

Green investment in the European Union : situation, additional needs and funding

Note written by Jean-François Pons & Gwenaëlle Varin, Alphalex-Consult

In 2020, the political authorities of the European Union approved the Green deal programme proposed by the European Commission. This programme has a goal to achieve net zero emissions by 2050. A year later was introduced the target of a reduction of 55% of greenhouse gas (GHG) emissions by 2030, accelerating the efforts needed to achieve this ambitious goal. The Green deal programme also includes a list of actions to protect and restore the environment (fight against pollution, protection of biodiversity, promotion of circular economy etc.). This paper focuses on the amount of “green” investments related to the Green deal programme, on the additional needs as estimated by the European Commission up to 2030 and looks at the different sources of “green” funding.

1. Green investment in the EU: situation and additional needs

1.1 Climate

1.1.1 Climate-related investments have been growing in recent years

In the **energy sector** – which includes from the installation of renewable energy to energy efficiency measures – the average investments per year in 2011-2020 were reaching € 192 billion¹ for the European Commission and € 215 billion² for the European Investment Bank (EIB). Those investments were equal to € 220 billion in 2020 and € 223 billion in 2021 for the EIB, and increased by 28% to reach € 285 billion in 2022.

This amount represents not less than 2% of EU GDP³, a better effort than the United States’ which only invested € 211 billion in 2021 (1,1% of their GDP). However, the EU remains behind China and its € 479 billion in 2021 (3,2% of their GDP).

TABLE 1.
Average annual Investment needs in the energy system and for transport, historical trend 2011-2020, and Fit-for-55 policy scenario 2021-2030 (Eur 2022, billion) (annual)

Sector	2011-2020 (annual)	Fit-for-55 policy scenario 2021-30 (annual)	Difference (annual)
Supply side	55	148	+93
Power grid	15	55	+40
Power plants, incl. boilers and new fuels	40	93	+53
Demand side	160	339	+178
Industrial sector	12	34	+22
Residential	102	202	+100
Tertiary	46	103	+56
Total (Energy System)	215	487	+272
Transport sector ⁹⁵	549	754	+205
Total (energy and transport)	764	1,241	+477

Source : Staff Working document from the European Commission published in March 2023

1. European Investment Bank, “Investment Report 2021/2022: Recovery as a Springboard for Change” (Luxembourg: European Investment Bank, February 2022), p. 73. https://www.eib.org/attachments/publications/economic_investment_report_2021_2022_en.pdf.
2. European Commission, “COMMISSION STAFF WORKING DOCUMENT Investment Needs Assessment and Funding Availabilities to Strengthen EU’s Net-Zero Technology Manufacturing Capacity” (Brussels: European Commission, March 23, 2023), p. 43. https://single-market-economy.ec.europa.eu/publications/staff-working-document-investment-needs-assessment-and-funding-availabilities-strengthen-eus-net_en.
3. European Investment Bank, “Investment Report 2022/2023: Resilience and Renewal in Europe” (Luxembourg: European Investment Bank, February 2023), p. 85 https://www.eib.org/attachments/lucalli/20220211_economic_investment_report_2022_2023_en.pdf.

As far as the **transport sector** is concerned, green investments in 2011-2020 have reached even higher levels, with € 549 billion per year for the European Commission⁴. When adding the investments of the energy and transport sector, what has been invested in climate reaches € 764 billion per year between 2011 and 2020⁵.

1.1.2 The additional needs estimated by the European Commission

According to the following table from the European Commission, € 1,240 billion of average annual investments are needed between 2021 and 2030⁶. On top of that, the 2022 Repower EU Communication published in the months following the beginning of the war in Ukraine introduces new measures for the EU's energetical policy. An additional investment of € 270 billion is needed between 2022 and 2027, meaning that € 35 billion per year⁷ is necessary. **Therefore the total additional effort needed equals € 510 billion per year between now and 2030, i.e. a little less than 3% of EU GDP.**

2. Environment

Apart from climate, there are other **environmental objectives**, such as the conservation of biodiversity, combating pollution, and advancing circular economy practices. There are less available figures to gauge the amount of investment dedicated to these objectives, as the EIB does not disclose any figure in this regard.

The European Commission estimates investments **at a trend between € 110 and € 130 billion per year**. These estimates are currently being reassessed.

And a Commission document⁹ on the Green Deal programme established in 2020 (and which is still judged valid by the Commission) projects that a minimum of € 130 billion per year in additional investments is required to achieve the environmental targets besides the climate ones.

3. Green investments: additional needs

Therefore, **the total green investment needed – for climate and environment – is on the order of € 1.500 billion on average per year, or 10% of EU GDP**

and the additional need compared to the 2011-2020 period is € 640 billion on average per year.

An interesting part of the EIB's Investment Report published in February 2023¹⁰ is about the proportion of businesses (mostly SMEs) committed to taking climate action, which has rebounded after stagnating the previous year. Of the surveyed firms, 51% have already made investments in climate action, with 8% making their first investment in 2022. An equal percentage (51%) of firms are also planning future investments, a figure that has steadily increased since 2020 when it was 41%.

