



Results of the Competitiveness and Innovation Eco-innovation Initiative

Executive summary

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The profile of the Initiative

The Competitiveness and Innovation (CIP) Eco-innovation Initiative is a grant scheme funded by the EU which aims to support commercially oriented eco-innovation projects of European enterprises. The Initiative was launched in 2008, as part of the EU's Competitiveness and Innovation Framework Programme (CIP)². It is managed by the Executive Agency for Competitiveness and Innovation (EACI) in cooperation with the Directorate-General for Environment of the European Commission.

The funding is offered for the commercialisation of new market-ready products, processes or systems that have positive environmental benefits; and focuses on innovative solutions that can be replicated by other companies across the EU. The funding thus contributes not only to protecting the environment but also to improving the overall competitiveness of European business.

Applications for funding are invited each year under specified thematic priorities:

- Materials and Process Recycling
- Buildings
- Food and Drink
- Greening Business
- Water efficiency, treatment and distribution (since 2011)

This report provides a summary of the main results from the projects funded in the first three years' of the Initiative.

In this time, 126 projects received total funding of €86.8 million from the EU, matching investment provided by the projects. These projects are typically transnational cooperation projects. Around 70% of the projects involve partners from more than one country; projects comprise on average 4 partners, with small and medium-sized enterprises (SMEs)³ forming the large majority of the partners. Partners operate in the manufacturing sector (37%), the environmental services sector (34%) and scientific and technical activities (25%). Forty-three per cent of the projects based on the main partner, are located in Spain and Italy, with the remaining projects mainly from UK, Netherlands, Austria, France and Germany.

The study confirms that the programme in the first three years offers good value for money based on the projected environmental, economic and employment benefits which far exceed the public resources spent on supporting the projects.

Environmental benefits

The aim of the Initiative is to reduce environmental impacts through the use and application of new, commercially viable products, processes and services. Environmental benefits estimated to be generated (from project inception to two years after project completion⁴) are:

¹ Results are based on a detailed analysis of the Initiative, undertaken by ICF GHK in association with VITO and Maastricht University (UNU-MERIT), under Study Contract S12-607293

² It is funded from the Entrepreneurship and Innovation Programme (EIP), one of the constituent programmes of the CIP

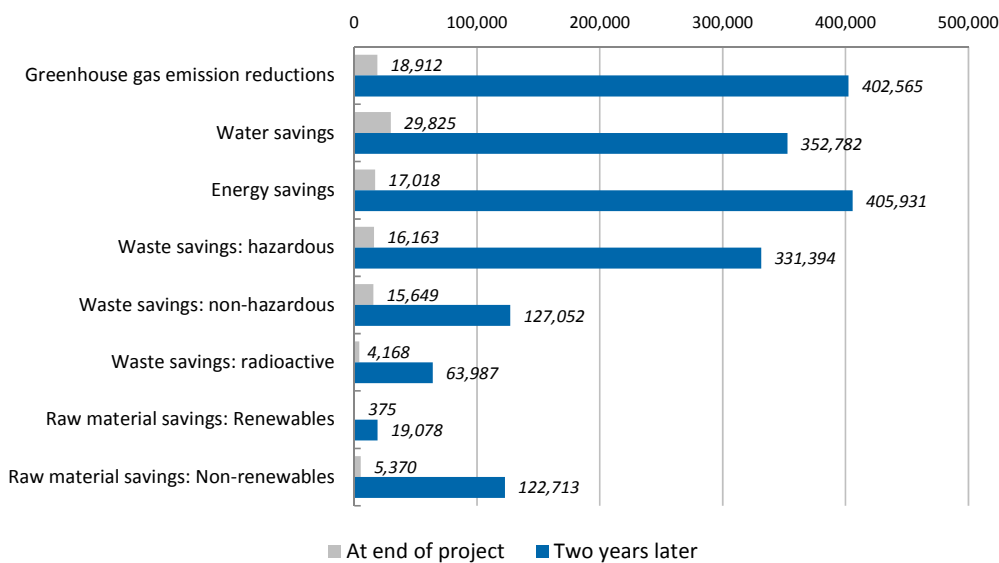
³ SMEs are enterprises that employ less than 250 employees, or have annual sales of less than €50m

