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for the Environment, Nature Conservation
and Nuclear Safety



Making the Most of Climate Action Financing in the European Union

Opportunities, Co-Benefits and Recommendations

Imprint

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Background and objective of this brochure

This brochure is based on the results of a workshop held in Brussels in May 2016 and several studies and research studies carried out for the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) between 2014 and 2017. It addresses the current system of mainstreaming climate action across the EU budget and the objective to spend at least 20 percent of the total budget on climate action.

This brochure provides an overview of the different opportunities on EU level to finance low-carbon projects and their current use. Besides the public funding possibilities, private climate finance (opportunities) are also shown. Furthermore, the results of an analysis of the co-benefits of climate action financing are presented. Finally, recommendations derived from the workshop and studies are presented to serve the further development of climate action financing through the EU budget.

1.

Financing needs for a low-carbon future

The European Union (EU) has set the long-term goal to become a competitive, low-carbon economy and to reduce its greenhouse gas (GHG) emissions by 80 to 95 percent compared to 1990 by 2050. On the way to this long-term objective, EU Member States have pledged to reduce their GHG emissions by 2030 by at least 40 percent domestically compared to 1990, to increase the share of renewable energy to at least 27 percent and to reduce projected future energy consumption by at least

27 percent. A more ambitious energy efficiency target of 30 percent (proposal of European Commission) to 35 percent (proposal of European Parliament) is currently under negotiation. These targets also serve as the EU's contribution to the international Paris Agreement, which entered into force in November 2016. The Agreement obliges all Parties to commit to reducing GHG emissions as of 2020 according to their respective Nationally Determined Contributions.

Table 1: EU 2030 Climate and Energy Targets

Targets	2020	2030
Climate	20 % reduction of GHG emissions compared to 1990	At least 40 % less GHG emissions domestically compared to 1990
Renewable Energy	20 % share of renewables in energy consumption	At least 27 % renewable energy consumption
Energy Efficiency	20 % primary energy savings compared to projections	At least 27 % improvement in energy efficiency

Source: European Council (2016)¹

To achieve the EU's 2030 climate and energy targets, the scale-up of climate-relevant investments in the EU is urgently needed. These investments need to be backed up by a robust legal and political framework.

Considering building renovation cycles and lifetime expectations of new power plants, investment choices taken today will be critical to achieving the longer-term targets in an economical way and to avoiding stranded assets. At the same time, increased low-carbon investments will reduce the EU's energy import dependency and allow it to maintain its credibility regarding an ambitious climate policy. The effective use of public climate finance has become strategically important for the EU and can enable the EU's energy transition by securing market shares in the growing global market for low-carbon technologies.

To ensure that a minimum amount of the EU public finance is spent on climate action, it introduced the concept of "climate mainstreaming" into the EU budget in 2014. Climate mainstreaming integrates climate action into all spending areas of the EU budget and requires that at least 20 percent is spent on climate-relevant measures over the 2014 to 2020 period. This corresponds to a commitment of around 217 billion euros (20 percent of 1.087 billion euros, which is the total commitment appropriation of the 2014 to 2020 EU budget in current prices). However, figures presented by the European Commission show that this target is currently expected to be missed by 1.2 percentage points.²

Even if this spending target is met, a large finance gap remains. To achieve the 2030 targets, the European Commission estimates that around 38 billion euros in annual additional investments are needed between 2011 and 2030.³ In total, yearly investments in the EU would need to increase to 188 billion euros (and even 851 billion euros if transport is included). About half of the needed additional investments (17 billion euros) are to be made in energy efficiency measures, especially in buildings. If the EU energy efficiency target is increased to 30 percent, additional needed investments for energy efficiency are calculated at 54 billion euros. Low-carbon investment needs differ substantially amongst Member States: those with a GDP below 90 percent of the EU average have investment needs two to three times higher than countries with an above-average GDP.⁴

As public funding is limited by nature, it will not be sufficient to finance all measures necessary to achieve the 2030 targets.

However, if EU public climate finance is fully absorbed by Member States and spent in an efficient and effective way, the European Commission estimates that current EU funds, together with national climate funds, are sufficient to unlock the additional private investments needed in the lead-up to 2030.⁵

This brochure provides a closer look at EU public and private finance flows to three crucial fields of EU climate policy: (1) energy efficiency, (2) renewable energies and (3) climate change mitigation measures in the agricultural sector.

- Energy efficiency: To meet the 2030 energy efficiency targets, investments in energy efficiency measures must increase substantially. The EU Energy Efficiency Directive proposes a range of possibilities to Member States to finance energy efficiency measures, particularly through EU public finance.
- Renewable energy: The EU 2030 renewable energy target will be surpassed if the current growth rate of renewable energies is sustained. In contrast to energy efficiency financing, the EU budget only plays a subordinated role in renewable energy investments in Member States. However, innovative instruments such as the European Fund for Strategic Investments (EFSI) have shown how to boost renewable investments.
- Climate change mitigation in the agricultural sector: EU support for climate change mitigation activities in the agricultural sector is critical to reaching the EU 2030 climate target, as agricultural activities are responsible for about 10 percent of EU-wide emissions.⁶ In addition, agriculture is one of the policy fields in which EU Member States have consolidated and transferred their responsibilities and associated financial means to the EU level, pooled in the EU's "Common Agricultural Policy" (CAP). The CAP is one of the most important EU policy areas and accounts for more than one third of the planned EU budget in the 2014–2020 period.⁷

2.

