innovation to new sectors, which start-ups may not have previously considered, provides new market opportunities and possible resolutions to business challenges which had been previously unconsidered, as well as making new contacts and enhancing their understanding of further investment opportunities.

CIE brings together start-ups and multi sector industry experts from across the West Midlands, Ireland and wider Europe to collaborate on enhancing existing business ideas and tackling challenges through new perspectives and approaches. It is delivered via a collection of workshops, seminars, conference days and promotion of the developments via public showcase. Led by Climate KIC the model was co-created with Birmingham City Univeristy's Cross Innovation Team and Sampad, who focus on multi-disciplinary and international collaboration practices.

As a platform for rapid prototyping through learning, research and development CIE aims to provide a supportive arena within which to develop their start-ups. The programme will encourage start-ups to work within multi- and interdisciplinary task groups, made up of innovators, technical advisors, industrial experts and facilitators, with the intention of breaking down sector and discipline siloes and instead encouraging start-ups to explore opportunities beyond those immediately apparent to them.

Further information about CIE can be seen here, in a short video of the event, the event was remained to Open Innovation Exchange, rather than Open Innovation Labs, following this video because of negative links to the acronym <https://www.youtube.com/watch?v=7ku4y9jMNc8&feature=youtu.be> .

Climate Innovation Exchange design

The programme was launched by a future of smart cities and boosting innovation for economic growth conference. Led by multi industry expert speakers from the design process and how it can add value to

improve goods and services. The rest of the week was filled with collaborative innovation workshops, delivered within an open and explorative trusting environment, with companies supported by a group of advisors and experts, as well as business coaches throughout the week.

Day 1: The future of smart cities and boosting innovation for economic growth conference. The Morning was comprised on strategic and policy talks as well as interactive websites. This was followed by a keynote address by Dr Rachel Armstrong, TED Fellow who presented on ‘the uniqueness of third-millennial challenges’ shaping the right questions through design-led experiment, and talk by International digital rights lawyer Dr Javier de la Cueva. The afternoon was filled with short commercialising and scaling innovations.

Day 2: After an introduction to the running of OIL, the start-ups will introduce their business challenges. The innovation process through which the challenges will be explored is then explained before further pitching by the start-ups of their challenges.

Day 3: On day three the focus shifts towards ideation and using the Open Innovation framework to strength this through interactive workshops and masterclasses. The workshop aims to use Free/Libre Open Source (FLOS) software and hardware tools and related technologies where appropriate. This will be followed by a focused lab session, ‘make space’ for groups to develop ideas and prototype them.

Day 4: Will be an opportunity to participate in a series of user lab session, where they can test ideas with influencers from a variety sectors, to gain feedback to validate and refine solutions.

Day 5: This is a more flexible day with Open Lab sessions to further develop challenge solutions with business coaches available for support as required.

Day 6: The day starts with a critical progress review and reflect on progress. Following another opportunity to develop solutions with business coaches and groups will have another opportunity to have more Lab time to further prototype their solutions.

Day 7: The final day of OIL will open with a masterclass on rapid deployment techniques, before start-ups have their final lab sessions to complete their prototype in preparation for the influence lab. The mentor team will then wrap up the Open Innovation Lab programme ready for the influence Lab the flowing day where companies will pitch their ideas to a multidisciplinary panel, potential clients and suppliers. Following this the start-ups will be presented with a recommendation report to answer their business challenges and help develop their businesses. It will be based which inform next business steps that funding will be awarded to start-ups.

Five main objectives of CIE:

- Identify or develop new or alternative technological and business solutions;
- Test ideas for scalability;
- Enhance the concept via collaborative interventions during the one week workshop;

- Develop understanding of the international context around climate change and the low carbon agenda;
- Document the process for ongoing learning and product development and services;
- Create a foundation for the pitch to the Influence Lab;

Successful areas of CIE

Below is a brief overview of the most successful elements of CIE, which ensure greatest impact from the programme in terms of developing the start-ups and helping to overcome commercialisation challenges which in time will enable them to come to market as a stronger business.

