

Report on
**3 Pillar Assessment
for EIB operations
inside the EU**



2014



Executive Summary	3
1 Introduction	10
1.1 EIB's public policy objectives inside the EU	10
1.2 Operations signed in 2014	12
1.3 Expected impact on employment	12
1.4 The 3 Pillar Assessment (3PA)	13
2 Innovation and Skills	17
2.1 Overview	17
2.2 Innovation and R&D	18
2.3 Education and Skills	28
3 Access to finance	34
3.1 Overview	34
3.2 SMEs and midcaps	35
4 Infrastructure	45
4.1 Overview	45
4.2 Strategic transport (including TEN-T)	46
4.3 Competitive and secure energy	53
4.4 Urban renewal (including health)	58
5 Environment	64
5.1 Overview	64
5.2 Sustainable transport	65
5.3 Protection of the environment	71
5.4 Renewable energy and energy efficiency	76
Annex 1: EIB's carbon footprint estimates	82

Figure 1. EIB finance signed in 2014 inside the EU	3
Figure 2. Number of EIB operations signed in 2014 by public policy objective	5
Figure 3: Summary of 3 Pillar Assessment Methodology	14
Figure 4. 3PA - Pillar 1 ratings	15
Figure 5. 3PA - Pillar 2 ratings	16
Figure 6. 3PA - Pillar 3 ratings	16
Figure 7. Innovation and Skills signings overview – 2014	17
Figure 8. Selection of expected results from Innovation and R&D (including telecommunications and broadband) operations signed in 2014	19
Figure 9. Selection of expected results from Education and Skills operations signed in 2014	29
Figure 10. SME and midcap signings – 2014	35
Figure 11. Selection of expected results from SME operations signed in 2014	36
Figure 12. Infrastructure signings overview – 2014	45
Figure 13. Selection of expected results from strategic transport (including TEN-T) operations signed in 2014	48
Figure 14. Selection of expected results from competitive and secure energy operations signed in 2014	54
Figure 15. Selection of expected results from urban renewal (including health) operations signed in 2014	59
Figure 16. Environment signings overview - 2014	64
Figure 17. Selection of expected results from sustainable transport operations signed in 2014	66
Figure 18. Selection of expected results from Protection of the Environment operations signed in 2014	72
Figure 19. Selection of expected results from Renewable Energy and Energy Efficiency operations signed in 2014	77
Table 1. Sample of expected results from Innovation and Skills operations signed in 2014	6
Table 2. Sample of expected results from SME and midcap operations signed in 2014	7
Table 3. Sample of expected results from Infrastructure operations signed in 2014	7
Table 4. Sample of expected results from Environment operations in 2014	8
Table 5. EIB public policy objectives	10
Table 6. EIB “transversal” policy objectives	11
Table 7. Number, volume and cost of operations signed in 2014 by policy objective	12

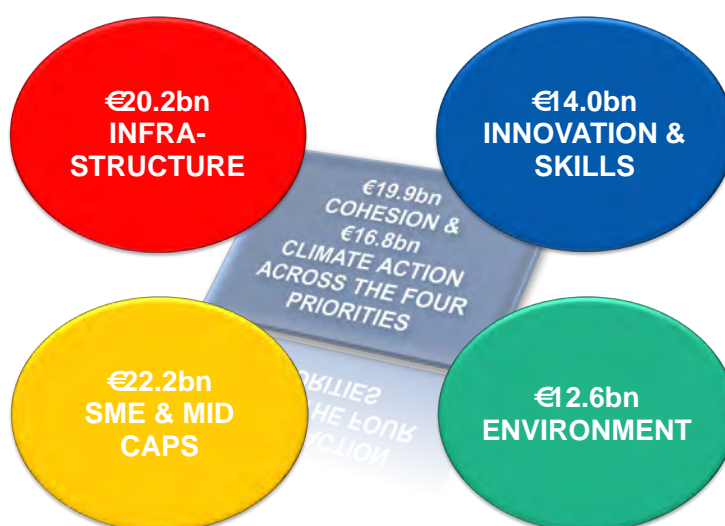
Executive Summary

The EIB finances investment projects in all EU countries to support EU policy objectives. In 2014, the Bank signed contracts for 413 projects inside the EU worth EUR 69.0bn. The 3 Pillar Assessment Framework (3PA) is the results management tool the Bank uses to assess the impact of these projects.

Implementing EU priorities

The EIB operational activity inside the EU is guided by the objectives set out in the Bank's Corporate Operational Plan (COP), financing projects that make a significant contribution to growth, employment and foster European integration. EIB's COP supports which are translated into four key public policy objectives areas: Innovation & skills, Access to Finance, Infrastructure, and Environment. These four are complemented by the two cross cutting objectives: Climate Action (to address climate mitigation and adaptation in all sectors) and Cohesion (to address regional integration in all sectors).

Figure 1. EIB finance signed in 2014 inside the EU



EIB public policy objectives inside the EU

The EIB works with four high-level public policy objectives:

- 1) **Innovation and skills:** research, development and innovation (RDI), information and communications technology (ICT) infrastructure, digital infrastructure and digital services; and education and training
- 2) **Access to finance:** intermediated lending (including through investments in loan substitutes covered bonds and securitisation) and innovative financing options (including blending and

advising) supporting small and medium (SME) and middle capitalization (midcap) companies

- 3) **Infrastructure:** strategic transport, including trans-European transport network (TEN-T) operations; competitive and secure energy, including trans-European energy network (TEN-E) operations; and urban renewal, including health infrastructure operations
- 4) **Environment:** sustainable transport; protection of the environment (including water and wastewater, solid waste management and sustainable land use investments); renewable energy and energy efficiency; and other cross-sectoral climate action operations

and two transversal policy objectives, which dovetail with the high-level objectives:

- a) **Cohesion:** supports the EU's objective of promoting economic, social cohesion. By financing projects in the less developed regions, the EIB contributes to reducing the disparities between the levels of development of the various regions across Europe
- b) **Climate action:** promote low-carbon and climate resilient growth across Europe, supporting investments for climate change mitigation and adaptation across all sectors

How we assess results

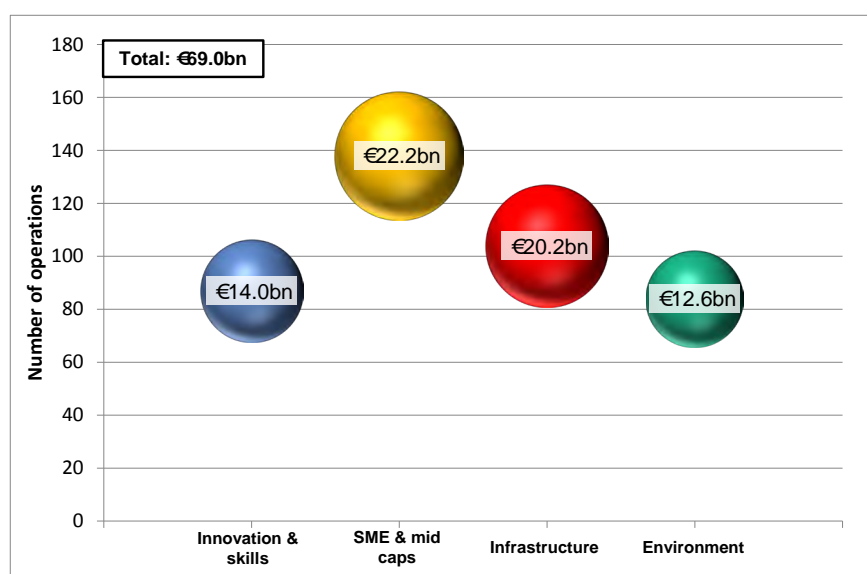
In 2014, the EIB implemented its 3PA Framework for the second year. The framework is used for operations inside the EU to guide the ex-ante assessment of expected results and to enhance the Bank's ability to monitor the actual results achieved by tracking impacts throughout the project cycle. At appraisal stage, results indicators with baselines and targets are defined for each operation and these are monitored at project completion stage. Projects are rated according to three "pillars":

Pillar 1	Quality and contribution of the project to sustainable growth and employment
Pillar 2	Consistency of the project with, and contribution to, EU and EIB policy objectives
Pillar 3	EIB's contribution to the project

Operations signed in 2014

In 2014 the EIB signed 413 operations inside the EU, totalling EUR 69.0bn. **Figure 2** shows the split of those operations by public policy objective, including all loan types: Investment Loans, Framework Loans and Multi-Beneficiary Intermediated Loans (MBILs).

Figure 2. Number of EIB operations signed in 2014 by public policy objective



Of the above operations, those supporting Cohesion amounted to EUR 20bn (or 29 percent of the total) while those contributing to Climate Action amounted to EUR 17bn (or 24 percent of the total).

In 2014 the new 3 PA framework supported 347 of the 413 operations signed, or 84 percent. The difference of 66 is made up of operations signed in 2014 but approved by the Bank before January 2013 (the date the revised 3PA framework came into effect); they lack both 3PA ratings and sector-specific monitoring indicators. The results described in this report are therefore based only on the 347 operations signed in 2014. In addition, major schemes allocated under framework loans, which are not subject to contract signature, are also excluded of the reporting.

Innovation and skills

Innovation, R&D and the digital economy are key drivers of long term economic growth. ICT networks are key components of EU's modern infrastructure. Education has highly positive socio-economic returns leading to human capital formation, which is a key factor influencing productivity and growth. Insufficient investment in education, innovation, and R&D largely explain the relative decline in Europe's competitiveness.

The EIB signed 62 Innovation and R&D operations in 2014 accounting for EUR 9.6bn or 13.9 percent of the EIB's total annual signings. Of those 62 operations, 15 contribute primarily to the Innovation policy objective and 47 contribute primarily to the R&D policy objective. In 2014 the Bank also signed 25 Education and Skills operations accounting for EUR 4.4bn or 6.4 percent of EIB's total signings inside the EU. These innovation and R&D, skills and education operations are expected to employ 515,000 people directly during construction and 74,000 people during operations.

Some Innovation & Skills operations support cohesion (e.g. educational projects in regional development areas) or climate action (e.g. RDI projects for energy efficiency technologies).

Table 1. Sample of expected results from Innovation and Skills operations signed in 2014

INNOVATION, RESEARCH AND DEVELOPMENT	
High speed broadband or cable lines activated	590,000
Households covered by high speed broadband access	3,200,000
National or international patent applications	25,000
EDUCATION AND SKILLS	
Additional places created in schools, vocational education and higher education	62,000
New or rehabilitated educational facilities (#m ²)	3,800,000
Students benefitting from higher quality infrastructure per year	172,000
EMPLOYMENT	
Jobs during operation (# full-time equivalent)	74,000
Jobs during construction (person-years)	515,000

Access to finance

Lack of access to finance and high lending costs are two key constraints to growth and SME development across the EU. EIB channels SME and midcap finance through a variety of financial intermediaries, aiming at improving conditions for and enhancing access to finance, and thus contributing to growth and employment in the EU, including youth employment. In addition, EIB continues to join forces with public promotional institutions and public authorities to implement national priorities and programmes for SMEs.

In 2014 the Bank signed a total of 138 SME and midcaps lending contracts inside the EU amounting to EUR 22.2bn. Such volume of finance represents approximately 32 percent of all EIB operations signed in 2014 in the EU, and is expected to mobilise resources of at least EUR 44.4bn through complementary lending by financial intermediaries. These EIB operations targeting SMEs and midcaps are expected to sustain 4 million jobs in the SME and midcap final beneficiaries.

Some Access to Finance operations support cohesion (e.g. finance for midcaps in regional development areas) or climate action (e.g. credit lines for renewable energy and energy efficiency investments by SMEs).

Table 2. Sample of expected results from SME and midcap operations signed in 2014

	(EUR bn)	(#)
Volume of loans and SMEs and midcaps supported	22.2	110,000
Additional SME finance leveraged through intermediaries	44.4	
EMPLOYMENT		
Total jobs sustained		3,600,000
Youth jobs sustained		500,000

Infrastructure

The development of strategic social and economic infrastructure provides a foundation for economic growth, job creation, economic integration and social cohesion. The EIB finances sound network infrastructure investments in a range of strategic sectors, including TEN-T, competitive and secure energy projects, and urban renewal operations, including health infrastructure.

In 2014 the Bank signed 104 infrastructure projects inside the EU for a total of EUR 20.2bn (or 29 percent of total Bank's annual signings). TEN-T and other strategic transport projects account for EUR 8.2bn (or 41 percent of infrastructure); competitive and secure energy projects account for EUR 7.5bn (or 37 percent); while urban renewal (including health projects) account for EUR 4.5bn (or 22 percent). These infrastructure operations are expected to employ 665,000 people directly during construction and 37,300 people during operations.

Some Infrastructure operations support cohesion (e.g. improved energy networks connecting regional development areas) or climate action (e.g. inter-urban rail projects facilitating modal shift away from road).

Table 3. Sample of expected results from Infrastructure operations signed in 2014

STRATEGIC TRANSPORT (including TEN-T)	
Railway tracks built or upgraded (km)	2,200
Highway lanes built or upgraded (km)	4,000
New rail demand generated (million passengers / year)	40
Time savings (million hours / year)	60
COMPETITIVE AND SECURE ENERGY	

New power and heat generated from conventional energy sources (GWh / year)	3,038
New connections to the power transmission and distribution networks	630,000
Number of gas pipelines built or upgraded (km)	5,800
Smart energy meters installed	6,400,000
URBAN RENEWAL	
New or refurbished urban housing units	27,000
New health facilities built (m ²)	330,000
EU citizens benefitting from improved healthcare facilities	10,000,000
EMPLOYMENT	
Jobs during operation (# full-time equivalent)	37,300
Jobs during construction (person-years)	664,000

Environment

Promoting sustainable development underpins EIB's lending strategy and objectives across sectors, particularly in relation to the preservation of environmental and social capital for future generations. Sustainable transport investments in urban areas; provision of environmental infrastructure services in water and waste; projects with beneficial impacts on the natural habitat and biodiversity; and renewable energy and energy efficiency projects exemplify the type of operations the Bank finances to support its environment policy objectives, which are also critical for the transition to a low-carbon economy.

In 2014 the Bank signed 84 environment projects for a total of EUR 12.6bn (or 18 percent of total Bank's annual signings). Sustainable transport projects account for EUR 5.1bn (or 41 percent of Environment); protection of the environment projects account for EUR 3.8bn (or 30 percent); while renewable energy and energy efficiency account for EUR 3.7bn (or 29 percent). These environment projects are expected to employ 571,000 people directly during construction and 25,000 people during operations.

Some Environment operations support cohesion (e.g. depollution projects improving water and air quality in regional development areas); or climate action (e.g. afforestation projects sequestering CO₂).

