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ECO-INNOVATION DEVELOPMENT IN FRANCE

In the 2017 EU Eco-innovation composite index, France ranks 13th, sharing the same score with Ireland (12th), and being behind United Kingdom, Spain and Portugal. Despite favourable legislation supporting eco-innovation and entrepreneurship since 2003, and even more so with the 2015-2020 national strategy for ecological transition to sustainable development that supports knowledge production, research and innovation, France has fallen below the European average.

In 2017, France is close to the European average in terms of eco-innovation inputs, eco-innovation outputs, resource efficiency outcomes and socio-economic outcomes. In eco-innovation activities sub-index France ranked lowest in the EU. The circular economy and eco-innovation discourse is diffusing in the economic and policy landscapes. With the rise of the social and solidarity economy in France, there is more focus on environmental issues and circular economy. Industrial and territorial ecology, which generally enables a lesser use of resources, is still very active, despite the recent crisis. Innovation competitions enable to boost eco-innovations and initiatives linked to the circular economy and can represent a tool to guide research.

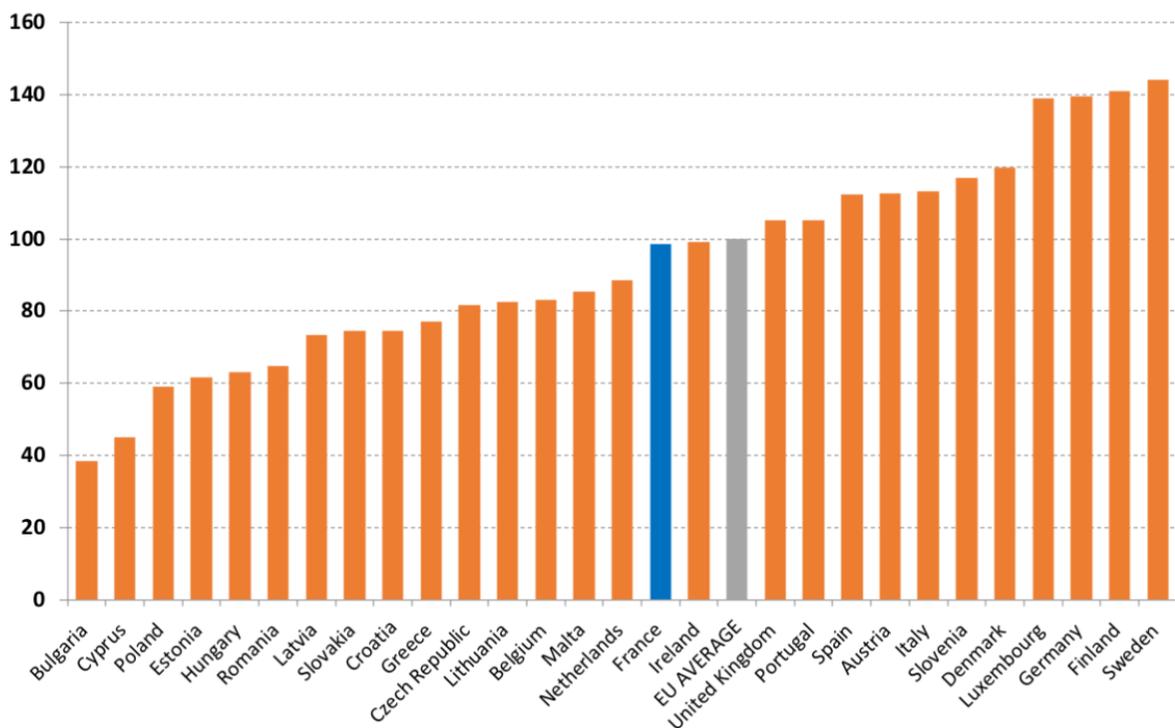
The public policy and financial support is also substantial, but as the funding decreases, economic actors are facing difficulties to thrive further. Individual consumption does not fully support eco-innovation yet, as circular-economy-friendly behaviour still needs to become a common trend. Numerous laws and initiatives in France, such as the roadmap for circular economy (2018), the Law for the Social and Solidarity Economy (2014) and the Energy Transition for Green Growth Act (2015), have strengthened the organisations involved in the circular economy and the solidarity and social economy. Local governments are also strongly supporting these sectors, as

they are an active recruiting ground and a driving force for the local economic development.