⁴ Projects are typically funded for a period of three years. This study is based on projects that have either just completed the funded activity, or are close to finishing. Projects were asked to estimate the impacts of the project

- greenhouse gas emissions (saving of 3.7m tons CO₂ equivalent)
- water use (saving of 169m m³)
- energy use (saving of 1.3m tons oil equivalent)
- hazardous waste generation including radioactive waste (saving of 130,000 kg)
- non-hazardous waste generation (saving of 609,000 tons)
- use of various raw materials (saving of 1.5m tons)

These savings accrue to the funded projects from implementing the eco-innovations commercialised through the Initiative. To put things into perspective, the above savings correspond to the annual consumption/waste generation of an EU city of about 125,000 people and water savings of an EU city of 350,000 people. Even this small group of 126 eco-innovation projects can – if as successful as planned – have a very significant environmental benefit.

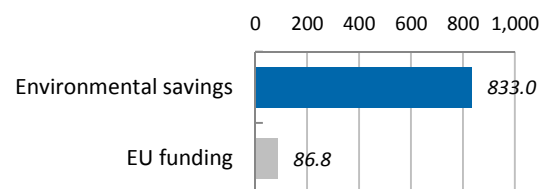
Figure 1 Number of persons whose environmental ‘footprint’ is offset by aggregate environmental savings of the CIP eco-innovation projects, by area of saving



Source: Survey of project coordinators, VITO calculations

The use of energy and materials, as well as the emission of greenhouse gases and the disposal of waste, generate environmental impacts, such as global warming and contamination of air and water. Environmental impacts can be monetized in terms of damage and avoidance costs. This is the money that would be needed to avoid or repair the effects of damages to our environment. For instance, the cost of medical treatment of respiratory diseases related to air pollution. Such costs are mostly omitted by actual market mechanisms, and are in fact borne by society as a whole.

Figure 2 Monetised environmental benefits generated by CIP eco-innovation projects in comparison with total EU funding (million euros)



Source: Survey of project coordinators, VITO calculations

on their businesses two and five years after projects completion. This report is based on the projections two years after completions. Reported impacts take account of what the projects might have otherwise achieved. The results have also been adjusted for the tendency of project beneficiaries to over-estimate future benefits

The monetised environmental savings generated by the projects are estimated at approximately €40 million at the end of the projects, rising to €833 million after two years (and further after five years). This is almost ten times the amount paid out to these projects from the EU budget in the form of CIP grants.

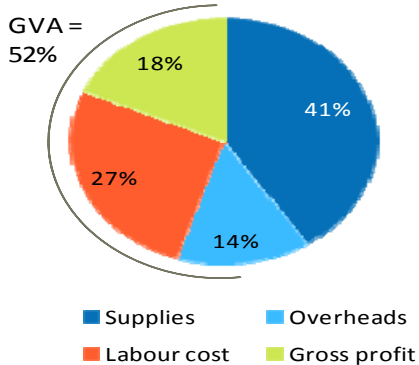
Economic benefits

The CIP Eco-innovation grant targets innovation projects that can be quickly turned into successful businesses, generating new income from existing or new markets. The study found that most of the projects have good revenue-generating potential. The 126 projects are in total estimated to generate additional business sales (within the company and among partners) of around €260 million by the end of the projects, and rising threefold to €840 million two years after project end. The study allows for sales that might have been generated without the Initiative, the transfer of some sales from other EU businesses and with some allowance for the tendency of projects to be over optimistic about future prospects. If the anticipated business revenues materialise as planned, each €1 of CIP grant funding will have generated €20 in additional European business revenue over a five-year period including three years for project implementation and the two years following the end of the project.