Table 4. Sample of expected results from Environment operations in 2014

SUSTAINABLE TRANSPORT	
Urban bus lanes, tram lanes and metro track built or upgraded (km)	140
New public transport demand generated (million passengers / year)	280

Time savings (million hours / year)	40
PROTECTION OF THE ENVIRONMENT	
Forest or natural habitat protected (ha)	77,000
Population provided with more efficient, reliable and resilient water and wastewater services	23,000,000
Waste treated in new or rehabilitated facilities (tons / year)	1,900,000
RENEWABLE ENERGY AND ENERGY EFFICIENCY	
Power and heat generated from new renewable energy sources (GWh / year)	11,000
Thermal rehabilitation of apartments (# apartments)	25,000
Energy savings realised (GWh / year)	700
EMPLOYMENT	
Jobs during operation (# full-time equivalent)	25,000
Jobs during construction (person-years)	571,000

Cohesion

EU cohesion policy aims at helping European regions achieve their full potential, to bring about a convergence of living standards and prosperity across the EU. The EIB supports the EU's objective of promoting economic, social cohesion. By financing projects in the less developed regions, the EIB contributes to reducing the disparities between the levels of development of the various regions.

Of the 413 operations signed in 2014, 225 (or 54 percent of the total) are designed with either cohesion as their primary objective, or with some cohesion-related component or feature. Such operations amount to EUR 20bn (or 29 percent of the total).

Climate action

The EU has set ambitious targets to reduce its greenhouse gas (GHG) emissions by 20 percent (below 1990 levels) by 2020, and it also launched a comprehensive Adaptation Strategy in 2013, to raise Europe's climate resilience. Given the scale and complexity of these challenges, and the investment needed to address them, the EIB has a crucial role to play in supporting a lower carbon and climate resilient economy: partnering with public and private sector operators to unlock further investment in climate action.

Supporting investments to mitigate and adapt to climate change is therefore a priority of EIB lending across sectors and financial products.

The Climate Action Indicator is used to attribute all or part of projects to climate mitigation or adaptation. Of the 413 operations signed in 2014, 161 (or 39 percent of the total) are identified either as fully contributing to the climate action objective or as having some climate action-related component or feature. These operations amount to EUR 17bn (or 24 percent of the total).

1 Introduction

As the European Union's long-term financing institution, the EIB finances sound investment projects that support employment, economic growth, environmental improvement and the social well-being of European citizens in all EU's 28 Member States. Using the Bank's *3 Pillar Assessment Framework*, this report describes operations signed in 2014, their alignment with EU strategic public policy objectives, the difference EIB support will make, and the results the Bank expects to achieve.

1.1 EIB's public policy objectives inside the EU

In line with its mission to support EU economies' long-term growth potential, the EIB's strategic objectives for its operations inside the EU can be grouped into four sector-related, high-level, primary public policy goals (see [Table 5](#)) and two "transversal", wide-encompassing policy areas (see [Table 6](#)).

Table 5. EIB public policy objectives

Sector	Scope and objectives
Innovation and skills	<p>Innovation and R&D – Help reach the EU's 3 percent of GDP target for Research & Development (R&D) spending with significant investments, particularly in: (i) Information and Communications Technology (ICT), life sciences and low carbon technologies; (ii) completing the digital network and creating a single digital market that includes digital services; (iii) supporting innovative firms, in their development and deployment of new products, processes and services.</p> <hr/> <p>Education and skills - Ensure that Europe has leading research and teaching institutions, constructing and modernising educational facilities. Support the training and development of young people's skills, enhancing their employment opportunities.</p>
Access to finance	<p>SMEs and midcaps - Support SMEs and midcaps across EU Member States through products for complementary financing and initiatives for specific financing gaps, namely through:</p> <ul style="list-style-type: none"> - intermediated lending providing complementary access to finance at improved terms for final beneficiaries; - collaboration with national and regional promotional banks in support of national SME priorities and programmes; - specific outreach to smaller companies, particular sectors, regions or higher risk products; and - new and innovative financing solutions aiming at addressing specific EU and Member States policy priorities (e.g. youth unemployment, innovation, trade facilitation, microfinance and re-launching the European SME securitisation market).
Infrastructure	<p>Strategic transport (including TEN-T) - Support internal and international markets with strategic transport and TEN-T investments, completing and renewing the core structural networks, improving links to ports, airports, and urban centres, and multi-modal platforms to support more efficient trade and logistics. Facilitating efficient mobility for passengers to enable trade and support competitiveness and economic activity in all sectors of the EU economy by increasing connectivity, improving safety and environmental performance, and reducing congestion</p> <hr/> <p>Competitive and secure energy – Ensure the security of supply by (i) supporting Projects of Common Interest and related energy infrastructure, covering gas and electricity infrastructure; (ii) developing electricity networks to integrate renewable energy sources into power markets; (iii) increase energy storage capacities, and modernise and smarten electricity distribution grids.</p>

Urban renewal - Support smart and sustainable cities and urban infrastructure by: (i) encouraging more mixed-use development, to accommodate higher densities and reduce the need for motorised travel; (ii) improving individual building performance, to reduce energy consumption and carbon emissions; (iii) investing in more equitable cities, funding social and affordable housing to mitigate urban poverty.

Sustainable transport – Support investment in public transport and water based transport infrastructure (when not covered under TEN-T), and safety investments in all modes. Support the development and roll out of new transport technologies and innovative transport solutions, including engine technologies and alternative fuels, retro-fitting to comply with new EU legislation and alternative fuel infrastructure.

Environment

Protection of the environment – Accelerate lending for investment in water and wastewater management infrastructure to address the challenges from (i) increased scarcity and flooding and their impacts on transport, energy, agriculture, and human settlements; and (ii) aging and climate-vulnerable infrastructure for drinking water/wastewater services, which could disrupt key services for Europe's people, industries, and SMEs.

Improve solid waste management, particularly in the form of recycling, and energy recovery, to support a resource efficient, green, and competitive low-carbon economy and generate environmental benefits, helping to create jobs, reduce dependence on imported raw materials and develop new markets.

Support sustainable land-use investments, including afforestation, reforestation, biodiversity protection and improvement; Support depollution projects improving air and water quality; and other cross-sectoral climate action.

Renewable energy and energy efficiency – Promote substantial investments towards (i) reaching binding 2020 renewable energy targets across Europe in the context of an evolving regulatory structure; (ii) reducing demand through energy efficiency, including in buildings (both residential and tertiary) and industry.

Table 6. EIB “transversal” policy objectives

Policy area	Scope and objectives
Cohesion	<p>Economic and social cohesion – EIB supports the EU's objective of promoting economic, social cohesion. By financing projects in the less developed regions, the EIB contributes to reducing the disparities between the levels of development of the various regions.</p>
Climate	<p>Climate action - Provide finance for climate mitigation and adaptation projects and activities within other projects, including climate mitigation and climate resilience investments in all sectors. The EIB integrates climate action in the assessment and monitoring methods of all of its investment projects. These include using an economic price of carbon in project appraisal, and providing technical assistance to promote energy efficiency, assessing climate impacts, and estimating and reporting the greenhouse gas (GHG) emissions in all its investment projects and sectors. The carbon footprint methodologies that the EIB has developed to assess and report the GHG emissions generated and saved/avoided by its operations are publicly available in the Bank's website. More information on the carbon footprint data of projects signed in 2014 inside the EU is available in Annex 1</p>

1.2 Operations signed in 2014

EIB operations signed in 2014 are split between promoting innovation and skills (EUR 14.0bn via 87 operations); enhancing access to finance by SMEs and midcaps (EUR 22.2bn via 138 operations); the development of social and economic infrastructure (EUR 20.2bn via 104 operations); and promoting a sustainable environment (e.g. sustainable transport, renewable energy, energy efficiency) and protection of the environment (EUR 12.6bn via 84 operations). The total cost of the operations signed in 2014 co-financed by the EIB is EUR 264.3bn. This amount is associated with EIB Board approvals totalling EUR 95.7bn. **Table 7** shows a detailed breakdown of the EIB operations by public policy objective.

Table 7. Number, volume and cost of operations signed in 2014 by policy objective

Policy objective	Number of operations ^{1) 2)}	EUR m signed ²⁾	EUR m approved	EUR m project cost
Innovation & skills	87	14,042	18,105	57,661
Innovation	15	3,145	4,253	14,570
Research and Development	47	6,461	7,116	23,991
Education and Training	25	4,436	6,736	19,100
Access to finance (SMEs & Midcaps)	138³⁾	22,155	28,086	59,284
Infrastructure	104	20,187	28,865	77,265
Strategic Transport (including TEN-T)	35	8,177	11,401	33,801
Competitive and Secure Energy (including TEN-E)	31	7,499	9,769	22,271
Urban Renewal and Regeneration (including health)	38	4,511	7,695	21,193
Environment	84	12,594	20,687	70,101
Sustainable Transport	34	5,114	7,930	23,771
Protection of Environment	26	3,782	6,339	23,628
Renewable Energy and Energy Efficiency	24	3,698	6,418	22,702
Total	413	68,978	95,743	264,310

1) A total of 81 loans satisfy more than one public policy objective. Similarly, 9 “Innovation and Skills” and 1 “Environment” operation satisfy more than one objective within their policy objective category. These operations are allocated to the policy objective to which they contribute financially the most.

2) A total of 3 operations only satisfy the “Social Cohesion” transversal policy objective. These operations are allocated to “Innovation and Skills”. A single operation which contributes only to the “Climate Action” transversal objective is allocated to “Environment”.

3) The total number of SME & Midcaps operations is 148. However, some of them also satisfy other policy objectives. In particular, 10 operations predominantly satisfy policy objectives other than access to finance; these operations are counted under those policy objectives (see note 1 above)

The EIB uses three types of loans: investment loans; framework loans; and multi-beneficiary intermediated loans (MBILs). Framework loans correspond to multi-sector/multi-component operations. MBILs are credit lines channelled through financial intermediaries and targeting final beneficiaries, which are usually SMEs (defined as those employing less than 250 people); midcaps (medium sized corporates, defined as those employing at least 250 and fewer than 3,000 people); or such companies working in predetermined sectors targeted by the Bank (e.g. agriculture, tourism, etc.).

1.3 Expected impact on employment

Temporary employment - Given the complexity of estimating employment effects, the Bank uses a temporary employment monitoring indicator at project appraisal stage to estimate “person-years of employment”. This indicator is equal to the number of employed people in a project multiplied by the expected duration in years of the project’s construction or implementation phase. On that basis, the 264 framework and investment loans signed by the Bank in 2014 are expected to generate over 1.8 million person-years of employment during the construction or implementation stages of their project cycle.

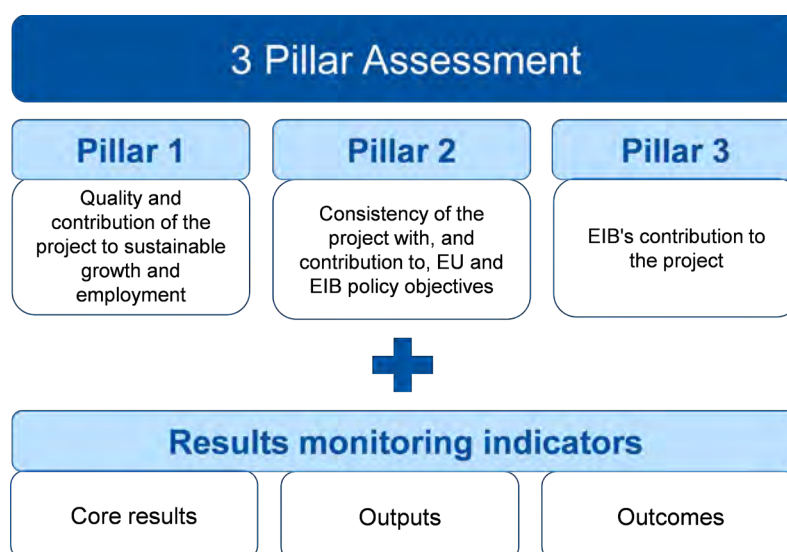
Sustained employment - Given the nature of MBIL operations, using financial intermediaries to on-lend to final beneficiaries, it is difficult to estimate the impact on new employment created. Instead, the MBIL portfolio uses the concept of “sustained employment”. It assumes that by extending credit lines to SMEs and midcaps the employment levels in those companies will, at least, be maintained. At project appraisal stage, the Bank estimates first the number of final beneficiaries of all the MBIL credit lines, and then the amount of “sustained employment” using the average employment levels prevailing in those final beneficiaries. On that basis, the 148 MBIL operations signed by the Bank in 2014 are expected to sustain approximately 3.6 million jobs, of which 500,000 are youth jobs.

1.4 The 3 Pillar Assessment (3PA)

The EIB’s mission is to support projects that make a significant positive impact on people’s lives. The EIB applies the highest standards in its project appraisal to ensure that the investments it supports are economically and technically sound and comply with demanding environmental and social criteria. To fulfil these objectives, in late 2012 the Bank reviewed its *3 Pillar Assessment Results Framework*, or 3PA, a multi-criteria project appraisal method which assesses potential operations before Board approval, and identifies indicators to monitor the projects’ expected results. The 3PA is structured around 3 pillars (or metrics), and is complemented by three categories of result monitoring indicators (see diagram in [Figure 3](#)).¹

¹ Annex 1 describes the 3PA methodology in more detail

Figure 3: Summary of 3 Pillar Assessment Methodology



Underpinning the 3PA since 2013, the Bank uses the following multi-criteria:

- **Pillar 1 – Quality and Contribution to Sustainable Growth and Employment.** This pillar focuses on the technical, financial, economic, environmental and social viability of the project, thereby assessing its potential contribution to sustainable economic growth and employment. It reflects the Bank's commitment to sound investments supporting growth and employment in the EU.
- **Pillar 2 – Contribution to EU/EIB policy.** This pillar assesses the extent to which an operation financed by the Bank is consistent with EU/EIB policy objectives - over and above its basic eligibility in terms of general compliance with those objectives – by taking account of its policy, sector and geographical features, and the strength of its contribution to higher priority areas for Bank lending, including exceptional features of the operation in the public policy areas targeted by the Bank (e.g. Knowledge Economy, TEN-T)
- **Pillar 3 – EIB Contribution.** This pillar considers the added value of the Bank's involvement in, and contribution to, the operation, supporting its implementation or enhancing its quality through the Bank's financial contribution/facilitation, and/or through its technical advice.

Also since 2013, the Bank collects three types of results monitoring indicators for each operation, seeking to capture the effects of its lending operations:

- **Core result indicators:** These relate to the temporary and permanent employment impact of the operation; energy efficiency savings.
- **Output indicators:** These are sector indicators that monitor the amount of goods and services produced by the operations financed by the Bank.
- **Outcome indicators:** These are also sector indicators that try to capture the intermediate effects of EIB operations on people's quality of life, the environment, the Sponsor's activity, sector, and the economy.

