



Case Study



MF Case 4: Knowledge on Mitigation Finance

Triangulum multi-country approach

Triangulum is a research project focusing on reduction in carbon emissions while stimulating economic growth and disseminating the results of the research to other European cities. It is thereby an example for the importance of R&D and the best use of new technologies.

Triangulum stands for three points: demonstrate, disseminate and replicate. Starting on 1st February 2014, the project is implemented in three cities: Manchester (UK), Eindhoven (Netherlands), and Stavanger (Norway). Subsequently, the concepts will be transferred to Leipzig (Germany), Prague (Czech Republic), and Sabadell (Spain).

The objective of the project is to demonstrate ‘smart green growth’ – reducing carbon emissions while boosting the economy. The project aims to transform designated urban districts into smart quarters in 3 pilot cities and then translate the concept to other cities. In Manchester for example the project focusses on the transformation of the student quarter known as the Corridor, which contains around 72,000 students. This will entail renovating historical buildings and building up an autonomous energy grid to supply the entire district with heat and electricity. The grid will combine geothermal and district heating with two independently operating electricity grids and a fuel cell that can store excess energy. In Eindhoven, two districts will be transformed into sustainable living environments. The former Philips industrial complex in the “Strijp-S” neighborhood will become a creative smart district. An innovative concept to clean up contaminated land will be utilized as a means of producing energy.

Funding Sources

Triangulum has received €25 million of funding from the EU Horizon 2020 program which is the lead financial source for R&D in Europe. This fund is leveraged by local resources of the individual partner in the cities such as the universities, research institutes, private companies (e.g. in the case of Manchester it is Siemens who is interested in the research results) and local utilities. Since the project is still ongoing it is difficult to say, what the leverage rate of the project will be, also given that the projects results will be translated into the needs of other European cities.

The impact of R&D has however in general been analyzed by the EU as summarized below:

EU research program produce excellent value for money for the European taxpayer not only because they generate the significant impacts of public R&D outlined above, but also because EU projects are selected to have a higher impact than national public R&D support. Specific studies have examined the effects of EU funding and have demonstrated the following economic impacts: -

1. €1 of Framework Programme funding leads to an increase in industry added value of around €13.
2. Member States' own evaluations demonstrate the high impact of the FP: the FP's annual contribution to, for instance, UK industrial output exceeds £3 billion. ·
3. On the basis of econometric modelling, the long-term impact has been estimated at an extra 0.96 percent of GDP, an extra 1.57 percent of exports, and a reduction of 0.88 percent in imports.
4. ·The potential value added generated by eco-innovation pilot and market replication projects under the EU Competitiveness and Innovation Program (CIP) could be calculated in some € 3.4 million per million € invested
5. Studies have shown that the rate of return for publicly funded R&D usually exceeds 30%, and that each extra 1% in public R&D generates an extra 0,17% in productive growth

References

http://ec.europa.eu/research/horizon2020/pdf/proposals/horizon_2020_impact_assessment_annexes.pdf

Further information/sources: <http://www.iao.fraunhofer.de/lang-en/business-areas/mobility-and-urban-systems-engineering/1112-eu-sponsors-sustainable-city-concepts.html>; <http://universitylivinglab.org/news/horizon-2020-triangulum-demonstrate-disseminate-replicate-smart-green-growth>

Credentials

Authors: Ute Zimmermann, Zhuo Yao and Michael Lindfield – with Florian Steinberg.

Edited by: Florian Steinberg