Several opportunities for financing climate action through public EU funds exist

This chapter shows the opportunities for Member States to make use of available public funds to invest in climate action. Public funds on EU level originate from three primary sources: 1) EU budget, 2) European Investment Bank (EIB) and 3) European Bank for Reconstruction and Development (EBRD).

The **EU budget** is used to pay for policies under shared management of the European Commission and

Member States or directly managed by the European Commission. These policies include areas such as agriculture, protecting the environment, improving transport, energy and communication links between EU countries, and fostering competitiveness and research. The annual budget must remain within the limits set in advance by the Multiannual Financial Framework (MFF), which is currently established for 2014 to 2020.⁸ The MFF budget for this period is

Table 2: Main programmes for climate financing: volumes and shares

Programme	Total volume (2014 to 2020) in current prices	Current average climate share of the programme (2014 to 2017)
EAGF*	312,735 million euros	13 %
ESIF**	European Regional Development Fund	276,855 million euros
	Cohesion Fund	74,928 million euros
	European Agricultural Fund for Rural Development	95,577 million euros
Horizon 2020	79,401 million euros	21 %

*European Agricultural Guarantee Fund, **European Structural and Investment Funds

Source: Own calculations based on European Commission (COM(2016)300)⁹



around 1.087 billion euros (in current prices). Within the EU budget, EU climate finance is mainly disbursed through the CAP- including the European Agricultural Guarantee Fund (EAGF), as well as the European Structural and Investment Funds (ESIF) and the Framework Programme for Research and Innovation (Horizon 2020). Table 2 shows the volumes of these funds and the share of the total volume that is spent on climate action. Further climate funding comes from the LIFE Programme and parts of the Connecting Europe Facility (CEF).

EIB investment priorities support the EU's political objectives. In addition to managing or supporting EU climate finance instruments (for example NER300 (Innovation Fund), EFSI), the EIB also backs other international climate funds. In 2015, EIB invested 20.7 billion euros in climate-related measures.¹⁰ In the run-up to the Paris Agreement in 2015, the EIB announced plans to spend at least 25 percent of its total annual lending on climate projects by 2020.

The **EBRD** is a multilateral development bank owned by 66 countries as well as the EU and the EIB. Its investment focus is on the private sector, where about 70 percent of its transactions are conducted. It

finances projects, provides technical assistance and conducts policy dialogues with stakeholders in the countries of operation. Beneficiary countries in the EU include all new Member States (EU-13) except for Malta.¹¹ Since 2015, EBRD has invested in sustainable energy projects via its Green Economy Transition (GET) approach. Expanding on energy efficiency and renewable energy projects, the GET approach includes the areas of water and material efficiency as well as climate change adaptation.¹² Under the GET approach, EBRD seeks to increase the volume of green financing from an average of 24 percent of its annual investments (2006–2016) to 40 percent by 2020.

The following page shows key climate action financing opportunities in the EU.

Overview of main EU funds for financing climate action

EU budget

European Structural and Investment Funds	<p>The ERDF aims to strengthen economic and social cohesion in the EU. Among others the Fund's financial resources are used to promote energy efficiency and energy supply security. A predetermined share must be invested in projects that promote a low-carbon economy: 20 percent in more developed regions, 15 percent in transition regions and at least 12 percent in less developed regions. The budget is 277 billion euros.</p> <p>www.cohesiondata.ec.europa.eu</p>
European Regional Development Fund (ERDF)	
Cohesion Fund	<p>The Cohesion Fund was set up to strengthen the economic, social and territorial cohesion of the EU. It provides financial resources to Member States with a GDP per capita below 90 percent of the EU average. Between 2014 and 2020, 75 billion euros are available for environmental measures, including sustainable development and energy, trans-European networks and technical assistance.</p> <p>www.cohesiondata.ec.europa.eu</p>
European Agricultural Fund for Rural Development (EAFRD)	<p>The EAFRD is the financial instrument for the promotion of rural development. It constitutes one of the financial pillars of the CAP. The Fund has six priority areas. These include restoring, preserving and enhancing ecosystems (44 percent of overall financial resources), promoting resource efficiency and supporting the shift towards a low-carbon and climate-resilient economy in the agricultural, food and forestry sectors (6 percent). The budget is 100 billion euros. www.cohesiondata.ec.europa.eu</p>
LIFE Programme	<p>LIFE is the only financing instrument of the EU that exclusively focuses on environmental and climate protection. It promotes the transition to a resource-efficient, low-carbon and climate-resilient economy. The resources of the programme are 3.5 billion euros, which is a 50 percent increase compared to the previous budget period. In total, 864 million euros (25 percent) are dedicated to climate-relevant measures.</p> <p>www.ec.europa.eu/environment/life</p>
Connecting Europe Facility (CEF)	<p>Through the CEF, the EU finances cross-border infrastructure projects of common interest in the energy, transport and telecommunications sectors. Within CEF, 2.1 billion euros are earmarked for climate measures in the energy sector and 9.6 billion euros in the transport sector between 2014 and 2020 (40 percent of total funding for each sector).</p> <p>www.ec.europa.eu/inea/en/connecting-europe-facility</p>
European Agricultural Guarantee Fund (EAGF)	<p>The EAGF is the second financial instrument of the CAP and primarily disburses direct payments to farmers. The “greening premium” is contingent on adherence to climate- and environmentally friendly agricultural practices. The budget for 2014-2020 is 305 billion euros, of which approximately 87 billion euros (approximately 28 percent) are reserved for the greening premium.</p> <p>www.ec.europa.eu/agriculture/cap-funding_en</p>
Horizon 2020	<p>Horizon 2020 is the EU Research and Innovation programme for implementing the Innovation Union – a Europe 2020 flagship initiative. Almost 80 billion euros are invested in the programme, of which 35 percent need to be channelled to climate action projects. For the 2018 to 2020 period, “building in a low-carbon, climate-resilient future” is the main focus area with a budget of 3.34 billion euros.</p> <p>www.ec.europa.eu/programmes/horizon2020</p>