1.4.1 3PA ratings of operations signed in 2014

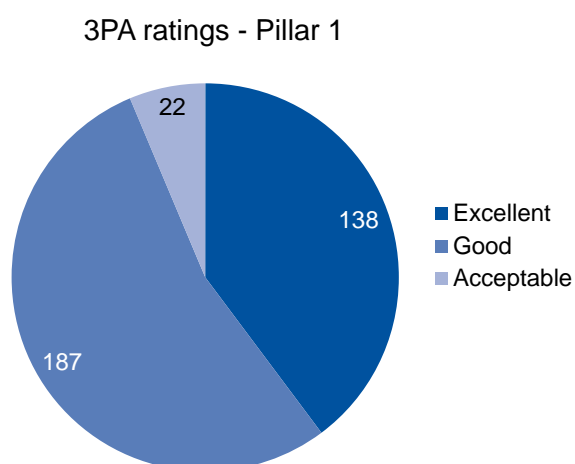
EIB operations inside the EU are rated before Board approval concerning their strength in each of the three 3PA pillars.

The 3PA ratings of the EIB operations inside the EU signed in 2014 are summarized in the three charts displayed below. A quarter of the 2014 signings were approved before the 3PA methodology was introduced in 2013 and, consequently, don't report monitoring indicators. Major schemes allocated under framework loans are also excluded from the reporting.²

Pillar 1 rating (Quality and contribution to sustainable growth and employment)

The range of Pillar 1 ratings is *Acceptable, Good, and Excellent*. The chart in **Figure 4** summarizes the distribution of Pillar 1 ratings in the set of EIB operations signed in 2014.

Figure 4. 3PA - Pillar 1 ratings



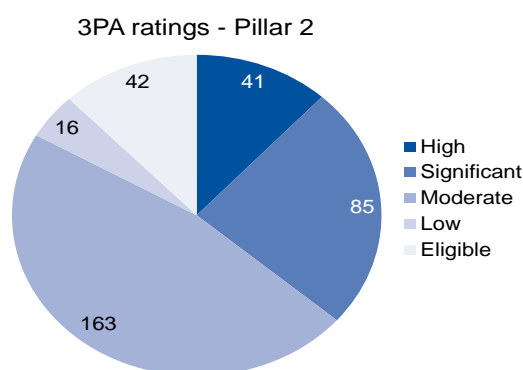
Operations assessed as having an “excellent” or “good” contribution to employment and growth amount to 325 (or 94 percent). Operations assessed as having an “acceptable” contribution or lower to employment and growth amount to a share of 22 (or 6 percent).

² The 3PA rating charts correspond to 347 operations, a number lower than 413 operations signed in 2014. The difference is made up by operations signed in 2014 but approved by the Bank before January 2013 (the date the revised 3PA framework came into effect); they lack both 3PA ratings and sector-specific monitoring indicators. In addition, major schemes allocated under framework loans, which are not subject to contract signature, are also excluded from the reporting.

Pillar 2 rating (Consistency with EU/EIB policies)

The range of Pillar 2 ratings is *Eligible, Moderate, Significant, and High*. The chart in **Figure 5** summarizes the distribution of Pillar 2 ratings in the set of EIB operations signed in 2014.

Figure 5. 3PA - Pillar 2 ratings

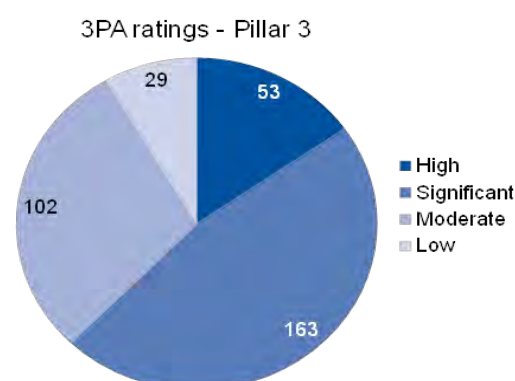


Operations assessed as having a “high” or “significant” consistency with EU/EIB policy objectives amount to 126 (or 36 percent). Operations assessed as having a “moderate” consistency amount to 163 (or 47 percent). The rest of operations (58 or 17 percent) are assessed as “low” or “eligible” for EIB finance from the point of view of consistency with EU/EIB policy objectives.

Pillar 3 rating (EIB’s contribution)

The range of Pillar 3 ratings is *Low, Moderate, Significant, and High*. The chart in **Figure 6** summarizes the distribution of Pillar 3 ratings in the set of EIB operations signed in 2014.

Figure 6. 3PA - Pillar 3 ratings



Operations where the Bank’s contribution is assessed as being “high” or “significant” amount to 216 (or 62 percent). Operations where the Bank’s contribution is assessed as “moderate” amount to 102 (or 29 percent). In the rest of operations (29 or 8 percent) the Bank’s contribution is assessed as being “low”.

2 Innovation and Skills

2.1 Overview

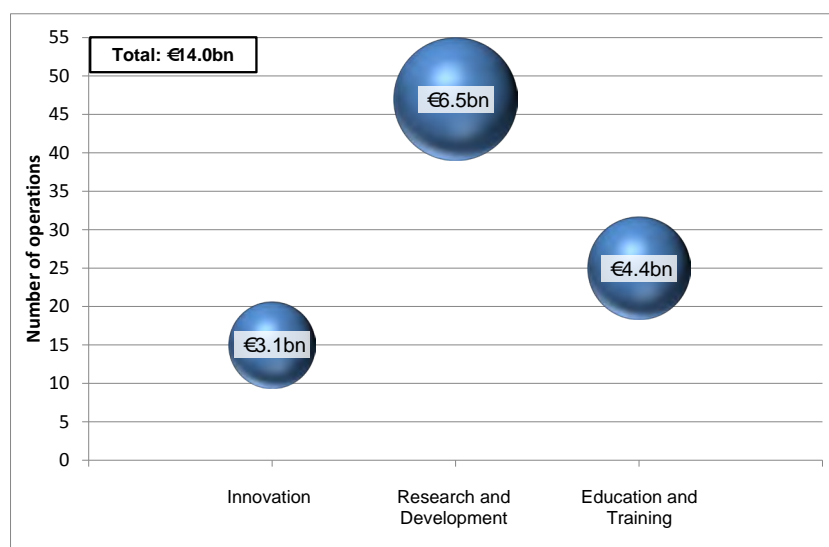
Innovation, research and development (R&D), and the digital economy have become main drivers of economic growth. ICT networks are key components of EU's modern infrastructure. Education has highly positive socio-economic returns leading to human capital formation, which is a key factor influencing productivity and growth.

While the EU set itself a target of investing 3 percent of its GDP on R&D, most Member States lag behind their national investment targets due to low levels of private R&D investment. Addressing this gap requires support for innovative SMEs and midcaps through dedicated finance facilities and enhanced support for venture capital to facilitate R&D investment.

The EU also set itself ambitious broadband infrastructure targets: that by 2020 all EU citizens have access to broadband speeds above 30 Mbps, and 50 percent of the population subscribe to speeds above 100 Mbps. These quality targets, coupled with the expected increase in data volumes, require an ambitious upgrading of broadband infrastructure, which is estimated at EUR 30bn a year until 2020.

Education is considered a key factor influencing long term competitiveness, but the EU is experiencing a significant investment gap. Skills to support the application of new technologies, such as ICT or medical technology, will be in high demand. On the other hand, the stock of educational facilities has deteriorated across the EU, and it is estimated that to closing the associated maintenance backlog requires around EUR 10bn a year in educational infrastructure.

Figure 7. Innovation and Skills signings overview – 2014



Source: Frontier Economics based on EIB data

The EIB supports all EU policy objectives in the area of Innovation and Skills. In 2014 the Bank signed 87 operations for a total of EUR 14.0bn (or 20 percent of total Bank's annual signings). Of that total, 15 projects focus on innovation (including ICT investments), accounting for EUR 3.1bn (or 4.6 percent); 47 projects focus on R&D,

accounting for EUR 6.5bn (or 9.4 percent); and 25 projects focused on education and training, amounting to EUR 4.4bn (or 6.4 percent of total EIB's annual signings).

2.2 Innovation and R&D

Innovation, research and development (R&D), and the digital economy have become main drivers of economic growth in the EU. However, while the long term economic benefits of private investment in innovation are large, the commercial and technical risks associated with uncertainty in the early stage development phase tend to discourage investments, resulting in too little expenditure on innovation and R&D. Such perceived market failure and funding constraints tend to slow down the deployment of modern technologies, such as Key Enabling Technologies (KETs); Strategic Energy Technologies (SETs); clean and green transport technologies; and low carbon technologies, which are vital to enhance productivity and competitiveness.

The involvement of the EIB to support innovative companies is thus well justified. The Bank uses its various types of loan in its endeavours to promote innovation and R&D, including through dedicated SME and midcap finance facilities. Financial support to partially de-risk the investments in R&D, and public sector co-investment for higher risk-sharing (for example, through Horizon 2020)³ are alternative vehicles to incentivise R&D spending.

ICT networks are key components of EU's modern infrastructure aimed at enjoying the benefits of profound changes related to big data, cloud technologies or 'internet of things', all of which foster total factor productivity.

2.2.1 Innovation and R&D – 2014 signed operations

The operations signed by the EIB in 2014 which contribute to the Innovation and R&D policy objectives comprises 62 projects accounting for EUR 9.6bn or 13.9 percent of the EIB's total annual signings.⁴ Fifteen⁵ of those 62 projects⁶ contribute primarily to the Innovation policy objective and 47⁷ projects contribute primarily to the R&D policy objective.

Based on the 3PA project monitoring indicators, the diagram in **Figure 8** illustrates the expected results of a subset of Innovation and R&D operations (including telecommunications and broadband) signed by the EIB in 2014. The vast majority of the Innovation and R&D operations (32 projects and a total lending volume of EUR 5.0bn) finance private and public sector R&D programmes. Eight projects (amounting to EUR 1.7bn of signings) aim at developing fixed and mobile telecommunications and broadcasting networks. Thirteen of the 2014 Innovation and

³ **Horizon 2020** is the financial instrument implementing the *Innovation Union*, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness.

⁴ Projects that contribute to the Innovation and the R&D objectives are grouped together. Most of these operations satisfy both objectives allowing the aggregation of their monitoring indicators.

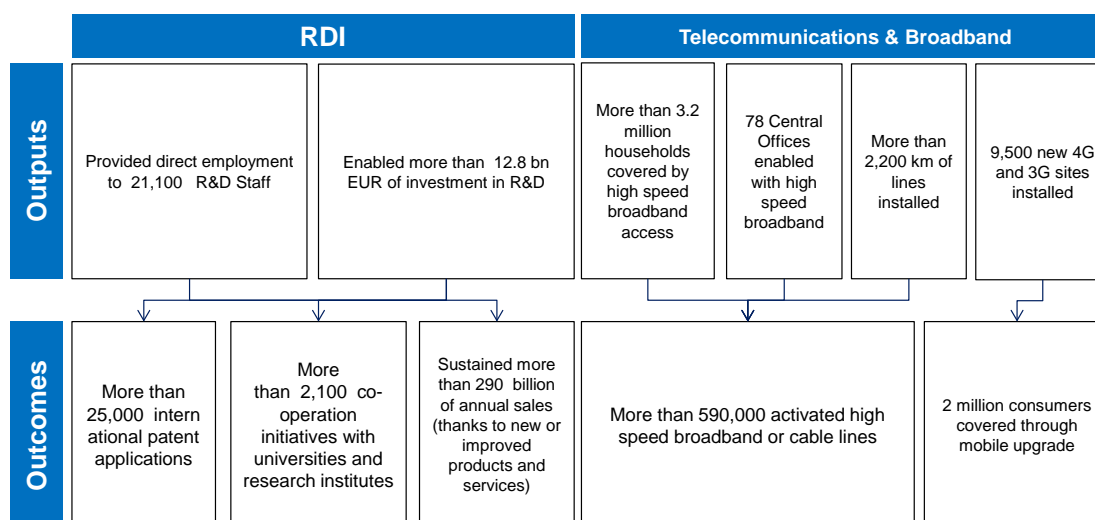
⁵ See **Table 7**. Of those, 9 contribute in full to the Innovation objective while 6 additional projects contributed to multiple objectives, but contributed the most to Innovation

⁶ As explained in a footnote to **Table 7**, these include 3 projects that contribute in full to the transversal objective of Social Cohesion

⁷ See **Table 7**. Of those, 35 contribute in full to the R&D objective while 12 additional projects contributed to multiple objectives, but contributed the most to R&D

R&D signings support the manufacturing of electronic and transport equipment and multi-sector operations accounting for EUR 1.4bn. The nine operations remaining, which account for EUR 1.2bn, were approved before the introduction of the 3PA methodology and, consequently, don't report sector-specific indicators.

Figure 8. Selection of expected results from Innovation and R&D (including telecommunications and broadband) operations signed in 2014



Output indicators reflect the magnitude and type of activity resulting from RDI operations financed by the Bank, such as number of R&D staff employed and volume of R&D investment carried out. Output indicators for telecommunications and broadband operations include, for example, new households with high-speed broadband access and physical indicators of additional capacity being installed (e.g. km of new lines; new 4G sites).

Outcome indicators reflect the short to medium term impacts caused by the outputs of the operations financed by the Bank. For example, R&D investment operations lead to international patent applications, number of research cooperation initiatives with universities, and new product launches. Likewise, new telecommunication capacity installed results in new consumers benefitting from a mobile telephony upgrade.

2.2.2 Innovation (including telecommunications) – project highlights

Some of the main goals of the Innovation (including telecommunications) operations signed by the EIB in 2014 include fostering the European knowledge economy, increasing economic and social cohesion, and enhancing the competitiveness of innovative companies in high value added products. Because maintaining a competitive position on a global basis requires constant adaptation to changing market conditions, the Bank is helping midcaps to invest in innovative technologies. Examples include a loan of EUR 45mn to an Italian online clothing company to improve its organizational structures and production processes (*YOOX E-commerce Platform*); a EUR 200mn loan to a German lamp producer to research energy efficient light solutions (*Solid State Lighting*); and a EUR 40mn to an Italian manufacturer to develop its industrial automation and data capturing tools (*Datalogic*).

The ICT sector has the potential to trigger economic growth by rolling out both broadband and fibre services, including in less-developed regions. Recognising that ICT networks are key components of modern infrastructure and of economic and social cohesion, the EU set the target of providing all EU citizens with broadband speeds above 30 Mbps, and 50 percent of the population with access to speeds above 100 Mbps, by 2020. Supporting those targets, the Bank is co-financing the roll-out of a fibre to the home network in Spain with a loan of EUR 150mn (*Jazztel Fibre Network Rollout*); and a broadband network in France with a loan of EUR 142mn, which is France's first Project Bond initiative (see *Axione Telecom Infrastructure* case study below). Both these projects support the Digital Agenda for Europe flagship initiative of the Europe 2020 strategy.

