

GUIDING PAPER FOR INVESTORS ON

ECO-INNOVATION IN CIP FINANCIAL INSTRUMENTS

The financial instruments of the Competitiveness and Innovation Framework Programme (CIP) aim at facilitating access to finance for SMEs.

In particular, the High Growth and Innovative SME Facility (GIF) targets the lack of capital of innovative SMEs with high growth potential.

Under GIF, higher investment rates are allowed in the case of funds focused on eco-innovation. This paper sets out an approach to assess the eco-innovation focus of such funds.

The text of the CIP decision¹ introduces eco-innovation as follows: *eco-innovation is any form of innovation aiming at significant and demonstrable progress towards the goal of sustainable development, through reducing impacts on the environment or achieving a more efficient and responsible use of natural resources, including energy. Eco-innovation is a progressive concept: the CIP programme must remain responsive to changes. The promotion of eco-innovation through the Framework Programme aims at contributing to the implementation of the Environmental Technologies Action Plan.*

In the context of the CIP financial instruments, the two following cumulative criteria will be used to characterise eco-innovation:

- any form of innovation: new products and services, production processes, organisational or management changes... creating business opportunities; and
- prevention or reduction of environmental impacts, or a more efficient and responsible resources use, including energy use.

The European Commission may approve a higher investment percentage in the case of a fund with an eco-innovation focus, based on the assessment of the fund's investment policy by the European Investment Fund.

To assess the eco-innovation focus of a fund, a distinction is typically made between:

(1) activities of traditional eco-industries, i.e. products and services whose main purpose relates to pollution prevention and management, or natural resources management. In this case, any innovation related to their core activities can be considered eco-innovation. See examples in table 1.

¹ Decision No 1639/2006/EC of the European Parliament and of the Council of 24 October 2006 establishing a Competitiveness and Innovation Framework Programme.

(2) other activities where eco-innovation can reduce pollution and/or optimise resources use. In this case, an innovation can be considered to be an eco-innovation if the expected benefit for the environment is clearly identified (measurable as far as possible) and substantial (going beyond the gains in resources efficiency generally resulting from process improvements). A life-cycle approach should ensure that the environmental impact is not shifted from one part of the life-cycle to another (for example from production to use or disposal). See examples in table 2.

As eco-innovation is a progressive concept and the CIP programme must remain responsive to changes, the European Commission will update these guidelines if and when required.

Background information on the Environmental Technologies Action Plan

The Environmental Technologies Action Plan (ETAP) aims to promote eco-innovation and the take-up of environmental technologies. The Action Plan was adopted in January 2004. It sets out a number of actions that the Commission, Member States and other stakeholders, such as industry and national and regional governments, should undertake.

More information about eco-innovation can be found on the ETAP website:

http://ec.europa.eu/environment/etap/index_en.htm

A wide range of activities foreseen in ETAP have now been set into motion. Eco-innovation and the role that environmental technologies can play are increasingly being brought forward at both political and technical levels.

Table 1: examples of innovation in traditional eco-industries

Activity	Examples of eco-innovation
Renewable energy sources	<ul style="list-style-type: none"> ■ Biomass (electricity a/o heat generation) ■ Geothermal ■ Solar photovoltaic and water - heating ■ Tidal energy, wave energy ■ Wind power - onshore & offshore
Water management and treatment	<ul style="list-style-type: none"> ■ Management of water resource, upgrading of infrastructure ■ Demand-side efficiency (incl. Water metering, Gray water recycling) ■ Rapid analysis of drinking water and waste water ■ On-line monitoring networks and automated sensing technologies ■ Restoration techniques for degraded water resources ■ Disinfection of drinking water, desalination, ■ Wastewater treatment, membranes, reduction of sludge production ■ Nanotechnologies for water treatment
Waste management and treatment	<ul style="list-style-type: none"> ■ Effluent (incl. landfills leachates) treatment ■ High-efficiency recovery of energy and chemicals, re-use of off-gas ■ Safe disposal of dangerous substances, especially Mercury ■ Composting units and biogas processing for biodegradable waste
Recycling	<ul style="list-style-type: none"> ■ Collection, separation and treatment for re-use or recycling of all materials, in particular: <ul style="list-style-type: none"> - plastics, polymers, tires - batteries and accumulators - end-of-life vehicles, ships, planes
Soil	Techniques of soil remediation
Environmental services and monitoring	<ul style="list-style-type: none"> ■ Analysis, including life-cycle analysis ■ Environmental surveys and expertise ■ Eco-design of products and services, support to environmental management ■ Environmental Services (such as energy contracting)

Table 2: examples of eco-innovation in other activities

Activity	Examples of eco-innovation
Conventional energy and energy efficiency	<ul style="list-style-type: none"> ■ Carbon dioxide sequestration ■ Combined heat and power ■ Fuel cells (materials, membranes, systems...) ■ Radical innovations in production processes leading to energy saving
Energy Distribution and storage	<ul style="list-style-type: none"> ■ Energy storage (Flywheel technology, superconducting magnetic storage...) ■ High voltage direct current (HVDC) transmission to shore ■ Environment-friendly Hydrogen production, storage and distribution ■ Intermediate energy vectors (ethanol, methanol...)
Industry	<ul style="list-style-type: none"> ■ Process optimisation using enzymes ■ Carbon emission management ■ Alternative equipments for motors, heat power and refrigeration ■ Eco-friendly materials (ceramics, specialist metals), substitute for chemicals ■ Process control and intensification – smaller plants with same capacity, better management of the supply chain ■ Separation processes (membrane, distillation) ■ Substitution of hazardous substances in industrial processes
Information and Communication Services	<ul style="list-style-type: none"> ■ Measurement and control of pollution from existing processes ■ Environmental-friendly “smart metering”, semi-conductors for remote reading
Transport	<ul style="list-style-type: none"> ■ Advanced uses of biomass/biofuels ■ Fuel cells ■ High efficiency energy recycling ■ Hybrid engines
Construction	<ul style="list-style-type: none"> ■ Passive houses, High Environmental Quality ■ Superinsulation, radiant heating and heat recovery ventilation, local heat generation and cooling, Earth-sheltering ■ Day-lighting, Calibrated solar orientation and cross-ventilation ■ Renewable resources and photovoltaic systems ■ Environment-friendly construction materials
Agriculture	<ul style="list-style-type: none"> ■ Organic farming, low P/protein food production ■ Development of renewable natural resources, bio-energy, bio-materials ■ Reduction of environmental load, reduction of herbicide/pesticide use ■ Reduction of water consumption and water re-use ■ Reducing Nitrogen pollution (greenhouse gases, nitrates, ammonia) in an integrated way.