- The most significant success to CIE is its interdisciplinary and cross sector openness of the programme, which allows start-ups to pose their business challenges and explore innovative cross sector solutions.
- The programme also balances being open with protective of ideas. The ideas of the start-ups were fully understood by the business coaches who supported them through the full Accelerator programme. However, CIE participants were under no obligation to share information or ideas that they feel could be exploited by others. Further protection was offer to participants, as all attendees were required to sign a non-disclosure agreement to ensure that background IP was protected.
- At the start of CIE the start-ups are provided recommendation reports for how they can develop their business and address their challenges. These are then developed and recirculated following the influence lab. These recommendation reports inform changes and adaptations the start-ups should follow for maximum developments of their businesses. Designed by the businesses coaches, and informed by multi-sector industry experts, the recommendations inform the spend that Climate KIC will support to assist the start-up maximise their development.
- Through opening up new markets sectors the programme offered the start-ups the opportunities to establish new networks as resources for future work, and to target and increase interest from potential partners and investors.
- The collaborative working method will be new to most participants, providing them an opportunity to increase and develop skills.
- More generally, the West Midlands Accelerator programme aims to provide opportunities for SMEs to develop cross sector relationships throughout the development of their business. This is to expose them to the opportunities they may not have considered for their innovations within related sectors and open up the market possibilities for them. This occurs in partnerships with other projects run on the Climate KIC's partner campus where SMEs are exposed to corporate companies, and offered opportunities to work with them to tackle real demand challenges the winning competitions. Furthermore, all SMEs are provided the opportunity to attend various local and national showcasing opportunities to promote their innovations to wider audiences and expose them to possible investors.

The areas qualified for improvement

CIE received extremely positive feedback from all start-ups and external participants. The variety of sessions including groups work sessions, workshops, labs and talks all received very positive feedback and were considered noted as being highly thought provoking. That being said the most significant area to highlight for improvement was the cost of the programme and the overall programme length, as this prevented some experts being able to participate in the full programme. The programme could therefore learn from ways to deliver on a lower cost and shorter timeframe.

Annex 3, National Priorities

The United Kingdom

The UK is joining the global mission to tackle the climate change challenge as a signatory to the European Energy and Climate Policy Package. This outlines ambitious targets for Co2 emission reduction, increased energy efficiency and renewable energy usage by 2020.¹⁹ In 2015 the UK also joined over 190 other countries in UN led negotiations to support a common means of tackling climate change. The resulting Paris Agreement is due to come into force at the end of 2016 and represents an ambitious global commitment to tackling climate change. Crucially this document will force the hand of the UK government to act decisively and support the growth of the low carbon economy in a way it is currently not doing. This is because, as the Climate Change Committee outline in a recent report, the UK's current 2050 targets fall below those set out the Paris Agreement, made yet more challenging as the UK has yet to release direction for how these pledges will be implemented²⁰.

The 2008 Climate Change Act set out the UK's ambitious targets to reduce greenhouse gas emission by at least 80% by 2050, and is therefore obliged to try and do so²¹. Yet the Department for Energy and Climate Change (DECC) claimed the UK is failing here and 'drastic steps' were still needed to 'resuscitate' an effective low carbon economy²².

The effects of climate change are becoming evident at an unprecedented speed. SMEs are uniquely positioned to respond with flexibility to market demands, but research suggests they are not always as quick to act as expected²³. It could be argued that both SMEs and the 2008 Climate Change act are being hindered by a lack of infrastructure. In 2010 the Committee on Climate Change noted there was not enough available R&D to support SMEs to stimulate the market to respond to such targets, as limited funding opportunities to demonstrate innovation creates high-risk investment opportunities. R&D funding provides SMEs an opportunity to demonstrate their innovations to investors, with mutually recued risk, thus for the UK low carbon economy to flourish access to funding and opportunities for SMEs

¹⁹ http://ec.europa.eu/clima/policies/strategies/2020/index_en.htm

²⁰ Committee on Climate Change, 2016. UK Action following the Paris Agreement. Available at: <https://www.theccc.org.uk/wp-content/uploads/2016/10/UK-climate-action-following-the-Paris-Agreement-Committee-on-Climate-Change-October-2016.pdf>

²¹ http://www.legislation.gov.uk/ukpga/2008/27/pdfs/ukpga_20080027_en.pdf

²² HM Government, 2011. 'The Carbon Plan; Delivering our low carbon future'. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/47613/3702-the-carbon-plan-delivering-our-low-carbon-future.pdf

²³ BERR, 2009. 'SMEs in a low carbon economy'. Available at: https://www.mdx.ac.uk/_data/assets/pdf_file/0024/149820/file49761.pdf

to demonstrate their innovations and develop them for a consumer market are essential²⁴. This, however, is becoming increasingly difficult for SMEs to secure, as large organisations and the government refocus their investment decisions towards more stable and less risky proposals. Indeed, the national government's Climate Change Committee has noted that within the UK R&D funding opportunities fall below international standards, whilst these standards do not meet proposed levels of the EU and IEA²⁵.