Rolling out telecommunication network in Spain

With a loan of EUR 150million to Jazztel, the EIB is supporting the roll-out of a fibre to the home (FTTH) telecommunication network in Spain.

The project includes the design, roll-out and commissioning of the fibre network and related investments in the backbone network and IT systems, to be implemented in a co-building agreement with the former incumbent, Telefonica. Jazztel aims to cover around 3 million households in all 11 major cities in Spain.

The project will increase the level of competition in the broadband market, and support the development of convergence regions by enabling higher access speeds to the Internet. It is in line with the policy targets to enable 30Mbps broadband connectivity for all European citizens by 2020, and 100Mbps to at least half of the households.



Improving an E-commerce platform in Italy

An EIB loan of EUR 45 million will help the Italian online high-end clothing retail company, Yoox to invest into new software applications and related IT and logistics systems to optimise and expand its e-business platform and to increase the efficiency of its delivery process.

The new platform will support a wider range of sales channels such as smart phones and tablets, extend the market-life of out-of-season goods, and increase the availability of goods to consumers regardless of their geographic location.

By increasing the competitiveness of this European Mid-Cap company, the project will foster the European online business sector and fashion industry, and create and maintain jobs for qualified workforce, particularly young technical graduates.

Developing energy efficient light solutions in Germany

With a loan of EUR 200 million, the EIB is supporting R&D activities carried out in the field of Opto Semiconductors for Light Emitting Diodes (LED) in the visible as well as invisible light spectrum and also in the field of Organic LEDs (OLED) and Infrared LEDs (IR) to replace traditional lamps by more energy efficient lighting solutions.

The 880 R&D experts will work on developing LED lighting solutions to increase the lifetime of a traditional light bulb from 1,000 hours to 25,000 hours, which will foster energy efficiency in Europe.

The project helps to preserve and create skilled employment by requiring a qualified workforce, and supports a European company in staying competitive against the established players and the many new emerging competitors.



Developing new data capturing tools in Italy

An EIB loan of EUR 40 million will help Datalogic to invest in developing new data capturing tools and industrial automation solutions, such as bar code and image readers, scan engines, sensors, vision systems and laser marking systems used mainly in the retail, postal and logistics sectors.

With a pipeline of 41 projects in active development and 31 in the front end phase, the new and improved tools and solutions will help improve typical business processes of the target sectors such as warehousing, logistics or manufacturing.

The project is expected to generate around 130 first filings of patents and create jobs that will serve as an entry point for recent IT graduates. It will foster the competitive position of a European midcap company in high value added products and thus support developing the knowledge economy and SMEs / midcaps in the EU.

CASE STUDY: INNOVATION AND SKILLS – Innovation (including Telecoms)

Extending and renewing broadband services in France

Sector: High-speed broadband telecommunications	Promoter: Axione Infrastructures
Total cost: EUR 142mn	EIB finance: EUR 58mn
Objective: <ul style="list-style-type: none"> Investments to commercialise and operate 11 broadband <i>Public Initiative Networks</i> across France during 2009-2018, focusing on very high-speed broadband project components. Around 30 percent of total costs will be implemented in less-developed regions. 	
Expected results: <ul style="list-style-type: none"> Construction of 15 new network sites and installation of access infrastructure Roll out of 3,800 km of fibre High-speed broadband access for 200,000 new households Fibre to the home access for 20,000 new households; fibre services to enterprises and to 500 mobile telephony sites 	

Motivation

The growing demand for broadband services led private French telecom operators to invest in the roll-out of broadband telecommunications networks, favouring densely populated large urban areas over low-density regions, given their lower market risk and acceptable returns on investments. Certain areas have thus fallen behind in terms of broadband availability. To mitigate this “digital divide”, in 2004 the French Government authorised and gave local public authorities financial support to roll out *Public Initiative Networks* (PIN), intended to provide competitive high speed broadband offers to areas where private initiatives would not invest due to poor profitability.



Between 2003 and 2007, Bouygues Construction group, Axione’s mother-company, won contracts with local authorities to design, build, operate and commercialise 11 PINs throughout France, developing networks with ADSL broadband technology. Those 11 PINs started operations in 2007 and Axione Infrastructures (AI) was created in 2008 as their holding company. The PINs offer network services on an open access basis to the commercial operators, who sell them to the final customer.

EIB contribution

This project is the Bank’s first broadband operation to be financed under the pilot phase of the EU 2020 Project Bond Initiative, launched in 2012, and the first project bond launched in France under this initiative, which aims at speeding up the mobilisation of private capital for European infrastructure projects. Credit enhancement offered by the Bank will enable a bond issue to attract long-term financing from institutional investors. EIB’s input supported the expansion and renewal of the investment process through a comprehensive due diligence of the project covering the financial and economic evaluation of the project; procurement and detailed capital expenditure plan.

Benefits

The project foresees that 200,000 new households will have access to high-speed broadband, and fibre services will be available to 20,000 new households and enterprises, and nearly 500 mobile telephony sites. The widespread availability of broadband networks is expected to increase competition in the region and enable e-services, such as e-Government, e-Health, and e-education. Additionally, it will help implementing initiatives like smart grids or smart cities, which will contribute to overall environmental and social sustainability. Due to the Information & Communication Technology sector's ability in achieving productivity growth, the project is expected to foster long-term economic growth in France.

Policy links

Broadband is a key part of Europe's strategic infrastructure. The project is in line with the Europe 2020 Strategy to foster smart growth and develop an economy based on knowledge and innovation. It contributes to the "Digital Agenda for Europe" flagship initiative in reaching the objective of making basic broadband and broadband speeds of over 30 Mbps available to everyone in the EU, and over 100 Mbps to half of the population by 2020. Since around 30 percent of the total costs are planned to be implemented in less-developed regions, the project also advances the Economic and Social Cohesion transversal policy objective.

2.2.3 Research and Development (R&D) – project highlights

A 2020 policy target for the EU is to invest 3 percent of its GDP in research and development (R&D). In addition to bolstering the knowledge economy, R&D activities also increase competitiveness and enhance innovative capacity. R&D operations signed by the EIB in 2014 can be grouped in two categories: (i) those aimed at improving the health of European citizens through researching new treatments and medications; and (ii) those targeting safety technology in the automotive sector, digital technologies, advanced manufacturing technologies, or climate action by developing energy efficient technologies and renewables. A common feature among all R&D projects is that they help safeguard skilled employment opportunities in Europe, and thus contribute to the EU Innovation and Skills Initiative.

The pharmaceutical industry is one of Europe's high R&D intensive high-technology sector and thus a key contributor to the GDP share spent on research. The EIB provided a loan of EUR 80mn to help research treatments for respiratory diseases in Italy (*Chiesi Respiratory R&D*), and supported a multinational biopharmaceutical manufacturing company headquartered in Brussels, UCB, in their efforts to develop drugs against diseases affecting central nervous system and immunology (*Sprint RSFF - Health R&D*) by directly sharing development risks with a EUR 75mn co-investment. By addressing unmet medical needs and by offering new treatments with higher efficacy, tolerability and safety, these projects contribute to the EU's goals of improving the health of European citizens and the quality of life of patients currently suffering from related illnesses. Given their collaboration with universities, supporting pharmaceutical companies advances both the accumulation and diffusion of knowledge.

Renewable energy generation and innovative automotive manufacturing are two industries through which the EU is encouraging R&D to tackle climate change. For example, the EIB is supporting investments in increasing the efficiency of wind turbines in Germany with a loan of EUR 100mn (*Nordex Windpower RDI*), thus furthering the development of an important renewable energy technology and contributing to the European Strategic Energy Technology Plan (SET-Plan). This project also contributes 100 percent to the Climate Action Indicator.

The Bank has also lent EUR 70mn for the development of lightweight and fuel-efficient vehicles in Spain (*CIE Automotive RDI*), and EUR 475mn to mitigate the pollutant emission of cars produced in the Czech Republic (*Skoda Engine R&D* – see case study below). These two projects contribute to sustainable transport through reducing environmental and noise pollution, but also improve the safety and security of cars by developing better structural and passive safety components, which is in line with the EIB's Transport Lending Policy. In addition to supporting lower carbon engine technologies, the components of both projects, which are executed in less-developed regions, also contribute to increasing cohesion within the EU.

Developing new wind turbines in Germany

With a loan of EUR 100 million, the EIB is supporting Nordex to invest in research, development and innovation (RDI) in the field of on-shore wind energy.

The RDI activities will be carried out in cooperation with suppliers and research institutes in the EU, and are expected to improve the competitiveness of Nordex's on-shore wind turbines by increasing their efficiency as well as reducing total lifetime cost, to develop smart and differentiating features and to design efficient engineering operations.

In addition to fostering the knowledge economy, RDI investments in a renewable source of energy contribute to reducing the dependence on fossil fuels, and thus helping to mitigate climate change. As the research will be carried out in Rostock, a convergence region in Germany, the project also strengthens cohesion within the EU.



Developing drugs against inflammatory diseases in Belgium

The EIB is helping UCB, a multinational biopharmaceutical manufacturing company headquartered in Brussels, to invest in developing six of its highly strategic and promising drugs, addressing unmet needs in inflammatory diseases and epilepsy.

By directly sharing the development risks with a EUR 75 million co-investment, the EIB helps UCB to continue its R&D activities without potential delays due to financial constraints, and thus supports to build the competitive position of a European company.

By addressing unmet medical needs and by offering new treatments with higher efficacy, tolerability and safety, the project improves the quality of life for patients currently suffering from the related illnesses. It also strengthens European industrial research and innovative capacity and helps to preserve and create skilled R&D employment.



Researching treatments for respiratory diseases in Italy

The EIB loan of EUR 80 million will finance Chiesi Farmaceutici's R&D-activities aimed at the clinical development of novel pharmaceutical therapies in the field of respiratory diseases such as Asthma, COPD, and Infant Respiratory Distress Syndrome (IRDS).

Carried out in an R&D centre in Parma between 2014-2015, the project spans from pre-clinical to late stage clinical trials and regulatory approval. It aims to develop new treatments with higher efficacy, tolerability and safety, ultimately improving patients' quality of life.

The project is expected to strengthen research efforts, increase know-how, and diffuse knowledge in the selected therapeutic areas. By helping a mid-sized company build its competitive position it also supports economic growth and employment in Europe.



CASE STUDY: INNOVATION AND SKILLS - R&D

Researching and developing fuel efficient powertrain technologies in the Czech Republic

Sector: Automotive industry	Promoter: Skoda
Total cost: EUR 959mn	EIB finance: EUR 475mn
Objective: <ul style="list-style-type: none"> Invest in R&D activities for the development and implementation of efficient conventional and alternative powertrains to promote fuel efficiency in motor vehicles to reduce the emission of CO₂ and of local pollutants, and improve automotive safety systems 	
Expected results: <ul style="list-style-type: none"> Achieve Skoda's volume growth targets while reducing the carbon footprint of its vehicle fleet and enhancing its environmental sustainability Contribute to the decarbonisation of the overall transport industry: Skoda expects its fleet to reach the EU target of 95g/km of CO₂ emission by 2020 Skills development of young people through industry collaborations, vocational trainings and apprenticeship programmes 	

Motivation

A challenge of the European automotive industry is to enhance its competitiveness while achieving fuel efficiency and sustainability targets. This requires considerable R&D investments from businesses. In that context, the Czech Republic's largest company, Skoda, has grown significantly since 1991, when Volkswagen acquired a majority strategic stake, increasing its product portfolio from 3 to 28 models. While the company is close to meeting the 2015 CO₂ emission targets set by EU legislation, the upcoming regulations, reducing emission to 95g/km by 2020, represent substantial technological challenges.



Over the next few years Skoda is aiming at introducing new vehicle models in the market, putting high emphasis on environmental sustainability and safety. Skoda estimates that reaching the 95g/km CO₂ emission by 2020 will require both improvements on conventional powertrains and the introduction and wider deployment of alternative fuel technologies. The investment programme includes capital expenditures for the industrialization of the R&D developments, and vocational and university education provided respectively at the Skoda Academy and Skoda Auto University.

EIB contribution

The Bank provides half of the financing of the project, and is thus a major contributor to this relevant R&D activity. The EIB also provided support through technical advice about scoping and defining the project, which complemented the well-defined processes for technological innovation and product development which Skoda, a company well-integrated in the Volkswagen Group, has in place.

Benefits

The project is expected to further the sustainable characteristics of Skoda's motor vehicles in terms of reduction of fuel consumption and improvement of safety features. The CO₂ emission of the company's vehicle fleet is expected to reach the target 95g/km by 2020, and other pollutant emissions are also expected to decrease. The R&D collaboration with universities and the vocational training will contribute to the accumulation and spreading of knowledge of manufacturing environmentally sustainable cars. As a result the Czech Republic will be able to keep pace with the global trend of developing more fuel-efficient and safer cars. This will also help developing the skills of young people, and both directly and indirectly contribute to economic growth and employment in Europe.

Policy links

The project helps to mitigate climate change by developing more fuel efficient vehicles which reduce CO₂ and local pollutant emissions. It is thus consistent with the EIB *Transport Lending Policy* given its focus on RDI that contributes to the development of a more efficient and sustainable European transport system. By strengthening the competitiveness of a European company, the project enhances Europe's position as a major technology supplier. It also helps safeguard skilled employment opportunities in Europe, and thus contributes to the *EU Innovation and Skills Initiative*. Given that the investments are carried out in the Convergence Region of Central Bohemia, the project helps with the revival of less-developed regions and therefore contributes to economic and social cohesion.

2.3 Education and Skills

Education is a key driver of productivity and growth, and has high private and social returns. The stock of educational facilities has deteriorated significantly across the EU, and broad-based modernisation programmes are required at all educational levels, from school and early childhood education and care to higher education and vocational training, to close the current infrastructure capacity and maintenance gap.

While educational facilities are modernised, there remains the challenge of developing young jobseekers into a skilled and experienced workforce. In 2014 the EIB progressed with the implementation of its *Skills and Jobs – Investing for Youth* programme which channels EUR 6bn of finance to promote youth employment in the short and the long term through a combination of supply- and demand-side measures, including the improvement of qualifications; easier access to the labour market; and the selective support of publicly-promoted employment. The initiative's aim is twofold: (i) to boost jobs for youth across the EU by improving access to finance for SMEs; and (ii) to enhance their employability via investment in skills, targeting projects focused on education, vocational training and student finance. The Bank's programme complements the EU *Youth Employment Initiative*, and the multiple national and regional schemes at EU Member State level.