EIB

European Fund for Strategic Investments (EFSI)

The European Fund for Strategic Investments (EFSI) is part of the European Commission's Investment Plan for Europe. EFSI aims to close the existing investment gap in the EU by mobilising private financial resources for strategic investments. It currently has a volume of 21 billion euros, of which 16 billion euros are guarantees of the European Commission and 5 billion euros are the EIB's own financial resources. The funding is used as risk protection so the EIB can issue additional loans to invest 61 billion euros in higher-risk projects. These are then expected to leverage five times the amount in private finance, so that 315 billion euros can be invested in total between 2015 and 2017. EFSI does not have a quota for sectors or countries, so projects are simply selected on the basis of certain investment criteria. EFSI 2.0, which will continue to run until 2020, will increase the investment target from 315 billion euros to at least 500 billion euros. At least 40 percent of EFSI infrastructure and innovation projects will aim to contribute to climate action in line with the Paris Agreement.

www.eib.org/efsi

NER300

Managed by the European Commission, the NER300 is the largest innovation support programme worldwide for large renewable energy projects and carbon capture and storage (CCS) demonstration projects. It is funded from the sale of 300 million emission allowances from the New Entrants' Reserve (NER) set up for the current phase of the EU Emissions Trading System. EIB is responsible for monetising the allowances and conducting the project appraisals. Starting in 2021, the programme will be continued as the "Innovation Fund", through which an additional 3 to 3.5 billion euros can be provided for low-carbon projects (the actual amount will depend on the revenues from the sale of emission allowances).

www.ec.europa.eu/clima/policies/lowcarbon/ner300_en

EBRD

Green Economy Transition

The EBRD launched the Green Economy Transition (GET) approach in 2015 to increase the volume of sustainable financing and broaden its scope compared to previous programmes. The GET approach seeks to increase the volume of green financing from an average of 24 percent of EBRD annual business investment in the ten years up to 2016 to 40 percent by 2020. Since 2006, the EBRD has invested more than 24 billion euros in sustainable programmes.

www.ebrd.com/what-we-do/get.html

Other

European Energy Efficiency Fund (EEEF)

The European Energy Efficiency Fund (EEEF) is a public-private partnership dedicated to promoting energy efficiency measures and the use of renewable energy in the EU. It was set up in 2011 with an initial volume of 265 million euros, of which 125 million euros comes from EU financial resources, 75 million euros from EIB, 60 million euros from Cassa Depositi e Prestiti SpA and 5 million euros from Deutsche Bank. The latter acts as investment manager of the Fund. EEEF finances energy efficiency, small-scale renewable energy and clean urban transport projects.

www.eeef.eu

3.

EU budget significantly increases financing in climate action – but more can be done