The stability of the low carbon sector should stem from the support given by the UK government, however this is not always as strong as it could be. Investors look for clear and continued government support for a sector before considering it viable, whilst without financial support SMEs are required to make small and safe developments of their innovation when developing their business to ensure their survival. This results in a slow market, but one with enormous potential. The closure of Department for Energy and Climate Change, and the absorption of the climate change agenda into Department for Business, Energy and Industrial Strategy (BEIS) earlier this year was a clear indication from the government that, despite all the promise made during the Paris Agreement, climate change was a low priority area for them.

The decentralisation plan in England has also negatively affected the correlation between authority and funding. The nation government have largely kept financial control, rather than empowering local government. This has resulted in a continuation of centrally imposed low carbon innovation policies which regions have limited resources to implement or direct to address their specific needs.²⁶ This will put increasing pressure on regions to energise low carbon innovation clusters from which to implement policy and support low carbon innovation. Uyarra et al²⁷ note the creation of these clusters could foster sector diversification and provide a space for organic knowledge transfer within the low carbon sector and across related sectors. Strengthening SMEs in and around the sector and providing a challenging place for innovations to develop. It is with this in mind that the TWINN project will ensure a focus of cross sector learning, to develop a start-up support programme design that maximises the opportunities for SMEs within the low carbon economy.

²⁴ Carbon trust & Shell, 2013. 'Low Carbon entrepreneurs: the new engines of growth'. Available at: http://www.shell.co.uk/media/2013-media-releases/uk-low-carbon-tech-start-ups/ icr_content/par/textimage.stream/1426853821992/0da3d50d88234ed2e4aca0343297edef113c5186171b8d686f8de07bf5da9487/low-carbon-entrepreneurs.pdf

²⁵ Committee on Climate Change, 2010. 'Building a low carbon economy: The UK's Innovation challenge'. Available at: https://www.theccc.org.uk/archive/aws/CCC_Low-Carbon_web_August%202010.pdf.

²⁶ Uyarra, E., et al. (2016) 'Low Carbon innovation and enterprise growth in the UK: Challenges of a place-blind policy mix. Technology Forecasting & Social Change 130, 264-272.

²⁷ Uyarra, E., et al. (2016) 'Low Carbon innovation and enterprise growth in the UK: Challenges of a place-blind policy mix. Technology Forecasting & Social Change 130, 264-272.

Italy

The Green Economy in Italy has been performing well over the last years. In 2015, the Sustainable Development Foundation²⁸ has published a report showing performance in Italy in terms of main outputs:

- 17% of energy used in Italy are produced with renewable sources (16.2% in Spain and 7% in the UK),
- 42% of urban waste is recycled (33% in Spain and 44% in the UK),
- CO2 emissions have increased of 3.5% in 2015 (against 2.3% in Spain and – 2.9% in the UK).

Those positive outputs have been backed by supportive policies that have provided incentives for the expansion of renewable energies. Measures have been introduced already since early 1990s but since the diffusion of “Conto Energia” in 2012 - a national measure to incentive the building of photovoltaic production systems - renewable energies have literally exploded in Italy with the result that in 2016. Measures have also enabled SMEs to cut energy bills and incentives have been provided to make buildings more energy efficient.

Those measures did not directly target SMEs, but have had an impact on company investment in environmental protection, energy and resource efficiency and have enabled innovative solutions to be founded and new companies to be started. Support to start-ups in Italy has literally exploded in the last years and in particular after the publication of „Italy’s Start-up Act“ in 2012 that aimed „to create favourable conditions for the establishment and the development of innovative enterprises in order to contribute significantly to economic growth and employment, especially youth employment“²⁹. To reach these goals, the Italian Government has worked since 2012 on the creation of a complete and coherent legislation directed towards the development of an ecosystem of innovative start-ups with high technological content.

The main measure to support Italian start-ups has been the definition of a new status for Italian innovative start-ups made possible by Law 221/2012³⁰ that, if reaching specific criteria, those can be incorporated in a simplified manner, access tax reductions, tailor made labour law, favourable conditions for attracting

²⁹ See Italian Ministry of Economic Development, “Executive Summary of the new Italian legislation on innovative start-ups”, March 2016

³⁰ Italian Ministry of Economic Development, “Executive Summary of the new Italian legislation on innovative start-ups”, March 2016

investments, etc. A specific category of Italian innovative start-ups is that of „enterprise with a high technology value in the energy sector“.³¹

An important challenge in the last years has also been the provision of new support services for start-ups: in Italy a good network system for company support was already in place: main players including Chambers of Commerce, enterprise associations such as Confindustria that has been created in 1910, public business incubators and support offices, science parks, etc.