Several operations signed by the EIB in 2014 finance investments in the physical and IT infrastructure of schools and universities. Education and training contribute to the knowledge economy and support human capital formation, helping to reach several EU 2020 targets by reducing school drop-out rates, increasing the share of individuals who complete tertiary education, and improving the employability of young graduates.

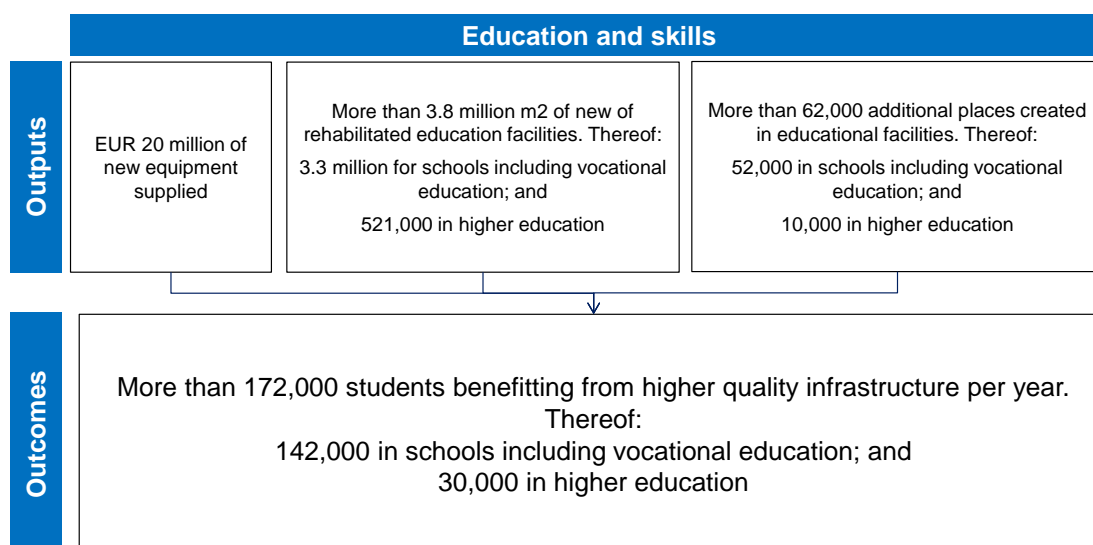
2.3.1 Education and Skills – 2014 signed operations

The operations signed by the EIB in 2014 which contribute to the Education and Skills policy objectives comprises 25 projects, accounting for EUR 4.4bn or 6.4 percent of EIB's total annual lending volume.⁸

Based on the 3PA project monitoring indicators, the diagram in **Figure 9** illustrates the expected results of a subset of Education and Skills operations inside the EU signed by the EIB in 2014. The largest share of education and skills operations focuses on secondary and tertiary education. The former accounted for 5 signings worth EUR 2.2bn and the latter for 8 signings worth EUR 0.7bn. Three of the 2014 education and skills signings support pre-primary and primary education, and vocational training accounting for EUR 0.7bn. The nine operations remaining, which account for EUR 0.8bn, were approved before the introduction of the 3PA methodology and, consequently, don't report sector-specific monitoring indicators.

⁸ See **Table 7**. Of those, 18 contribute in full to the Education and Skills objective while 7 additional projects contributed to multiple objectives, but contributed the most to Education and Skills

Figure 9. Selection of expected results from Education and Skills operations signed in 2014



Output indicators in **Figure 9** reflect the magnitude and type of activity resulting from education and skills operations financed by the Bank, such as new educational and scientific research equipment, size of new or rehabilitated educational facilities and number of new school and university places created at all levels of education (e.g. vocational; higher education).

Outcome indicators reflect the short to medium term impacts caused by those outputs, which focus on the number of students at all levels of education who will benefit from the higher quality educational infrastructure (e.g., building facilities, study equipment) resulting from the operations financed by the EIB.

2.3.2 Education and skills – project highlights

Reaching a 75 percent employment level for 20-64 year-olds is a EU 2020 target supported by EIB operations investing in education such as improvements of higher education facilities and research at three campuses in Italy (e.g. *Trento Higher Education and Research*), and the construction of university premises in Slovenia (*University of Ljubljana Campus*). In addition to physical and infrastructure developments, these investments promote cooperation with the local business sector with a focus on fields demanded by the labour market, thus improving employment opportunities for young graduates.

Projects in Finland (*Helsinki Education Infrastructure*) and France (*Lycees - Region Nord-Pas de Calais*) are also expected to contribute to the employability of high school graduates by improving vocational and apprentice training, and by supporting the extension, rehabilitation and construction of several educational facilities from pre-primary to upper secondary level. These projects will also help reduce the share of early school leavers below 10 percent, which is another EU headline policy target.

In all these projects, the renovated and newly constructed school buildings will be more energy efficient than the old ones, thus furthering EU's environmental targets. The associated reduction in energy consumption will help to cut back on

maintenance costs, leaving these educational institutions with additional budget for research and teaching purposes.

Education also has the potential to boost social inclusion and integration, such as in Northern Ireland (*University of Ulster* – see case study below), where the university campus, built with the help of a EUR 356mn EIB loan, will promote interaction between the University, the business sector, and the wider local and regional society, including communication between the Protestant and Catholic communities.



Modernising higher education and research facilities in Italy

With a loan of EUR 70 million the EIB helps the University of Trento, a medium-sized university in northern Italy, to modernise its infrastructure and to invest in scientific research and development (R&D) activities.

In addition to constructing, refurbishing and equipping several teaching, research and support facilities at three campus sites, the project will finance overhead and capital expenditures and investments dedicated to R&D in the areas of applied sciences.

The investments will increase the quality of teaching and academic research, adapt the University's infrastructure to the foreseen education demand, and improve the environmental characteristics and energy efficiency of the facilities. As a result of the University's close cooperation with the local SME sector and focus on fields demanded by the labour market the project also furthers the region's good performance in youth employment

Building university and research premises in Slovenia

The EIB is supporting the University of Ljubljana in establishing an educational-research and development centre by constructing new premises of the Faculty of Chemistry and Chemical Technology and the Faculty of Computer and Information Science.

The investment programme provides space for dedicated buildings for each of the faculties and a common building, with a total surface area of 30,000 m² and serving about 2,650 students and 440 university staff.

The project will support teaching services and basic and applied research in chemistry, chemical technology, ICT and related disciplines, and promote interaction between the university and business sectors. It will increase the number of well-trained undergraduate and postgraduate students, leading to higher life-time earnings, improved skills and higher labour productivity, thus ultimately contributing to the economic development of the region.



Improving education infrastructure in Finland

The EIB is supporting the education strategy of Helsinki by extending, rehabilitating and constructing several schools throughout the city, including facilities for children with special educational needs.

In addition to constructing six new primary schools, one vocational institute, and one lower and one upper secondary school, the project comprises of renovating close to 50 schools and 7 vocational institutes to enhance the learning environment for students and the working conditions for teachers.

The project contributes to the human capital formation and economic and social development of Helsinki, and helps to cope with demographic changes, reversing the rising percentage of youth unemployment by increasing the employability of school leavers. As the new and renovated buildings will be more energy efficient, the investments also further the EU's environmental targets.



Upgrading secondary schools in France

With a loan of EUR 300 million, the EIB is helping to upgrade and modernise upper secondary schools in the Région Nord-Pas de Calais in France.

The project includes constructing and renovating 74 upper secondary schools, 12 vocational schools and 5 horizontal projects, affecting 39% of the secondary schooling population of the region. Providing more and better education will address the regional population's large share of youth and high levels of youth unemployment, and it will improve the employability of high school graduates and increase the share of students in apprenticeships.

The new and renovated buildings will also contribute to improving the energy efficiency of the school estates and thus contribute to savings in running costs.



CASE STUDY: INNOVATION AND SKILLS – Education and training

Constructing and refurbishing campuses in Northern Ireland

Sector: Higher Education	Promoter: University of Ulster
Total cost: EUR 356mn	EIB finance: EUR 175mn
Objective: <ul style="list-style-type: none"> Investment programme to address asset and infrastructure enhancements outlined in the <i>University of Ulster Estate Strategy 2010-2019</i>, including significant projects at the Belfast, Coleraine, Magee and Jordanstown campuses, enhancing specialist engineering facilities, student residences, sporting facilities, and an ICT programme. 	
Expected results: <ul style="list-style-type: none"> Construction of 86,700 m² of state of the art teaching, learning and research facilities Refurbishing and rationalising existing campuses in Jordanstown, Coleraine and Magee Relocation of 10,500 students and 2,500 staff from the Jordanstown Campus to new facilities with lower maintenance costs and improved energy efficiency 	

Motivation

The recent increase in tuition fees and the resulting structural shift in the demand for higher education are posing challenges for all universities in the UK. Additionally, since the student-age population is expected to decline by at least 10 percent by 2030, competition among higher education institutions for able students is expected to intensify. The University of Ulster (UU) is the largest higher education institution in Northern Ireland, with about 25,600 students and internationally renowned research activity in several disciplines. This loan will support UU to better respond to new demands by providing first class teaching and research infrastructure, and to reach its goal to increase the student body by 10 percent by 2018.



EIB contribution

EIB offers very favourable financing conditions and longer maturities to the University of Ulster and this project plays a complementary role to State funding when the latter is being significantly reduced.

Benefits

The running and maintenance costs of the new campus will be considerably lower than those of the current Jordanstown campus and it will mitigate the problem of overcrowding, which at present is adding to the tear and wear of buildings and equipment. This increase in cost efficiency, together with energy savings, is expected to increase the University's budget for teaching and research. The project is thus foreseen to support the preparation of well-trained undergraduate and postgraduate students, resulting in monetary and non-monetary returns associated with improved skills, higher labour productivity, and income premium leading to increased life-time earnings.

The project will also promote interaction between the University, the business sector and the wider local and regional community. By expanding its research capacity with a focus on applicability of results, the project will enhance the University's connections with private industry. The new campus will be located in the currently deprived north quarter of the city, and it is designed to encourage cross-communication and integration between the Protestant and Catholic communities, which live largely separated.

Policy links

By improving the teaching and research capabilities of the University of Ulster, the project contributes to the European Higher Education Area and the European Research Area, and it is consistent with EU actions aimed at increasing investment in knowledge to achieve the objectives of the EU 2020 strategy.

The project is in line with the Bank's policy objective to create sustainable communities and urban renewal, because the campus investments are expected to turn the area of brownfield land into a knowledge hub attracting new commercial entities and thus benefitting the local community. Finally, as the investments are expected to reduce energy consumption, 20 percent of the project also contributes to climate mitigation and to the EU's goal of Energy Efficiency.

3 Access to finance

3.1 Overview

Small and medium-sized enterprises (SMEs) are fundamental to unlocking the economic potential of Europe's economy, sustaining employment and growth. A total of 21.6mn SMEs account for 99 percent of all non-financial enterprises in the EU, employ 88.8mn people (or two-thirds of total employment), and generate almost 60 percent of the EU's total value added, amounting to EUR 3.7tn.⁹

SMEs, however, have been affected by the economic crisis, facing weak demand and increased uncertainty, while their access to finance has worsened, and the cost of finance has increased, as the lending and risk-taking capacity of banks, which are SME's main source of funding, has deteriorated.

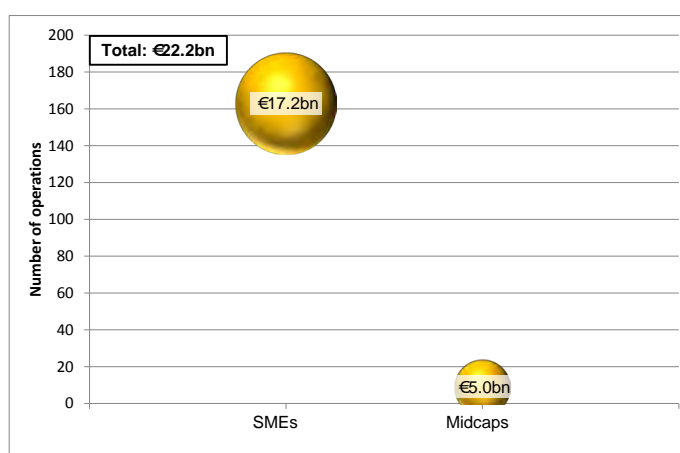
In 2014, the EIB continued to provide SMEs¹⁰ with dedicated products (i.e. primarily intermediated lending, as well as innovative financing options such as direct lending to innovative midcaps and portfolio guarantees benefitting innovative midcaps); through a diverse range of intermediaries (e.g. commercial banks, leasing companies, public promotional institutions and public authorities); by financing several stages of business development (e.g. start-up, growth-related investments, development) as well as working capital, and by increasing the volume of SME finance (via complementary bank lending to SMEs). EIB SME activities are complemented by EIF products for SMEs (including risk sharing guarantees, credit enhancement, intermediated equity, venture and growth capital, mezzanine finance, microfinance and social impact finance), leveraging where appropriate European Commission and Member States resources.

The Bank signed a total of 138 SME lending operations inside the EU amounting to EUR 22.2bn. Such volume of finance represents more than 30 percent of all EIB operations signed in 2014 in the EU, and is expected to mobilise resources of at least EUR 44.4bn through complementary lending.

⁹ EC (2014), "Annual Report on European SMEs 2013/2014 – A Partial and Fragile Recovery", http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/files/supporting-documents/2014/annualreport-smes-2014_en.pdf

¹⁰ In the remainder of the chapter, references to 'SMEs' include also midcaps, unless otherwise stated.

Figure 10. SME and midcap signings – 2014



The overall volume of operations signed under the SME Public Policy Goal can be split by its focus on SMEs or on midcaps. EUR 17.2bn were signed to the benefit of SMEs (or 77.5 percent of total 2014 SME signings), while EUR 5.0bn were signed to the benefit of midcaps (or 22.5 percent of total 2014 SME signings) (see [Figure 10](#)). Signature amounts for midcaps reflect the maximum proportion of operations that financial intermediaries can use to finance midcaps.