While new sales is a simple yet important indicator of the projects’ commercial success, the total benefit to the economy is better measured by the gross value added (GVA). This is defined as the difference between the value of the final output (sales) and the value of of goods and services purchased to produce the sales, and broadly equates to the labour cost, overheads and gross profit.

The project portfolio’s combined net contribution to EU GVA is estimated to be some €420 million two years after the projects end. Over the five years following project inception, this corresponds to about €10 in GVA produced for each €1 of CIP grant funding.

Figure 3 GVA as a share (%) of sales



Source: Survey of project coordinators

Gross profits on average are estimated to be some 18% of sales, confirming the commercial potential of the projects. The Initiative is important to make these innovation projects economically viable by shortening the payback period for the investment and thus mitigating risks. SMEs expect that the CIP grant will shorten the payback period by around 20% (or 6-14 months to around 40 months) on average. The EU’s financial commitment also works as a catalyst – a quality stamp – for accessing additional funding.

Employment benefits

Apart from being a source for growth and profits, the eco-innovation projects supported by the CIP Initiative also generate employment. The new business activities are estimated to generate around 1,000 additional full-time equivalent (FTE) jobs in the second year after project closure.

The EU thus spends €92,000 for the creation of one additional full-time job in the second year after project closure, which is considerably more than job creation programmes, but more in line with the experience of other R&D and innovation programmes. Aggregating the full-time years worked over the five years from project inception to two years after project end, some 2,600 man-years of work are generated at a cost of €33,300 each in funding (somewhere around the total average EU labour cost).

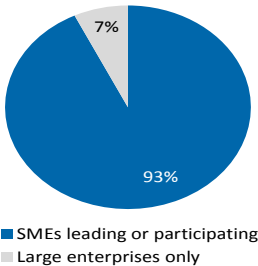
In summary, the benefit to the EU economy is considerable, even after adjusting for potential 'optimism bias' on the part of 'highflier' projects. Two years after its end, each Eco-innovation project is projected to generate on average 3 FTE gross additional jobs before adjusting for deadweight, displacement and multiplier effects. After adjusting for these effects, the average net additional number of jobs per project is 8 FTEs.

Benefits to SMEs

While the CIP Eco-innovation Initiative is not restricted exclusively to SMEs, but it is heavily dominated by small business, with only nine of the 126 funded projects undertaken by a large firm or led by a large firm consortium. The economic and environmental benefits thus accrue largely to SMEs. Access to the CIP grant is especially important for these companies, given that the smaller the company, the more difficult it usually is to secure external financing for innovation.

In addition, two thirds of projects that sell their innovative products or services to other businesses expect that this demand will be mainly from SMEs; with consequent benefits to the competitiveness of SMEs. Small businesses are also equally well represented among current and prospective supply chains. Most innovations are introduced in sectors where SMEs play a particularly important role, suggesting that the innovation will also be replicated by SMEs.

Figure 4 Share of CIP eco-innovation projects with SME participation



Source: Survey of project coordinators

Conclusions

The analysis of the results show that the CIP Eco-innovation Initiative is money well spent, as the expected environmental, economic and employment benefits outweigh the costs to the public purse by far. Public funding is very important for businesses, especially SMEs, to bridge the financing gap that is frequently present between the development and testing of the innovation and bringing it to the market (the so-called "valley of death"⁵).

The operation and funding of the Initiative has supported promising European developers of eco-innovations by providing the risk capital that would otherwise not be accessible. It is also helping to create future innovation 'options' for Europe through demonstrating successful innovations to other companies which

⁵ A point which occurs between the piloting of an innovation and when it becomes commercially ready: here the level of risk (due to potential technical failure) is sufficiently high to deter investment, particularly where large-scale testing is required

can further develop and deploy these. It is therefore highly recommended to continue with the Eco-innovation Initiative.