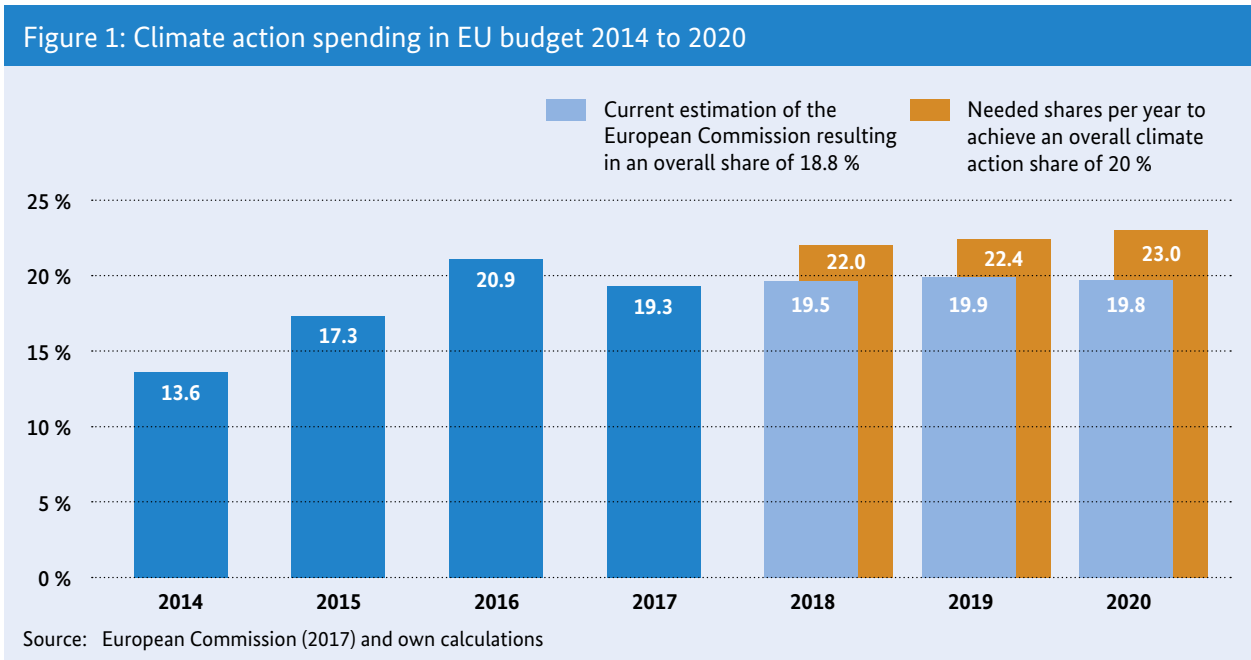
In February 2013, the European Council decided that at least 20 percent of EU spending in the period 2014 to 2020 should be spent on climate action measures, including both mitigation and adaptation. The plan is to achieve this target by mainstreaming climate action across all policy fields of the budget.

In several EU funding programmes, specific climate quotas have been defined:

- In the European Regional Development Fund (ERDF), more developed regions must spend 20 percent, transition regions 15 percent and less developed regions 12 percent on climate action measures.
- In the European Agricultural Fund for Rural Development (EAFRD), at least 30 percent shall be reserved for environment- and climate-related investments.
- In the Horizon 2020 research programme, at least 35 percent of research funding shall be spent on climate action.
- In the LIFE programme, at least 25 percent of the available funding shall be spent on climate action.

The climate-spending objective was not achieved in 2014, 2015 and 2017. A value of more than 20 percent was reached only in 2016 (see Figure 1). The European Commission attributes the low figures of the first few years to the transitional phase in the CAP and the ERDF's Operational Programmes, which had not been finalised.

To reach an average climate quota of 20 percent over the entire budgetary period, the annual share of climate-related expenditure in 2017 to 2020 must be well over 20 percent, as shown in the figure. In its mid-term review of the MFF, the European Commission estimates that a share of 20 percent will not be reached in the following years, resulting in an average share of 18.8 percent. At the end of 2017, the European Commission recommitted to its target of spending 35 percent of Horizon 2020 on climate action for the period 2018-2020. However, our calculations have shown that it will not be fully sufficient to reach an average climate action share of 20 percent.



Tracking EU climate action funding

The applied tracking method for climate financing in the EU budget is based on established Organisation for Economic Co-operation and Development (OECD) Rio markers and offers a simple method of calculation. Expenses are given a coefficient of 100 percent, 40 percent or 0 percent, depending on their contribution to climate action. However, as the European Court of Auditors pointed out in its special report on climate finance in the EU budget¹³, the definitions of the EU coefficients are weaker than the OECD’s. If an expenditure makes a “significant contribution” to climate change objectives, this would qualify for a 100 percent coefficient in the EU tracking, but only result in a 40 percent coefficient in the OECD tracking. Rio markers are based on the planned and not on the actual expenditure. However, the overall allocation of

climatic coefficients to the intervention areas does not consider the respective details of the measure. The depth of detail of the intervention areas is decisive. The more intervention areas are laid down in the regulations, the more precisely climatic coefficients can be allocated. For example, the ERDF and the Cohesion Fund have over 100 intervention areas with 35 climate-relevant categories, while the EAFRD has only four.

Furthermore, while the EU tracks its climate action funding, it does not have a consistent methodology in place to measure the climate impact of funded projects (neither ex ante nor ex post). It also does not track its carbon-intensive investments. As a result, no calculation of the EU budget’s carbon footprint is available which compares both saved and additionally emitted greenhouse gases.

Table 3: OECD categories and EU coefficients

Applicable category	Categories of activity	EU climate coefficients	Example: Criteria used in European Structural and Investment Funds
2	Expenditure for activities for which climate is the principal (primary) objective.	100 %	The support makes a significant contribution towards climate change objectives.
1	Expenditure for activities for which climate is a significant, but not the principal, objective.	40 %	The support makes a moderate contribution to climate change.
0	Expenditure not targeted at climate objectives.	0 %	The support does not contribute towards those objectives or the contribution is insignificant.

Source: European Court of Auditors (2016)

4.