France is a major European player in the field of eco-innovation, and has a strong track record in environmental regulation and support schemes –targeting both public and private actors (including individuals). Due to the large share of nuclear and hydraulic electricity production, France has one of the lowest per capita CO2emission rates in Europe. However, in spite of shrinking levels of greenhouse gas (GHG) emissions (-15.3% between 1990 and 2016), the total carbon footprint caused by the French population is not declining, mainly because of the reliance on imported goods and energy sources such as oil and gas. Moreover, France failed to meet its targets for GHG emissions in 2017, by emitting 463 tons of CO2 equivalent of GHGs, which is 3.6% more than its goal. A rate of 9-10Mt per year reduction is needed over the 2015-2050 period for the country to reach its intended target of a 75% reduction of its total emissions by 2050.

Figure 1

EU27 Eco-innovation Index 2017, composite index



Source: EIO, 2018.

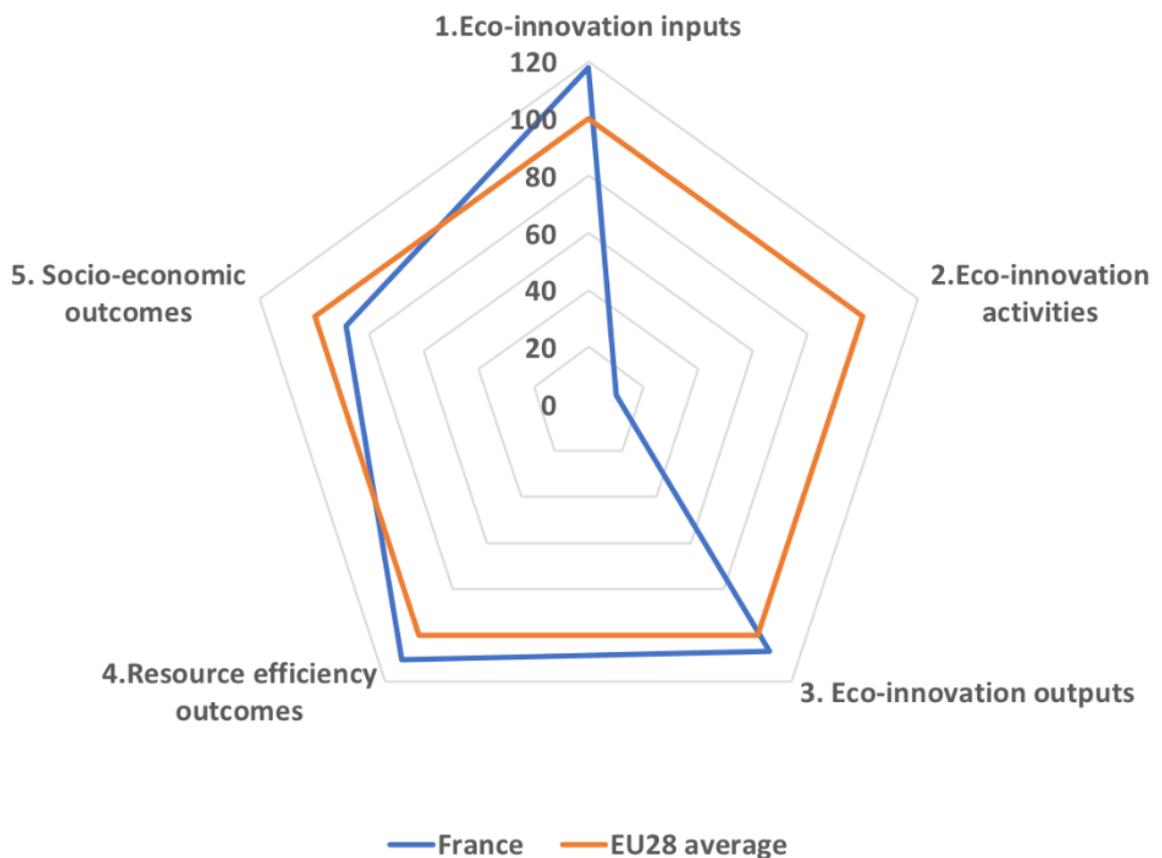
In the 2017 EU Eco-innovation composite index, France ranks 12th or 13th, sharing the same score with Ireland, and being behind United Kingdom, Spain and Portugal.

