

# Position Paper

## Establishment of the Innovation Fund

April 2018

### ETS INNOVATION FUND

*The ETS Innovation Fund is a useful, well-targeted tool in the portfolio of EU Research & Innovation support. With its focus on the energy-intensive industry it is complementary with the Horizon 2020 programme. It is well-suited to support large-scale innovation projects with Technology Readiness Levels 6 to 9.*

*The ETS innovation Fund could further narrow its focus to innovation areas that can be adopted by multiple industries. It could also focus on technology corridors that can be driven by local (European) renewable energy systems. Setting both focusses can be done without pre-defining concrete technologies.*

### KEY TRANSVERSAL INNOVATION AREAS TO BE PROMOTED

- 1. Energy Efficiency improvements.** While the low hanging fruit in this field has already been harvested, with several tens of percentage points improvement in the last decades, the effort should be maintained within the limits of economic efficiency.
- 2. Recycling.** Technological development that improves recycling rates brings a double advantage. High quality recycling saves on energy consumption for material production. It also fosters the Circular Economy by harvesting material out of the stock that is in use, often called the “urban mine”. This stock is always local and therefore reduces the EUs dependency on raw material import.
- 3. Direct electrification.** This includes mainly process heating systems that for now have been mainly driven by fossil fuels and which could be adapted to use electricity. The electricity is rapidly decarbonizing. According to the European Environment Agency, the CO<sub>2</sub> intensity of the EU power generation already declined steeply from 431 g CO<sub>2</sub>/kWh in 1990 to 276 g CO<sub>2</sub>/kWh in 2014, and the EU power sector is expected to become entirely carbon-neutral well before 2050. Moreover, electrical systems have additional advantages such as better control and lower maintenance. Electricity-driven processes come with productivity gains which improve industry competitiveness. While many electrification technology branches are relatively mature, some still need more development at industrial scale. Also, their use on

flexible basis (improved demand response coping with renewables variability) needs to be further facilitated. Finally, innovative policy and business models are needed to make electrification compete on its own merit.

4. **Electrically produced hydrogen.** Hydrogen (H<sub>2</sub>) could be a good alternative to coal as a reduction and reactive agent in certain industrial processes. However, this is only a low carbon solution when the hydrogen is produced by low carbon electricity (notably in periods of excess generation, so that it is economical and curtailment is avoided)
5. **Digitisation and Smart Processes.** Energy-intensive industries could amply support the electricity grid through flexible operation. Cross-sectoral efforts in the field of process data collection, monitoring, simulation and emulation shall bring industrial synergies and benefits at multiple levels.

## COLLATERAL BENEFITS

Apart from decarbonization and a reduction in the energy and material import dependency, this innovation strategy also brings socio-economic benefits. It creates high value jobs and positions Europe as a forerunner in the upcoming markets of low carbon technology on multiple levels (renewable energy, industrial process, urban mining and circular economy...). It increases productivity and efficiently integrates different processes, which impacts positively their economic and operational resilience.

*The European Copper Institute (ECI)—founded in 1996 and based in Brussels—coordinates a team of professionals based in offices across Europe, and works closely with its copper industry members on regulatory matters and market development programs. ECI is part of the Copper Alliance™, which brings together the global copper industry to develop and defend markets for copper, and to make a positive contribution to society's sustainable development goals.*