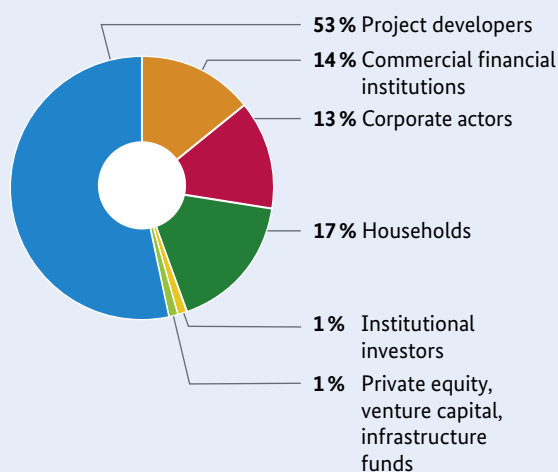
Additional private climate finance needs to be unlocked and directed towards green investments

The challenge for private climate investment is two-fold. To achieve the EU climate and energy targets, it is necessary to attract additional private finance for climate action, but withdrawal or divestment of private capital from fossil fuels must also occur to fund climate action in a comprehensive manner.

The European Commission estimates that an additional investment of 38 billion euros annually is necessary to achieve the EU's 2020 climate target. Those needs surpass the capabilities of public budgets substantially. The contribution of private investment is therefore a must. In 2014, private finance contributed 62.2 percent of the 320 billion euros of total climate finance worldwide, according to a Climate Policy Initiative's report.¹⁴ In Western Europe, the contribution of private finance was much less and amounted to only 47 percent of 80 billion euros of total climate finance.¹⁵ However, these numbers only include investment in renewable energy. An overview of total private investment in energy efficiency is not available. Among private investors, project developers remained the most prominent source of private climate finance, followed by corporate

actors, households, commercial financial institutions, private equity (including venture capital and infrastructure funds) and institutional investors.

Figure 2: Major private investors in Western Europe in 2014



Source: Climate Policy Initiative (2017)¹⁶

Challenges and opportunities for private climate finance

During the last decade, the increase in private climate finance was driven by the growing trust of investors in renewable energy and energy efficiency technologies on the one hand. On the other hand, additional drivers included institutional and private investors searching for profitable assets due to very low market interest rates in the years since the global financial crisis of 2008. Despite increasing volumes, private climate finance is still associated with higher risks related to the specific nature of investment in energy efficiency and renewable energies.

Sample barriers

- High upfront investments and long pay-back periods
- Fragmented small-scale energy efficiency projects
- High transaction costs
- Lack of standardised and methodologically sufficient methods for risk and performance assessment of climate investment
- Lack of experience by banks with energy efficiency finance vs. non-bankable projects set up by project developers
- Lack of know-how and information about benefits and opportunities of climate action financing
- Uncertain political frameworks and incentives

For renewable energy, the maturity of most technologies and the incorporation of incentives into the existing legal and economic framework have spurred private finance. While investments in fossil fuel energy by private banks between 2004 and 2014 were ten times higher than in renewable energy,¹⁷ there is some information suggesting that investment in renewable energy has outperformed investment in fossil fuel power plants in recent years.¹⁸

Effective financing instruments need to meet both the particular cost structure of energy efficiency and renewable energy projects as well as the market requirements for risk reduction. In the energy efficiency sector, it is mostly long-term loans which are disbursed, but in the renewable energy sector, equity and direct investment are widespread as well. To overcome the aforementioned barriers, governments need to strengthen the legal and economic frameworks for investments in energy efficiency and renewable energy. In addition, public finance support designed to reduce the risks and overcome these barriers is essential to attract private finance.

The share of climate assets within the portfolios of EU institutional investors of 1 to 2 percent is almost negligible.¹⁹ To mobilise additional private finance and to broaden the sources of funding, the commitment by institutional investors to finance climate action needs to be strengthened. Investors state that there is a lack of financially attractive mitigation projects. As a result, strong competition amongst investors for attractive projects can be observed.²⁰

In addition, instruments need to be developed and/or adjusted to address the risk propensity of institutional investors. The proactive role of European public banks like EIB and EBRD, as well as of national public banks of EU Member States, is important for creating trust. However, public funding should avoid crowding out private investment. It therefore should not merely be used to fund climate projects, but also to target the barriers to private investment, for example through partial risk sharing facilities.

Divestment for a climate-friendly future

Divestment is an investing tactic whereby investors remove assets from a sector or industry based on moral objections to business practices. The divestment movement in the climate change debate is directed at the fossil fuel industry. The rationale is that fossil fuel companies are valued based on their reserves of oil, gas and coal resources, and cannot extract these reserves if the global temperature increase is to be limited to 2 °C or lower.

As a result of divesting, a company's valuation will be reduced and the financial holdings may become "stranded assets". The organisation [350.org](https://www.350.org) recorded more than 800 institutions and 58,000 individuals that have made public announcements on their divestment, representing a total volume of more than 6 trillion US dollars.