Despite favourable legislation supporting eco-innovation and entrepreneurship since 2003, and even more so with the 2015-2020 national strategy for ecological transition to sustainable development that supports knowledge production, research and innovation, France has fallen below the European average in 2017.

In 2017, France is close to the European average in terms of eco-innovation inputs, eco-innovation outputs, resource efficiency outcomes and socio-economic outcomes. The lowest score was gained in eco-innovation activities sub-index where France ranked lowest in the EU (see Figure 2).

Figure 2

Components of the Eco-innovation index for France, 2017



Source: EIO, 2018.

The eco-innovation input is higher than the European average in France in 2017. The public investments for environmental and energy research and development dropped slightly in comparison to the previous year, but France still ranks among the top five in the EU in this indicator. As for the private investors, their number and their financial capacity still seem to be insufficient. There is also a good pool of R&D personnel and

researchers in France. Yet, the green early stage investments have slowed down: they should rise again in the near future as the government and the industry's income is growing, as they reaped the rewards of past investments in environmental and energy R&D.

The eco-innovation activities have a very low index as two indicators based on the Community Innovation survey Environmental section (which was skipped by France) are missing: the levels of enterprises that introduced an innovation with environmental benefits obtained within the enterprise, and of enterprises that introduced an innovation with benefits obtained by the end user. The eco-innovation index is solely based on the statistics on companies with ISO 14001 registration which is rather small in France. It has to be noted that the statistics on the Eco-Management and Audit Scheme (EMAS) certification in France is also very modest in comparison other EU countries.

In the eco-innovation output sub-index France has scored 107, being very close to the EU average. The country's green patenting performance is among the best in the EU. But the statistics in scientific publications and media coverage of the eco-innovation and circular economy topics is weaker than in many other Member States. In spite of an increase of eco-innovation related patents and media coverage, the eco-innovation outputs take a toll through some decline of publications and media coverage.

As for the resource efficiency outcomes indicators, the French material productivity was above the European average, being third on the 28 EU Countries in 2014, and fifth in 2015. Indeed, the DMC decreased, while the material productivity increased. The water productivity is below the European average in 2011, despite a slightly higher water productivity, compared to 2010. The average water efficiency reached 80% in 2012. The energy productivity is below the European average in 2014 and 2015, despite a slight increase in energy productivity. The greenhouse gas (GHG) emissions intensity level remained the same between 2015 and 2016, even though the GHG emissions increased in the latest. This can be explained by the fact that the country is implementing the different eco-innovations created the previous years, and is switching to a service economy, which emits less than the primary and the secondary sectors.

Below EU average performance in socio-economic outcomes could be explained by the fact that figures related to employment and turnover in eco-and circular economy

related industries are based on the NAICS codes that do not include renewable energy sector, a field where growth is observed across many European countries. France ranks 7th in its eco-industry export performance, as the level of exports of products from the eco-industry has been steadily rising over last four years. If the trend continues, socio-economic outcomes should increase in the following years.

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