3.2 SMEs and midcaps

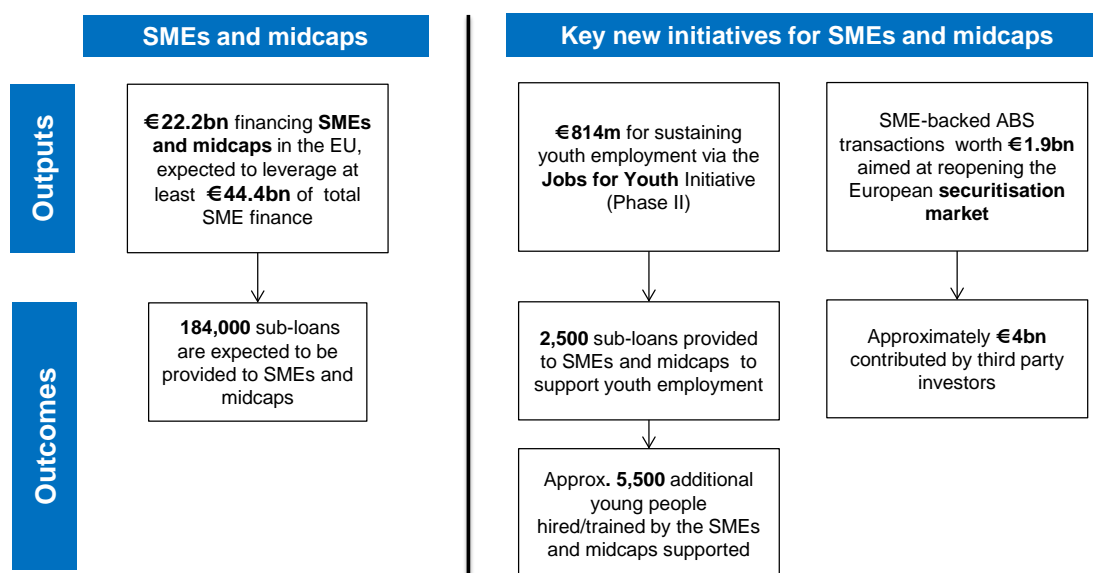
Small businesses across the EU are beginning to regain their footing in terms of numbers of enterprises and value added since 2008. Employment figures, however, paint a less optimistic picture, and significant investment and a more favourable macroeconomic environment are required for SMEs to grow and create new employment again. SMEs need access to finance to be able to innovate and develop. This is particularly the case for first time entrepreneurs or SMEs in risky economic sectors, which may find it difficult to attract a financing partner willing to support their business ideas.

- The EIB's financial support focuses on improving financial conditions and enhancing access to finance for SMEs in a bid to boost economic growth and employment opportunities. In 2014, the Bank has supported access to finance by SMEs and midcaps through multiple channels: Increased cooperation with EU Member States and public promotional institutions for the establishment of tailor-made innovative financing facilities for SMEs to support economic recovery;
- Contribution to re-launching the European SME-based securitisation market;
- Intensification of EIB Group collaboration with the European Commission in favour of SMEs and midcaps through newly launched programmes such as *InnovFin-Midcap Finance Guarantee (InnovFin)* and risk sharing products under *Competitiveness of Enterprises and SMEs (COSME)*;
- Continued support for youth employment; and
- Continued support for revitalising the trade finance market for SMEs in countries that suffer from market inefficiencies (e.g. Greece, Cyprus).

3.2.1 Access to Finance – signed operations 2014

Based on the 3PA monitoring indicators, the diagram in **Figure 11** illustrates the expected results of SME and midcap operations inside the EU signed by the EIB in 2014.

Figure 11. Selection of expected results from SME operations signed in 2014



Output indicators in **Figure 11** reflect the magnitude and type of activity resulting from SME and midcap operations, i.e., the volume of SME and midcap funding provided by the EIB through various channels, from standard SME credit lines to asset-backed securities (ABS) and through dedicated lines specialised ones focusing on youth employment, microfinance or agriculture, for example.

Outcome indicators reflect the short to medium term impacts expected to be caused by those outputs, which focus on the number of sub-loans expected to be extended by the financial intermediaries receiving EIB finance to end borrowers or beneficiaries; the number of young people who were or will be hired or trained as a consequence of the EIB SME finance extended for that purpose; the number of ABS transactions closed; and the ‘leverage effect’ of the operations, as measured by the volume of SME funding contributed by third-party investors complementing EIB’s finance.

3.2.2 SMEs and midcaps – project highlights

In 2014, the Bank continued to support the access to finance by SMEs and midcaps using existing instruments as well as by financing programmes and initiatives with a focus on (i) promoting youth employment; (ii) facilitating trade finance; and (iii) enhancing cooperation with EU Member States and public promotional institutions, including the establishment of tailor-made innovative financing facilities for SMEs.

Youth employment – The Bank continued its support for youth employment by improving access to finance for SMEs. In 2014 the Bank signed new loans related to the “*Skills and Jobs: Investing in Youth*” initiative for a total of close to EUR 0.8bn to

create new employment opportunities for Europe's youth. An example is the EUR 200mn EIB loan to Europejski Fundusz Leasingowy (EFL), the largest leasing company in Poland (*EFL Loan for SMEs and Midcaps – V*), which allows EFL to on-lend to its SME customers who in turn use the credit to purchase new machinery to improve product quality, for example. The SMEs benefit from the Jobs for Youth Initiative because they either (i) employ young people below 25 years old; (ii) offer vocational training programmes for young people, or (iii) have cooperation agreements with a technical college or school or university to employ young persons.

Trade finance – The Bank has continued its support for revitalising the trade finance market for SMEs in countries that suffer from market inefficiencies, such as Greece. An example is the EUR 75mn agreement signed with the Italian bank Intesa Sanpaolo to participate as a Confirming Bank in the EUR 500mn Trade Finance Facility with Greece, which was established in June 2013. Through this instrument the EIB supports the trade finance market for SMEs and midcaps in Greece by providing its AAA guarantee to cover 85 percent of the risk of international trade transactions undertaken by Greek banks.

Increased cooperation with public promotional institutions and public authorities – In 2014 the Bank has been active cooperating with existing SME banks and supporting newly-created ones. An example of the Bank's support to new SME promotional institutions is the EUR 400mn loan to SBCI, a newly created Irish Government-owned bank designed to support local SMEs and midcaps (*Strategic Banking Corporation of Ireland*).

An example of the Bank's support to exiting institutions is the EUR 150mn to *Caixa Económica Montepio Geral (Montepio)*, a Portuguese savings bank with an extensive branch network across Portugal. With this operation the EIB will help finance SMEs and midcaps in Portugal at a time where access to finance is critical to support the country's economic recovery.

The EIB's credit line of EUR 100mn to SMEs through the intermediation of *Crédit Agricole S.A (CASA)*, France's leading agricultural lender, is an example of the Bank's ability to help with tailor-made innovative financing facilities (*Credit Agricole pret PME et Mid-Cap Agriculture – see case study*). With this operation, the Bank is channelling capital for SMEs in the agriculture sector, in particular for young farmers who have been finding it difficult to access finance since the financial crisis.

Financing SMEs and midcaps in Portugal

With a loan of EUR 150 million to Caixa Económica Montepio Geral (Montepio), a Portuguese savings bank, the EIB will help finance SMEs and midcaps in Portugal via Montepio's extensive and efficient branch network.

The operation responds to the substantial financing needs of the market for in a context of limited funding sources and liquidity for Portuguese SMEs and midcaps.

The operation is expected to finance projects in different sectors of the Portuguese economy, such as industry, tourism, services or energy efficiency, and to promote youth employment and investments in higher education, R&D and agriculture. While the main target of the loan are SMEs and midcaps, up to 30% of the loan could be accessed by municipalities and other eligible promoters.



Supporting leasing and youth employment in Poland

An EIB loan of EUR 200 million to *Europejski Fundusz Leasingowy* (EFL), the largest leasing company in Poland, will help finance investments by SMEs and midcaps throughout Poland and other EU countries.

In addition to the provision of lower financing costs and improved terms for the final SME leasing beneficiaries, the loan will also support the objectives of the EIB's "Jobs for Youth" Initiative intended to support employment of young people by SMEs and midcap companies, a feature that EFL will implement through this loan after testing the market in Poland since January 2014 in a pilot phase.

The operation is expected to contribute to regional development, and increased competitiveness and productivity of Polish SMEs and midcaps.



Facilitating a new SME-focused public bank in Ireland

With a long term loan of EUR 200 million, the EIB is facilitating the start of operations by the *Strategic Banking Corporation of Ireland* (SBCI), a newly created Irish Government-owned development bank designed to support local SMEs and midcaps. The EIB loan, which benefits from a sovereign guarantee, will provide half of SBCI's initial funding requirements.

SBCI is expected to focus on lending to financially underserved SMEs and midcaps in strategic areas of the Irish economy, thus operating in a counter-cyclical manner to support growth and employment, and complementing private sector funding tailored to the needs of Irish SMEs at different stages of their business life-cycle.



CASE STUDY: ACCESS TO FINANCE – SMEs and midcaps

Agricultural Loan for SME and Midcap Companies in France

Sector: SMEs and Midcaps in agribusiness	Promoter: Crédit Agricole S.A (CASA)
EIB finance: EUR 100mn	
Objective:	
<ul style="list-style-type: none"> • Provide a credit line to SMEs and midcaps through the intermediation of CASA, France's leading agricultural lender. The final beneficiaries will be SMEs and cooperatives owned and controlled by SMEs and midcaps promoting small-scale projects in the agriculture and forestry sector, including investments in the upstream and downstream value chains. 	
Expected results:	
<ul style="list-style-type: none"> • Finance fixed asset investments with long economic life (40 percent of the SME loans will have a 15-year tenor) • Facilitate food and energy production, and foster the long-term sustainability of farming in France • Contribute to the EU's priorities for agricultural and rural development, promoting the growth of less-developed European regions 	

Motivation

The food industry is the second biggest employer in the French industrial sector, with more than 700,000 workers directly employed in agricultural production. SMEs play a significant role in the sector, but they remain vulnerable after the global recession of 2008-09. They have experienced difficulties accessing finance due to tightened credit standards from private banks and restrictive conditions for public financial support, including guarantees. Raising capital for long-term investments has been particularly difficult for young farmers, which creates challenges with the continuity of agricultural businesses between generations.

EIB contribution

The EIB provides a loan of EUR 100mn in total, with financing capped at EUR 12.5mn per project. Around 40 percent of the loans will be disbursed with a term of maximum 15 years to finance fixed assets with long economic life, such as on-farm grain storage facilities and buildings for livestock production.

The EIB funds will be passed on to the *Caisses Régionales* or subsidiaries of CASA on financially advantageous terms, reaching the beneficiary SMEs while identifying the EIB as the source of the funds. The EIB loan will enable CASA to diversify its sources of funding on attractive terms.

Benefits

At least 80 percent of the final beneficiaries of the operation will be actors of the agri-food and forestry value chains. Focusing on farmers will facilitate food and bioenergy production, and the achievement of high European agricultural, environmental and hygienic standards.

By providing financing to SME agricultural businesses and young farmers the operation fosters the long-term sustainability of farming in France. Having access to loans through CASA will help them invest in diversifying operations, such as agri-tourism, on-farm sales of high value products, and valorisation of by-products from activities related to food processing and forestry.

The operation provides continuity to the Bank's long-standing cooperation with the promoter, and it is likely to benefit directly or indirectly the 13 percent of the French population who live in rural areas.

Policy links

The operation will contribute to the EU's priorities for rural development, particularly for improving the economic performance of farmers and facilitating farm restructuring and modernisation. Most of the loan is dedicated to the agricultural sector, which reflects the Bank's renewed interest in and recognition of this sector, documented by the Memorandum of Understanding between the European Commission and the EIB for co-operation in agriculture and rural development in 2014-2020.

Given that a substantial part of the credit line will be allocated to SMEs and midcaps in underdeveloped rural areas of France, the project also supports the EU's common interest of promoting the growth of less-developed regions.

3.2.3 New initiatives for SMEs and midcaps – project highlights

In 2014, in cooperation with EIF and the European Commission, the Bank also focused on new initiatives to support the access to finance by SMEs and midcaps, such as (i) contributing to the re-launch of the European SME-based securitisation market; (ii) supporting innovative enterprises by launching new financial instruments such as *InnovFin* – EU Finance for Innovators and risk-sharing products under *COSME*.

SME Asset-Backed Securitisation (ABS) – The Bank has contributed in 2014 to the re-launch of the European SME-based securitisation with operations such as the purchase of ABS notes secured by German SME leasing receivables originated by IKBL in Germany, Banco Santander in Spain or Unicredit in Italy, for example. In this way the Bank further supports loan and lease financing of SMEs and midcaps in several EU countries.

Midcap guarantee – An example of the Bank's efforts to use innovative risk-sharing financing instruments is a pilot operation involving a maximum guarantee amount of EUR 200mn to finance innovation-driven midcaps (*KBC Midcap Guarantee*). The operation provides a 50 percent credit risk protection on a loan-by-loan basis to KBC Bank NV (KBC), a bank based in Belgium. Traditionally the credit risk of the Bank's MBIL operations rests on the financial intermediary while the Bank uses the underlying loan portfolio as collateral. With the midcap guarantee, the Bank shares the credit risk burden with the financial intermediary.

InnovFin- Midcap growth finance (direct debt financing of innovative midcaps) – EIB's efforts to develop alternative instruments to fill the financing gaps experienced by innovative SMEs and midcaps is best illustrated by *InnovFin* – EU Finance for Innovators (see case study) financial instrument launched by the EIB Group in cooperation with the EC. *InnovFin* is designed to support innovative and/or fast-growing SME and midcap companies under the Horizon 2020, the new EU research programme for 2014-20. It builds on the success of previous financing instruments under the Risk Sharing Finance Facilities. The Bank's objective is to mitigate the market failure of innovative midcap companies struggling to access finance by making a total of EUR 2.2bn flexible, long-term financing available for innovative midcaps.

Re-launching the European market for Asset-Backed Securities (ABS) in Germany

The EIB is supporting the lease financing of SMEs and midcaps in Germany, and other EU countries, with up to EUR 100 m through a loan substitute, the purchase of ABS notes secured by German SME leasing receivables originated by IKB Leasing (IKBL).

The operation is expected to contribute to sustainable growth and employment in Germany by enhancing access of independent companies with less than 250 employees to affordable finance. It will reach a large number of SMEs given the small size of individual leasing transactions. IKBL will use the EIB funding to offer lower financing costs and improved terms to the final SME beneficiaries.

This transaction is in line with the EIB strategy of increasing the use of alternative financing structures, and contributes to re-launch the European market for ABS notes backed by SME loans.





Supporting innovative midcaps in Belgium

With a pilot operation involving a maximum guarantee amount of EUR 200 million, the EIB is supporting innovation-driven midcaps. The EIB midcap guarantee (InnovFin Midcap Guarantee) provides 50% credit risk protection of individual RDI investment costs –with a cap of EUR 25 m per project– on eligible loans originated by KBC Bank.

The operation is structured to allow KBC to increase its capacity to lend to innovative midcaps, which is in line with the new Horizon 2020 eligibility criteria which supports RDI activity in innovative companies.

The operation is expected to contribute to safeguard and/or generate employment through the productivity improvements and enhanced competitiveness resulting from the RDI activities to be financed via the MCG.