Private climate financing instruments and their funding

Between 2012 and 2014, the majority (72 percent) of global private climate finance was channelled through balance sheet financing, meaning that corporates and households use their own financial means to fund renewable and energy efficiency projects. Off-balance sheet financing, for example external financing, made up less than a third of global private climate finance and consisted of project-level market rate debt and project-level equity.²¹ In the following, three important instruments are presented:

Green bonds

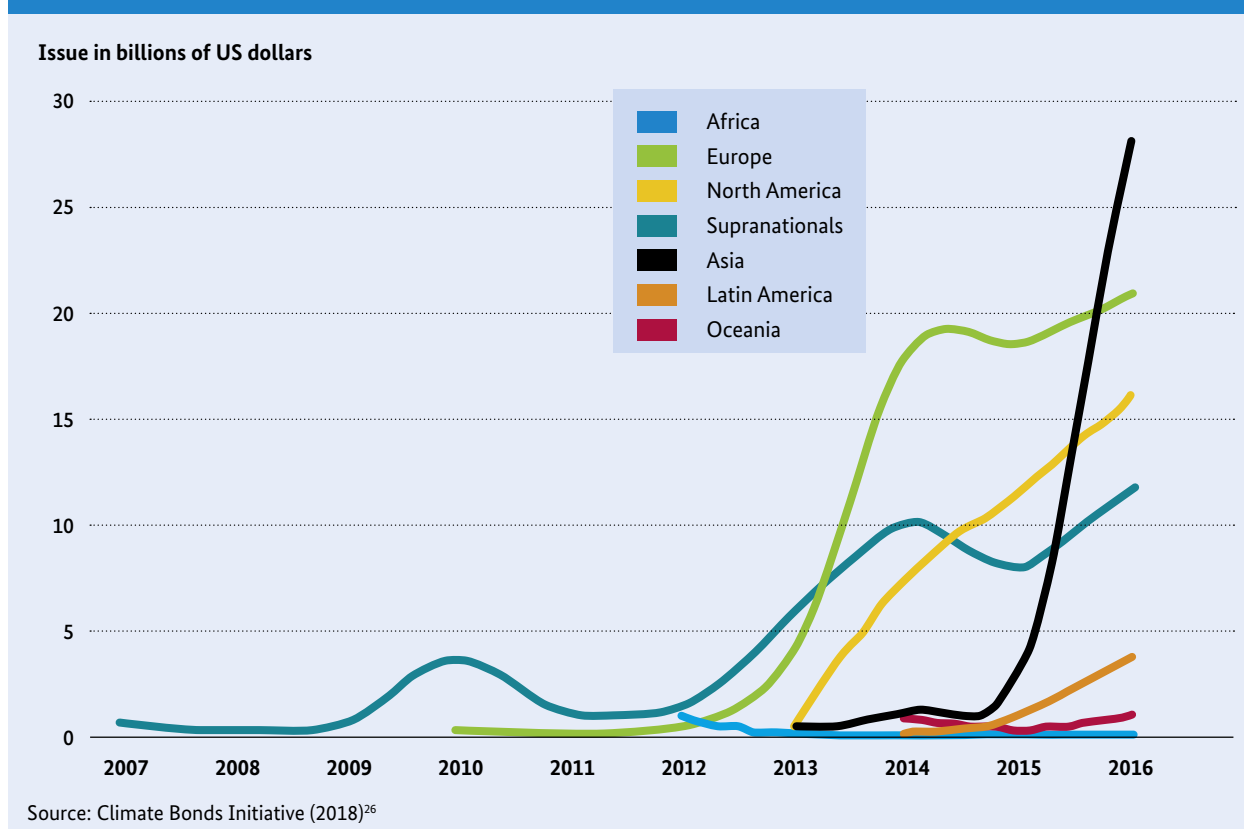
Green bonds are similar to conventional bonds, the difference being the condition that the proceeds are invested in projects generating environmental benefits. In contrast to a loan, a green bond does not require additional securities. This can be considered a serious advantage. One disadvantage of a bond over a loan is that the investor receives ownership rights.. Both instruments respond to different market conditions, but bonds provide a

financing opportunity for a wider range of potential investors. According to data compiled by Bloomberg, the global market volume of green bonds rose above 69 billion euros by 2015²², driven mainly by international development banks and US-based private capital. In the EU, the green bonds market is most developed in the United Kingdom (UK) and France.²³ The majority of climate-related bonds in the EU are issued by multinational banks, such as the European Investment Bank,²⁴ national development banks and municipalities. They focus on energy efficiency (mainly in the transport and building sectors), renewable energy, waste and water management and other climate-related topics. The market has grown rapidly, and Environmental Finance reported that 71 billion euros of green bonds were issued during 2016.²⁵

Equity funds

The forms of funds for climate investment are manifold, including infrastructure funds, private equity funds, venture capital funds and others. They may classify as open-end funds, where investors can sell their stakes at any time, or closed-end funds, also named alternative investment funds. Closed funds

Figure 3: Green bond issuance by region



play an important role in renewable energy investment. Projects are clearly structured, and favourable legal and economic framework conditions guarantee returns. In 2012, Allianz Global Investors set up its first closed Allianz Renewable Energy Fund targeting institutional investors. The fund raised 150 million euros of private finance, which was invested in acquiring developed renewable energy projects²⁷ in a short time frame, from December 2012 until September 2013.