2. EU Green Finance in 2022

To our knowledge, there are no figures available on the total amount of green finance in the EU in 2022 (or 2021). But we have different sets of data which seem to show that the magnitude of the different sources of green finance is in line with the investments realised in 2022 and are even higher. It seems reasonable that significantly more investments can be financed in the years ahead, without having a clear idea about the limit.

2.1 Green and sustainable-linked bonds : € 270 billion in 2022

In 2022, Green bonds issued by EU entities (sovereigns, local authorities, public development banks, banks, corporates etc) amounted to € 233 billion (49% of global Green bonds issuance) and Sustainability-linked bonds issued by EU entities amounted to € 37 billion (50% of global SLB issuance).

This amount represents 30% of the EU total of investments in reduction of GHG (€ 764 billion) and for other environmental purposes (€ 120 billion) realised on average in the 2021-2030 period.

2.2 Green loans and Sustainability-linked loans to corporates: roughly € 200 billion in 2022

In 2022, Green loans to corporates and financials amounted to about € 100 billion and Sustainability-

4. European Commission, "COMMISSION STAFF WORKING DOCUMENT Investment Needs Assessment and Funding Availabilities to Strengthen EU's Net-Zero Technology Manufacturing Capacity" (Brussels: European Commission, March 23, 2023), p. 43. https://single-market-economy.ec.europa.eu/publications/staff-working-document-investment-needs-assessment-and-funding-availabilities-strengthen-eus-net_en.

5. Ibid, p. 43

6. Ibid, p. 43

7. Ibid, p. 3

8. Ibid, p. 43

9. European Commission, "COMMISSION STAFF WORKING DOCUMENT Identifying Europe's Recovery Needs Accompanying the Document COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Europe's Moment: Repair and Prepare for the Next Generation" (Brussels: European Commission, May 27, 2020), p. 17. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0098&from=EN>.

10. European Investment Bank, "Investment Report 2021/2022: Recovery as a Springboard for Change" (Luxembourg: European Investment Bank, February 2022), p. 233. https://www.eib.org/attachments/publications/economic_investment_report_2021_2022_en.pdf.

linked loans to about € 400 billion (Source: Bloomberg). These two categories of loans disbursed in the EU amounted to about € 200 billion.

3. Green loans to households and SMEs: no data available to our knowledge

There is, to our knowledge, no general statistics for green loans to households and SMEs, the amount of which is certainly significant (for energy efficiency of their buildings or for the acquisition of electric cars for instance).

4. EIB funds: € 36 billion in 2022

The EIB estimates that € 1 billion lent by them triggers accompanying funds of € 3 billion. The EIB and the EIF also give guarantees which support banking loans for climate and environmental purposes.

5. EU and national public subsidies or loans: € 100-130 billion

At the time of the publication of the Green deal programme in the first weeks of 2020, the European Commission estimated the volume of EU and national subsidies linked to this programme at € 1.000 billion on 10 years, *i.e.* € 100 billion per year on average.

Since then, the EU Next generation programme, agreed in July 2020, should spend 30% of the additional package of € 730 billion, *i.e.* € 220 billion, in green projects in 5 years. There has been also a new package on energy, called RePower EU, which entails an additional programme of € 225 billion available in loans.

A conservative estimate of the public support would be between € 100 billion and € 130 billion per year between 2022 and 2027.

6. Other sources of funding green investments

There are at least 3 other sources of funding green investments which would need more research:

- self-financing by enterprises and households;
- funding by public development banks like KfW, CDC, CDP, etc.;
- financial investment by other financial institutions including insurance companies, asset-managers, private equity, etc.

Conclusion

- **It is today difficult to have a complete picture of the green financing of investment in the EU and a better reporting would be welcome:**
 - a - There are missing elements like green loans to households and SMEs, national subsidies, self-financing, and many other fundings coming from the private sector (asset-managers, private equity, etc.).
 - b - One cannot add the different sets of data like Green bonds and Green loans, because Green bonds can be used by the lenders of Green loans, the EIB, the Commission and national governments or local authorities to refinance their loans or subsidies.
- **But the important amounts of the funding instruments which can be measured seem to show that there is no shortage of green finance up to now and a greater effort seems possible.** Another element of comparison is the size of the assets of the EU banking sector: € 29.000 billion. These assets grow by 2% each year, *i.e.* € 580 billion.
- According to the last European Commission estimates, investment needs for climate and environment up to 2030 are in the order of € 1.500 billion/year, or 10% of EU GDP, which is a little less than the double of the level attained in 2021. **The increase of investment should reach € 640 billion per year on average in the years up to 2030.**
- Given all the sources of funding which have been listed in this article, **this additional investment need of € 640 billion per year does not seem to be out of reach for green finance**, provided other conditions are met: a regulation to induce structural changes of corporates, SMEs, public authorities and households (including an efficient pricing of carbon), and a public financial support for the most risky projects and for the SMEs and households who need it.