CASE STUDY: ACCESS TO FINANCE - New initiatives for SMEs and midcaps
InnovFin - Midcap Growth Finance (direct debt financing of innovative midcaps)

Sector: SMEs and Midcaps
EIB finance: EUR 2.2bn
Objective: <ul style="list-style-type: none"> • <i>InnovFin - Midcap Growth Finance</i> is a financial instrument designed to finance investments by innovative and/or fast-growing midcap companies under the Horizon 2020, providing flexibility in the structuring of operations by offering both senior and subordinated/mezzanine debt
Expected results: <ul style="list-style-type: none"> • Finance 20 transaction per year throughout a period of 7 years, addressing a key market gap in the availability of debt financing for innovative midcaps • Speed up financing procedures while preserving quality and generating internal efficiency gains • Provide a signalling effect to the market, and thus attract more commercial loans for smaller businesses

Motivation

The EU lags behind its global competitors in terms of investment in research and innovation. While SMEs and midcaps play a key role in innovation, fostering competitiveness and growth in Europe, they face challenging financing constraints. Funding is less available for innovative businesses because they deal with complex products and technologies, unproven markets and intangible assets, and so they are viewed as risky.

The *Risk Sharing Finance Facility* ("RSFF"), a joint scheme between the EU and the EIB under the FP7 programme (2006-2013) to finance research and innovation, was successfully completed at the end of 2013. The programme reached EUR 15.5bn of signed operations with an average operation size of EUR 90mn. Several internal and external evaluations of RSFF recognized the importance of the programme and recommended its extension under Horizon 2020 (2014-2020) ("H2020"). Various stakeholders and evaluators recommended also that under H2020, the RSFF improve its product offering to address the needs of innovative midcap companies. These recommendations were backed by a pan-European study by the EIB group in 2013 which confirmed a market failure in financing available to innovative midcap companies.



EIB contribution

InnovFin MGF was designed as an instrument which fills the gap between the intermediated products managed by the EIF (targeting early-stage companies, both SMEs and small midcaps), and the larger direct EIB loans under *InnovFin*. The MGF instrument was also designed to offer both senior and subordinated/mezzanine debt to innovative companies which have difficulties raising such financing from commercial sources.

Benefits

In its pilot phase, the programme has been very well received by the target companies, investors, banks and governments alike. The midcaps see great value in the subordinated nature of the financing offered by *InnovFin MGF*, the speed of the execution and the Bank's signalling effect. The latter is also important for high technology companies in their discussions with local banks that often face difficulties in the assessment of associated business risks.

Policy links

InnovFin-MGF is in line with the objectives of *Horizon 2020*, and in particular with fostering the “*Knowledge Economy – Research and Development and Innovation*” initiative. Supporting European policies for innovation has led to the inclusion of *InnovFin-MGF* as a key lending product under the new H2020 Delegation Agreement.

4 Infrastructure

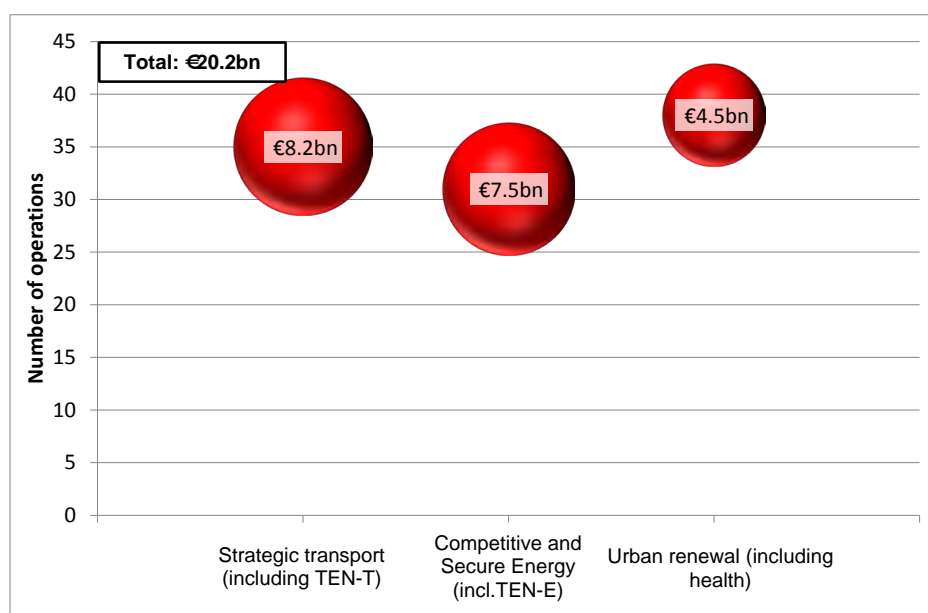
4.1 Overview

The year 2014 saw a renewed focus on the importance of effective infrastructure networks for the European Union's economic, social and environmental well-being. In January 2014 the EU adopted a new transport infrastructure policy aimed at addressing critical gaps within and between EU Members' transport networks, and at improving efficiency and sustainability across different transport modes. Following the political crisis in Ukraine, which underlined Europe's need for a stable and sustainable supply of energy, the European Commission released its EU energy security strategy in May 2014.

Efficient, sustainable and well-integrated infrastructure networks – at a local, national and interregional level – are essential to Europe's economic growth and social cohesion. But the large scale infrastructure projects needed to achieve this require significant financial investment and technical guidance, and EU Member States are still feeling the effects of the financial crisis in their abilities to advance critical infrastructure development.

In 2014 the Bank signed 104 infrastructure projects for a total of EUR 20.2bn (or 29 percent of total Bank's annual signatures). Strategic transport (including TEN-T) projects account for EUR 8.2bn (or 41 percent of infrastructure); competitive and secure energy projects account for EUR 7.5bn (or 37 percent); while urban renewal (including health) projects account for EUR 4.5bn (or 22 percent).

Figure 12. Infrastructure signings overview – 2014



Source: Frontier Economics based on EIB data

The infrastructure projects signed in 2014 are aligned to the Bank's lending criteria and policy objectives, and to the wider, most up-to-date EC infrastructure strategy and policy goals, aimed at delivering tangible results for EU Member States. These

infrastructure projects are expected to support economic growth and competitiveness and promote social cohesion across Europe. The consideration of environmental sustainability and effective infrastructure integration are additional key features across the 2014 infrastructure signings: the development and promotion of low-carbon transport; multi-modal platforms and the integration of renewables to support secure and competitive energy; and the creation of sustainable cities through urban renewal projects.

4.1.1 Innovative financing instruments for infrastructure projects

The EIB has been stimulating the investment flow back into the infrastructure sector through the innovative Europe 2020 Project Bond Initiative (“PBI”) developed by the Bank and the European Commission to attract capital market financing for large-scale infrastructure projects in strategic transport, energy, and ICT networks. The year 2014 was PBI’s second year of implementation, with the Bank signing three new infrastructure projects using the innovative financing instrument.

The Belgian A11 Motorway Link: the first EU transport project to benefit from the innovative EC-EIB Project Bond Initiative

The EIB’s support of a new 12km long A11 motorway link between Brugge and Westkapelle in Belgium will help provide much-needed direct connection between the port of Zeebrugge and the European motorway network. The A11 scheme is expected to reduce significantly the heavy congestion and associated delays currently experienced by freight and tourist traffic, and thereby offer both economic and societal benefits.

This is both the first transport project and the first greenfield PPP in Europe to benefit from the EC-EIB Project Bond Initiative. EUR 578mn of project bonds were issued, and the Bank also provided a subordinated credit enhancement facility of EUR 115mn, which improved the credit rating of the bonds to A3 by Moody’s. In addition, the Bank has acted as an anchor investor for EUR 144mn of the bond issue. The A11 project transaction involves important innovative features, such as committed financing and a deferred drawdown structure aligned to construction requirements.

4.2 Strategic transport (including TEN-T)

The launch of a new transport infrastructure policy for the European Union in January 2014 underlined the importance of efficient transport connections to Europe’s economic growth and competitiveness, and social cohesion. The new policy establishes a core transport network (TEN-T) based on nine major corridors aimed at improving connections, removing bottlenecks, upgrading infrastructure, streamlining cross-border transport operations, and developing inter-modal transport connections throughout the EU.

Investments in the transport sector not only create direct employment in construction and during their operation but also – and most significantly – can act as key growth enablers by supporting efficient business and trade flows. The current fiscal environment puts a premium on selecting projects with a high expected economic impact. The EIB committed to triple its finance for transport infrastructure to EUR 26bn over the period 2014-2020 to foster the economic growth envisioned in the new EU transport infrastructure policy by addressing Europe’s key transport

investment gaps. The transport projects signed by the Bank in 2014 reflect the EU's strategic transport priorities, aimed at maximising benefits to EU citizens.

4.2.1 Strategic transport (including TEN-T) – 2014 signed operations

The Bank's strategic transport (including TEN-T) operations signed in 2014 are shaped by the Bank's Transport Lending Policy, which has 3 main objectives: (i) climate action and safety; (ii) resource efficiency; and (iii) strategic infrastructure supporting cohesion and the Single Market. The 2014 strategic transport portfolio also reflects the key aims of EU transport infrastructure policy, namely:

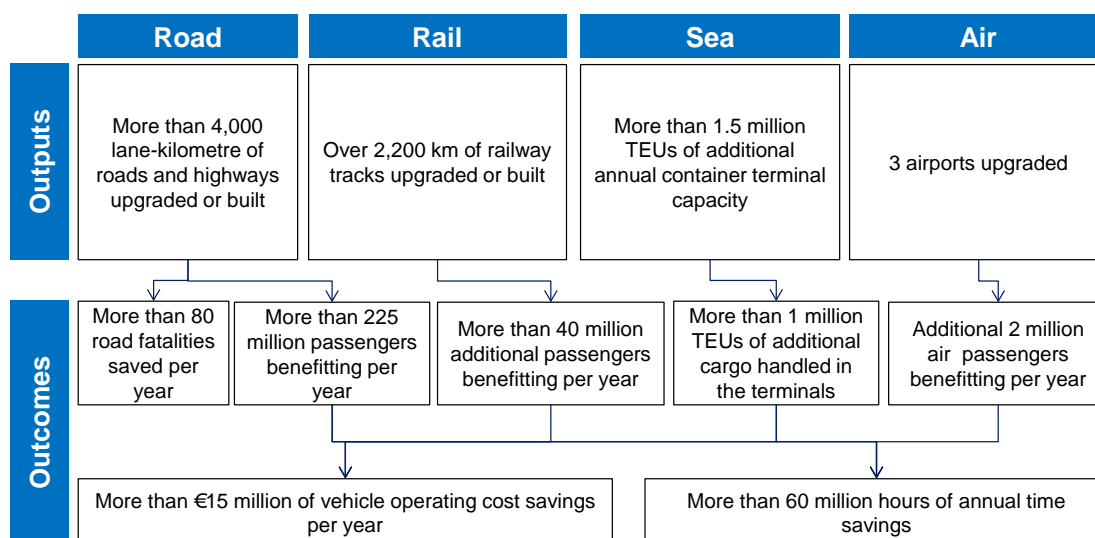
- completing and updating core structural networks across the EU;
- improving connections between ports, airports and urban centres; and
- creating multi-modal platforms to improve logistics.

The set of operations signed by the Bank in 2014 which contribute to the strategic transport (including TEN-T) policy objectives comprises 35 projects.¹¹ These projects account for EUR 8.2bn or 11.9 percent of the EIB's total lending volume.

Based on the 3PA project monitoring indicators, the diagram in **Figure 13** illustrates the expected results of a subset of strategic transport (including TEN-T) infrastructure operations inside the EU signed in 2014, split by different transport modes. Investments in *roads and motorways* account for 11 loans of the strategic transport (including TEN-T) operations signed in 2014 worth EUR 3.3bn. The second largest sector is *railways* accounting for seven projects or EUR 1.9bn. There are also three *air transport*, three *sea transport*, one *urban transport*, and a multi-sector project developing the infrastructure surrounding an LNG terminal accounting for EUR 0.7bn. The nine operations remaining, which account for EUR 2.2bn, were approved before the introduction of the 3PA methodology and, consequently, don't report sector-specific monitoring indicators. Major schemes allocated under framework loans are also excluded from the results reporting.

¹¹ See **Table 7**. Of those, 28 contribute in full to TEN-T while an additional 7 projects contributed to multiple objectives, but contributed the most to TEN-T

Figure 13. Selection of expected results from strategic transport (including TEN-T) operations signed in 2014



Output indicators in **Figure 13** reflect the type of activity resulting from TEN-T and other strategic transport operations, mainly describing the magnitude of new and strategic transport capacity either built or upgraded across transport modes, from number of kilometres of road and rail to container port and airport capacity.

Outcome indicators reflect the short to medium term impacts caused by the outputs of those operations, focusing on the effect of increased transport capacity on passenger and freight demand, and on the benefits generated in terms of lives saved (e.g. via reduced road accidents), and vehicle operating cost savings and user time savings (e.g. via improved road quality and reduced road traffic congestion).

4.2.2 Strategic transport (Including TEN-T) – project highlights

The strategic transport (including TEN-T) operations signed by the Bank in 2014 across EU Member States depend on infrastructure priorities and project pipelines. In countries with mature transport networks, the focus is on completing missing links (*A11 Motorway in Belgium*); upgrading capacity-constrained or outdated transport facilities (*Nice Airport Development*); and improving network connectivity with two TEN-T priority projects, which form part of the Nordic Triangle railway/road axis, (*West Swedish Infrastructure – Gothenburg*). In countries with less developed networks, such as Poland, the focus is on structural links to support access to the wider European market (*S17 Expressway Warsaw-Lublin* -- see case study).

In addition to lending, the Bank adds value through the expert technical advisory services it offers to ensure the successful design and delivery of infrastructure projects, particularly in less developed regions. In the EU, the JASPERS initiative (Joint Assistance to Support Projects in European Regions) provides advice to countries eligible for EU Structural and Cohesion Funds. Through JASPERS, the Bank helps prepare sound infrastructure projects and accelerates the absorption of

and maximises the impact of EU Funds. An example of such an operation signed in 2014 is a key Polish TEN-T rail project (*E-75 Rail Baltica Warszawa-Sadowne*).

Connecting for growth: supporting the expansion of France's third busiest airport

A EUR 100 million long term loan will help finance the expansion and modernisation of one of France's busiest airport outside Paris and a key gateway to the south of France.

The project will increase the airport's terminal capacity by around 4 million passengers and improve airside and landside facilities, thereby catering for future air traffic growth and keeping the airport competitive through offering higher quality and more efficient services for airport users.

The expanded and upgraded airport is also expected to create new jobs once traffic reaches the design capacity of the new equipment and facilities, and help to unlock the economic growth opportunities connected with the development of long-haul air links from regional airports.



Integrating transport modes in Gothenburg

With a EUR 200 million loan, the EIB is supporting the major multi-modal infrastructure investment programme of Sweden's second largest city, Gothenburg.