YieldCos

YieldCos are publicly traded companies that provide stable and growing earnings for investors from operating assets that generate a predictable stream of cash flow. They represent another new instrument to attract private investment, including from institutional investors. This instrument involves a sponsor company contributing cash-generating assets to a limited liability company (LLC). The YieldCo then raises cash through an initial public offering (IPO) of its stock and uses the IPO proceeds to buy a share in the LLC. The advantages of a YieldCo for investors are regular and predictable cash flows and tax shields,²⁸ for example in the case of renewable energy investments with purchase guarantees and fixed feed-in

tariffs. The instrument was first used in the United States (US), but European companies have also started to use it. Capital Stage is one such German company, which set up YieldCos by investing in turnkey or operational wind and solar farms.²⁹ In 2014, PNE Wind AG set up two YieldCos in the UK and Germany.³⁰

Most funds created by European public banks, or in which public banks are involved, also invest in renewable energy and other environmentally friendly sectors (see Table 4). Funds for building energy efficiency, on the other hand, are rare. Support from public banks that retain high ratings demonstrates that risks are shared and helps create trust in the respective funds. This point is especially important for areas with less guaranteed incomes, where higher financial risks exist. Dynamics of renewable energy funds show that, when legal, economic and political frameworks are stable, meaning that risks are already low, funds can be successful without any public participation. In this case, a lack of bankable projects becomes the major barrier. In countries lacking these conditions, public support is required to make investments more attractive.

Table 4: Climate-relevant equity funds of the European Investment Bank (EIB) for Europe

Name of fund	Sector(s)	Target region	Set up	EIB commitment
Copenhagen Infrastructure II	Renewable energy	Europe, North America	2014	50 million euros
UK Energy Efficiency Investments Fund L. P.	Energy efficiency	United Kingdom	2014	23 million euros
Mirova – Eurofideme 3 FPCI	Renewable energy	European Union	2014	40 million euros
Glenmont Clean Energy Fund Europe II	Renewable energy	Eurozone and United Kingdom	2013	50 million euros
Marguerite Fund (European Fund 2020 for energy, climate and infrastructure)	Transport, energy and environment	Europe	2010	100 million euros
Impax New Energy Investors II	Energy and environment	Europe	2010	40 million euros
HgCapital Renewable Power Partners 2	Energy and environment	Europe	2010	40 million euros

Source: EIB. Equity and fund investments³¹



5.

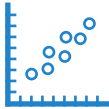
Climate finance brings several co-benefits for the economy and the society

As one of the main purposes of climate change investment is to reduce GHG emissions, mostly by reducing fossil fuel combustion, financing programmes and activities mainly report on energy savings and GHG emission reduction. However, climate change investments create important additional “non-climate benefits”, also referred to as co-benefits. Systematic assessments of co-benefits achieved is hampered by insufficient documentation of co-benefits in programme reports of EU-financed climate action and other financing instruments. This lack of data is a serious obstacle to showing the manifold additional economic, environmental and social benefits.

A study published by the International Energy Agency in 2014 identified 15 areas for co-benefits from investment in energy efficiency and renewable energies.³² Some of the co-benefits are outlined on the next page.

Quantitative assessment of all co-benefits of climate financing on the national level is also important in order to increase acceptance of shifting public and private finance towards low-carbon development and to improve strategic decision-making. Currently, only few EU Member States assess at least the macroeconomic impact.

Climate action co-benefits



Economic growth

- Climate financing can generate a positive impact on GDP growth, as it leads to increased output and new jobs for producing the respective technologies and providing necessary services
- Overall GDP growth takes place when positive impacts from energy efficiency and renewable energies overcompensate for the decrease in fossil fuel energy production
- Ex ante modelling of the impact of the EU Energy Efficiency Directive on GDP concludes that the GDP at EU level is expected to increase additionally by 0.25 percent in 2020, in which case primary energy consumption will be reduced by 15.4 percent



Employment

- Can be measured by two indicators: 1) the gross employment effect (sum of both direct and indirect employment) and 2) the net employment effect
- Direct positive employment originates via the production of clean technologies and the provision of services, for example the installation, operation and maintenance of such technologies
- Indirect employment in intermediate sectors and at subcomponent suppliers occurs via the purchase of products, material and services from other branches
- New direct and indirect jobs create income and induce additional employment in other branches
- Negative employment effects need to be considered, which result from a decline in fossil fuel consumption and its generation



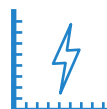
Public income

- There is still little experience estimating the full budget impacts, but the primary contributions stem from:
- Reduction of energy subsidies
 - Increasing or decreasing income from VAT
 - Decreased spending on health
 - Avoided budget infrastructure investment



Energy prices and energy poverty

- Renewable energy investments reduce the dependence on price volatility of fossil fuels, which may lead to cost savings for final costumers
- A European Commission report estimated that every additional 1 percent in fossil fuel energy savings in buildings would lead to a decrease in gas prices by about 0.4 percent and in oil prices by about 0.1 percent in 2030³⁵
- Costlier power will be replaced by less costly power pricing, and the distributional effect will reduce income of fossil fuel power generators and lower the prices for power distributors and final consumers³⁶



Energy security

- According to IEA estimates, reduced fossil fuel demand can improve the security of energy systems across four dimensions of risk:
- fuel availability (geological)
 - accessibility (geopolitical)
 - affordability (economic)
 - acceptability (environmental and social)

6.