The new Law for innovative start-ups, that has provided new opportunities and new players from the public and private sectors, has entered the market. In 2014, Italia Startup, the main association for the innovative start-up community made a research on the Italian ecosystem for start-ups and counted 200 organizations among incubators, accelerators, technology parks and co-working spaces. This data does not, however, include chambers of commerce, main business associations and most public offices supporting new entrepreneurs. Also, in Italy most acceleration programmes do not have a specific sector focus, are dedicated to digital sector or to other industry sectors. There is therefore a wide space and need for support programmes and infrastructures dedicated to clean tech companies that are mainly assisted by operators that can hardly evaluated start-up potential and have limited access to sector competences.

At regional level, technology and knowledge based start-ups are a core element of business support policies. Emilia-Romagna is among the regions with the most advanced policies in terms of innovative start-ups. It is ranked second in Italy for number of start-ups recorded at the Chamber of Commerce Register (680 start-ups in Emilia-Romagna in Italy of a total of 5803, 12%) and it is home to 116 spin-offs (10% of total 1190 spin-off active in Italy), home to 3 Incubators Certificates by the Ministry (AlmaCube Bologna, Inacqua of Piacenza and Reggio Emilia REI), as well as it gathers over 60 organizations supporting innovative start-ups.

The region supports the “green conversion for businesses as an opportunity for development and growth, and for the regional entrepreneurship system, a new horizon.”³² The region has created a supportive environment for businesses, supporting interventions conversion, reduction of the energy consumption,

³¹ See Law 221/2012

³² <http://imprese.regione.emilia-romagna.it/green-economy>

rewards activities that reach high standards of environmental and energy efficiency and use of renewable sources. There is however no incubator dedicated to clean tech companies and no official cluster for clean-tech companies can be mentioned either.

Until now, entrepreneurship support provided by the Emilia-Romagna region is dedicated to innovative start-ups in general. However, the necessity to concentrate structural funds in specific specialization areas will orientate ESIF funds towards specific sectors and technologies in the next years. The regional government has made the choice to consider climate and the environment as aspects to diffuse in main productive sectors in the region.

Spain

Challenges of nascent cleantech companies include facing a long time to market and large upfront costs, which requires support from government and industry. Building these partnerships may be difficult. Given the general long time horizon of clean technology commercialisation, finding gaps between R&D and scale-up phases as investors wait given the increased uncertainty of their investments and long time to exit.

The clean-tech concept is still under discussion, new products, services and/or business models are researched and being developed. These result in a need for comprehensive approach to the start-up and SMEs support. The clean technology industry has fallen into a rapid decline, with investment in low-carbon energy plummeting to its lowest level. The very first challenge is the mistake made by policymakers, which had created a cycle by initially showing strong support for renewables then rapidly rowing back as they feared the expense of subsidies. Manufacturers have also suffered the crisis leaving the Country in the shade and one of the many results is job loss. Spain ranks high on innovation cleantech drivers and commercial cleantech innovation. However, there is a lack of substantial cleantech innovation due to lack of environmental patents and VC investment. The OECD33 suggested to Decoupling energy consumption and waste generation from economic growth in relevant sectors review the harmful impact of the taxes and subsidies and enabling strategic environmental assessments in the transport, tourism, energy, agriculture, and construction sectors.

Innovation and low carbon sectors are important for start-ups development in Valencia because the Region has an enormous entrepreneurial potential, which has always been well known as a land of

³³ <http://www.oecd.org/environment/ocedreviewofspainsenvironmentalperformance.htm>

entrepreneurial people and as a world reference in various economic sectors, such as the ceramic, shoemaking and agriculture. Entrepreneurship is the necessary starting point for economic recovery and for this reason the Valencian Regional Government promotes and supports the sustainable, smart and inclusive entrepreneurship in the region, boosted by the economic and industrial policy.

On December 20th 2015 elections failed to give any party the majority needed to form a government and all attempts at a coalition failed. As of October 2016 a provisional government is in place but it has limitations, for instance, it cannot appoint new ministers. The provisional government has no authority to approve next year's budget, a basic tool for governing that should be in place. This situation leads to lack of measures to support clean technologies in terms of fiscal benefits and pushed back investments on low carbon innovation. To solve this particular challenge, AVAENSEN decided to support cleantech/low carbon SMEs and start-ups with extra support to validate their product/services via a tool called Technology Validation.