Conclusions and recommendations

Climate mainstreaming

- The EU needs to play an active and leading role in fighting climate change, which includes setting an example with an ambitious climate and energy policy and coherent funding structures. All EU funding needs to be fully in line with the short-, medium- and long-term EU climate and energy targets.
- The Commission should reinforce its commitment to achieving the 20 percent climate-spending objective by 2020 and underpin this commitment with concrete measures in action plans. Achieving the sub-target for Horizon 2020 will not be sufficient to reach the 20 percent target for climate action spending. The European Commission should build upon the experience of the 2014 to 2020 budget and reinforce climate action financing in the next MFF.
- The next MFF should not only focus on providing adequate and transparent funding for climate action projects, but also take the climate impact of its investment as a whole into account. Spending for carbon-intensive projects should be phased out using straightforward and transparent criteria.
- The tracking method applied (Rio markers) is a user-friendly tool with little administrative effort; however, whether or the extent to which a measure actually contributes to climate protection is unclear with this system. The impact of the EU budget on the development of GHG emissions is not calculated. The application of tracking coefficients in the EU's Rio markers is not as stringent as that of the OECD. The European Commission should reassess its definitions of the climate-spending coefficients. The EU's current system leads to overestimated spending on climate action and does not support the trustworthiness of the objective and underlying methodology.
- In general, there is insufficient transparency regarding the different methodologies used to calculate the climate quotas (for example, volumes contributing to climate protection and which projects make up the individual areas of intervention) to the European Commission Directorate Generals. For these reasons, a detailed annual report on their contributions to EU climate spending would be desirable, including a detailed description of the methodology and contribution of individual

programmes. The European Commission should also evaluate whether the individual climate coefficients actually reflect the climate impact of the intervention areas. Furthermore, climate change mitigation and adaptation should be differentiated.

Improved use of EU funds

- Besides EU funds that support Member States on climate action at the national level, several additional funding opportunities exist. The EFSI in particular provides excellent opportunities for investors in EU Member States to receive funding for climate action projects.
- However, financing from funds such as LIFE, EFSI and EEEF, as well as climate finance from the EIB, is channelled almost exclusively to EU-15 countries. Together with the European Commission, EU-13 Member States should promote and assess possibilities to increase access and/or use of EU funds.

Private finance

- Additional investment needs for climate mitigation activities in the EU of 38 billion euros annually widely exceed the capabilities of public budgets, making private investment contributions essential. The share of private investment in total climate finance reported in the EU still lags behind global levels.
- Together with the European Commission, Member States should promote positive experiences with private financing instruments and assess possibilities to support their use, especially in countries that have less experience with such instruments.

- Only a few private banks have announced special loan programmes dedicated to energy efficiency or renewable energies, making it difficult or impossible to identify the true amount of private investment flowing via such instruments into these areas. Member States and the Commission should explore opportunities to encourage improved climate finance reporting by commercial banks.

Co-benefits of climate action

- In addition to energy savings and a reduction in GHG emissions, climate change investments create important “non-energy benefits”. These are economic, environmental and social co-benefits, such as spurring economic growth and additional employment. These co-benefits are often underestimated or not assessed by governments. Systematic and quantitative assessment of co-benefits achieved is hampered by insufficient documentation of respective data in programme reports of EU-financed climate action and other financing instruments.
- The European Commission and the Member States should ensure the reporting of data related to co-benefits (ex ante and ex post) in programme reports of EU- and nationally financed climate action.



Further literature

European Commission, 2017

Reflection paper on the future of EU finances

European Court of Auditors, 2016

Special report No 31/2016: Spending at least one euro in every five from the EU budget on climate action: ambitious work underway, but at serious risk of falling short

Energy Efficiency Financial Institutions Group (EEFIG), 2015

Energy Efficiency – the first fuel for the EU Economy. How to drive new finance for energy efficiency investments

EU High-Level Expert Group on Sustainable Finance, 2018

Financing a Sustainable European Economy

Website of European Commission DG Budget on the EU Budget

www.ec.europa.eu/budget/budget4results/index_en.cfm

De-risking Energy Efficiency Platform (DEEP)

www.deep.eefig.eu

Data on Climate Finance in European Structural and Investment Funds by DG Regio

www.cohesiondata.ec.europa.eu

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List of abbreviations

BMU	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
CAP	Common Agricultural Policy
CCS	Carbon capture and storage
CEF	Connecting Europe Facility
DEEP	De-risking Energy Efficiency Platform
DG	Directorate General (of the European Commission)
EAFRD	European Agricultural Fund for Rural Development
EAGF	European Agricultural Guarantee Fund
EBRD	European Bank for Reconstruction and Development
EEEF	European Energy Efficiency Fund
EEFIG	Energy Efficiency Financial Institutions Group
EFSI	European Fund for Structural Investments (also known as the Juncker Plan)
EIB	European Investment Bank
ERDF	European Regional Development Fund
ESIF	European Structural and Investment Funds
EU	European Union
GDP	Gross domestic product
GET	Green Economy Transition
GHG	Greenhouse gas emissions
IEA	International Energy Agency
IPO	Initial public offering
LIFE	Financial Instrument for the Environment
LLC	Limited liability company
MFF	Multiannual Financial Framework
MS	Member State of the European Union
NER	New Entrants Reserve
OECD	Organisation for Economic Co-operation and Development
UK	United Kingdom
US	United States of America
VAT	Value added tax