The 10 transport schemes aim at helping to create a reliable, sustainable, and integrated public transport system in Gothenburg and its surrounding region, capable of meeting future levels of transport demand and helping to facilitate regional labour market integration and economic growth.

The overall programme also involves two TEN-T priority projects, which form part of the Nordic Triangle railway/road axis, a significant multi-modal scheme linking the Swedish and Finnish capitals, aimed at improving passenger and freight transport from the region to central Europe, the Baltic countries, and Russia.

Promoting TEN-T port development and renovation in Normandy

An EIB loan of EUR 75 million will provide almost half the funding needed to support a major marine renewable energy development project in northern France. The project – which is expected to be completed in 2018 – comprises the development and renovation of the existing TEN-T ports of Cherbourg and Caen-Ouistreham. The main works comprise the extension of an existing quay and reclamation in the Port of Cherbourg to accommodate the construction and subsequent maintenance of planned offshore wind and hydro-energy farms.

The enhanced port facilities will make an important contribution to the development of the supply chain for marine renewable energy, and will contribute to the development of key strategic EU ports within the TEN-T network, and to the promotion of sustainable transport and sustainable energy in an EIB Cohesion Priority region.





Modernising a TEN-T railway line in Poland

EIB financing of EUR 180 million will support the modernisation of 66 km of the E-75 Rail Baltica line in northern Poland, part of the core TEN-T rail network from Warsaw to the border with Lithuania on the section from Warszawa Rembertow to Tluszcz (Sadowne). In addition to finance, the Bank has added value through technical assistance from JASPERS during project preparation.

The improvements to the railway line, to be completed by the end of 2018, will facilitate a more reliable and higher speed of train service (160 km/h for passenger trains and 120 km/h for cargo trains), and are expected to benefit users by reducing travel times.

The project supports both national and EU environmental and social cohesion policy goals through promoting sustainable transport modes and facilitating wider economic development by improving accessibility within, and to, a convergence region

CASE STUDY: INFRASTRUCTURE Strategic transport (including TEN-T)

Improving strategic road links in Poland

Sector: Road transport	Promoter: National Road and Motorways Authority General Directorate, Poland
Total cost: EUR 1,048.6mn	EIB finance: EUR 320mn
Objective:	
<ul style="list-style-type: none"> Realise the large potential for time savings and increased connectivity within Poland by extending the country's expressway network. 	
Expected results:	
<ul style="list-style-type: none"> Construction of almost 108 km of the S17 and S12 expressways from Warsaw through Kurów to Puławy in central Poland, important sections of the Core EU TEN-T road network. Improve connectivity and increase capacity to benefit 21,000 vehicles per day expected to use the project roads, which translates into 7mn hours of annual time savings to road users; Reduce road fatalities by 16 per year; 	

Motivation

Poland's transport system has historically relied heavily on railways, with limited investment in its highway network which is underdeveloped compared with other EU Member States. Since Poland's accession to the EU in 2004, the Bank has played a major role in supporting a number of multi-annual national road construction programmes to improve Poland's highway network. However, the development of strategic highways still requires significant investment to bring it in line with EU standards and in proportion to the country's land size and population.

Currently, both national road 12 and national road 17, which will be transformed into expressways S12 and S17 respectively, generate significant traffic demand for long-distance and regional traffic. The project will complement the existing EIB operation Eastern Poland Roads TEN-T.



EIB contribution

The Bank provides high financial value added to the National Road Fund by making available long-term financial resources at a lower funding cost. The project is co-funded under the OPIE (The Operational Programme Infrastructure and Environment for Poland) 2014-2020. The EIB's finance complements grant funding from the EU Cohesion Fund. The EIB loan pre-finances schemes, thereby allowing for more rapid absorption of Cohesion Funds in the next financing perspective and helps sustain the current pace of road investment. The Bank also adds value through the technical assistance provided by JASPERS. EIB's long-standing experience with the promoter of the project – the National Road and Motorways Authority General Directorate – helps to ensure the effective implementation of the scheme.

Benefits

The project will eliminate bottlenecks and reduce travel time on the S17 and S12 expressways to Warsaw by providing additional capacity and contributing to improve travel quality and road safety. The project is expected to strengthen the economic competitiveness of Poland and increase the quality of life of Polish citizens. The project will also mitigate environmental impact and protect the environment due to the installation of acoustic screens, wildlife crossings, and drainage and runoff treatment.

Policy links

One of EIB's key activities is to finance projects that promote social and economic cohesion among Member States. Given that the entire territory of Poland consists of priority regional development areas, the project fully satisfies one of the EU's main policy objectives. The scheme will help Poland modernise its road network to European standards contributing to the country's ability to participate in, and benefit from, the EU single market. Given that S12 and S17 Expressways are key parts of TEN-T, the project is in line with a key objective of the EU and its renewed transport infrastructure strategy: promoting the development of trans-European networks.

4.3 Competitive and secure energy

Having a secure and sustainable supply of energy at affordable prices is crucial to the EU's economic growth, competitiveness, economic integration, and social cohesion. The EU continues to be highly dependent on energy from abroad, importing 53 percent of all the energy it consumes, and can be vulnerable to external energy shocks, as the events of 2014 in Ukraine highlighted. As such, the European Commission launched an EU energy security strategy in May 2014, based on an in-depth study of Member States' energy dependence.

The strategy proposes a number of short, medium and long-term measures to address the challenges of supply security, requiring significant and swift mobilisation of funds. The measures, which align with the Bank's established Energy policy objectives, include: improving energy efficiency; increasing energy production, including the development and integration of renewables; diversifying supplier countries and routes; and strengthening emergency and solidarity mechanisms and protecting critical infrastructure. In line with its priorities, the EIB is working with the Commission to support Projects of Common Interest (PCI) identified by the Commission, including the 33 which are key for ensuring security of supply in Eastern Europe and the Baltics.

The EU's refocus on security of supply in 2014 is reflected in the Bank's 2014 competitive and secure energy signed operations, which prioritise the modernisation and expansion of energy networks, including the integration of energy from renewable sources, developing new energy storage capacities, and upgrading and smartening electricity distribution grids.

4.3.1 Competitive and secure energy – 2014 signed operations

The set of EIB operations signed in 2014 which contribute to the Competitive and Secure Energy (including TEN-E) policy objectives comprises 31 operations.¹² These account for EUR 7.5bn or 10.9 percent of EIB's total annual lending volume.

Based on the 3PA project monitoring indicators, the diagram in **Figure 14** illustrates the expected results of a subset of competitive and secure energy infrastructure operations inside the EU signed by the EIB in 2014, differentiated by energy sub-sector. Thirteen of the 31 operations are directed towards power transmission and distribution, and represent a lending volume of EUR 3.8bn. There are 8 natural gas transmission and distribution projects accounting for EUR 1.4bn. There are also five electricity generation and one gas production project accounting for EUR 1.5bn. The four operations remaining, which account for EUR 0.8bn, were approved before the introduction of the 3PA methodology and, consequently, do not report sector specific-monitoring indicators.

¹² See **Table 7**. Of those, 27 contribute in full to TEN-E/PCI while an additional 4 projects contributed to multiple objectives, but contributed the most to Competitive and secure energy

Figure 14. Selection of expected results from competitive and secure energy operations signed in 2014

	Electricity & Heat		Power distribution & transmission			Gas		
Outputs	More than 600MW of electricity generation capacity from conventional energy sources	110 MW of heat production capacity from conventional energy sources	More than 5,400 MVA of substation capacity constructed or upgraded	More than 630,000 new connections to the network and more than 3.7m smart meters installed	More than 130,000km of power lines constructed or upgraded	More than 90,000 new connections to the network and more than 2.7m smart meters installed	More than 5,800 km of pipelines constructed or upgraded	95,000 cubic meters of storage capacity installed
Outcomes	More than 2,600 GWh of electricity generated from conventional energy sources per year	438 GWh of heat generated from conventional energy sources per year	862 GWh of incremental demand supplied per year	More than 3,100 MW of generation capacity connected to the system (thereof 2,300 from renewable sources)	2,400 GWh of gas distributed per year	100 GWh of reduced losses per year	More than 13,000 GWh storage capacity utilisation per year	

Output indicators in **Figure 14** reflect the type of activity resulting from competitive and secure energy operations, mainly describing the magnitude of new capacity built or upgraded for the use of conventional energy sources across sub-sectors, including electricity and heat generation, power transmission and distribution, and gas transport and storage. These indicators include MW of energy generation capacity, number of power lines and connections to the network, and kilometres of pipeline, for example.

Outcome indicators reflect the short to medium term impacts caused by the outputs of those operations, focusing on the amount of power and heat generated from conventional energy sources, additional demand being served (e.g. power or gas distributed), additional storage capacity utilisation, but also reduction in energy losses to be achieved.

4.3.2 Competitive and Secure Energy – project highlights

The Competitive and Secure Energy operations signed by the Bank in 2014 across the EU reflect specific needs of different Member States. Electricity transmission network reinforcement and upgrade projects, involving increased RES penetration or cross-border integration, feature across Europe, such as the modernisation of Poland's energy network (*Tauron Energy Infrastructure*) and the interconnector between Lithuania and Poland (*LITPOL link interconnector*).

In North West Europe, major port developments will help to accommodate renewables and enhance energy supply capacity, such as the establishment of LNG break bulk infrastructure at the Port of Rotterdam (*GATE LNG Terminal expansion*).

In Southern Europe, the Bank signed a number of projects in Greece to help meet the country's secure energy goals, developing major interconnections between the mainland and islands, increasing energy storage capacity, and improving transmission to address network congestion and ensure security of supply. (*IPTO Transmission I* -- see case study).

Modernising Poland's energy sector

With a loan of EUR 71m to the Polish company TAURON Polska Energia, the EIB will help ensure a secure supply to new energy customers in Poland.

The project, to be completed by 2016, involves the expansion of electricity distribution networks (around 11,000 new connections) and upgrading of existing equipment to connect new customers to the distribution grid. The company will also roll out a smart metering pilot programme in line with EU requirements to support the development of smart grids.

The EIB will also support the modernisation and refurbishment of several of TAURON Group's hydropower plants, which will increase their efficiency and generating capacity.



Enhancing energy supply capacity and promoting cleaner fuel at the Port of Rotterdam

The EIB will finance EUR 38 million and a syndicate of four banks a maximum of EUR 38 million supported by an additional guarantee facility for the expansion of the Liquefied Natural Gas (LNG) break bulk infrastructure and services at the Gate terminal in the Port of Rotterdam.

The Gate terminal facilitates overseas LNG import into Europe, enhancing gas supply diversification and security of supply. The EIB's additional support for the new break bulk facility will help develop the terminal into a hub, from where LNG can be re-exported to other parts of Europe and around the world, boosting the use of LNG as a cleaner alternative transportation fuel for maritime vessels, ferries, trucks and various industrial applications, thereby delivering significant environmental benefits through substantially reducing CO₂ and NO_x emissions.



Developing cross-border energy networks in the Baltic States

The EIB is lending EUR 65 million to finance part of the interconnector Lithuania-Poland, or LitPol, and associated works to reinforce the Lithuania network.

This operation will establish the first interconnection of Lithuania and the Baltic States with the grid of continental Europe, thereby improving diversification and security of supply, and enhancing electricity market integration in the Baltic Region.

Litpol is designated as a TEN-E project of common interest and one of six projects identified by the Commission as critical for EU's energy security in the short and medium terms. Large part of the equipment will be manufactured in the EU, contributing to employment and growth.



CASE STUDY: INFRASTRUCTURE - Competitive and secure energy

Promoting sustainable and competitive energy in Greece

Sector: Energy	Sponsor: Independent Power Transmission Operator, Greece
Total cost: EUR 282mn	EIB finance: EUR 70mn
Objective:	
<ul style="list-style-type: none"> Advance the major electricity transmission investment programme of the Greek Independent Power Transmission Operator (IPTO), starting with the integration of new generation resources (including an additional 1,200 MW of renewable energy) into the electricity grid, reducing congestion, and securing the transmission of renewable-generated energy. 	
Expected results:	
<ul style="list-style-type: none"> 400km of new/upgraded power lines connecting over 800 MW of conventional generation and 1,200 MW of renewable generation to the system Realise 60,000 MWh of energy efficiency savings Accommodate incremental demand supply of 300 GWh/year A new and efficient central energy management system. 	

Motivation

Security of supply remains a key objective of Greece's energy policy. The European Commission's launch of the '*European Energy Security Strategy*' in May 2014 (following the political crisis in Ukraine) emphasised the importance of a secure, sustainable, and affordable energy supply for EU citizens. While electricity transmission coverage in Greece has improved in recent years, saturation of current transmission capacity is expected to occur in certain areas, mainly because of high *Renewable Energy Sources* ("RES") penetration.

To help address these challenges, this IPTO Transmission project supports several energy transmission investments aimed at mitigating expected congestion across peninsular Greece, increasing the capacity and reliability of the system and helping to meet national RES targets.



EIB contribution

Transitioning to a low-carbon economy while reinforcing energy security requires significant investment, and the EIB is able to finance major energy projects like this one on terms not available from commercial banks, enabling promoters to accelerate and widen the scope of their infrastructure programmes. The Bank has a long-standing presence in the Greek energy sector and will support IPTO in successfully delivering this project. IPTO, a subsidiary of PPC, the biggest power producer and electricity supply company in Greece, is an experienced electricity network operator, with a solid track record and longstanding experience undertaking similar investments with well-defined processes and standards for investing, and expert engineering teams responsible for implementing these operations.

Benefits

In line with national and EU energy strategies, this project is expected to play an important role in helping Greece transition to a low-carbon and energy-secure economy, essential for economic growth, competitiveness and social cohesion. The project will serve to maintain and improve system security and reliability of energy supply for Greece, through reducing network congestion and increasing penetration of RES, thus offering environmental benefits. It will also improve the interconnection of major Greek islands with the mainland, supporting economic and social cohesion.

Policy links

In line with national and EU energy strategies, the IPTO Transmission project is expected to play an important role in helping Greece transition to a low-carbon and energy-secure economy, essential for competitiveness and growth. Promoting sustainable, competitive and secure energy for Europe is one of the EU's strategic priorities, and this project supports those priorities, contributing specifically to the EIB's own policy objectives in delivering economic social cohesion, sustainable, competitive and secure energy, and developing Trans-European Networks of energy (TEN-E).

4.4 Urban renewal (including health)

Fully integrated and efficient municipal infrastructure is vital for the economic growth and social cohesion of EU Member States. As urban populations grow, pressures on housing, public services (including health facilities), and urban transport networks, can limit economic growth. The EIB's urban renewal lending focuses on:

- encouraging more mixed-use development, to accommodate higher densities and reducing the need for motorised travel;
- improving individual building performance, to reduce energy consumption and carbon emissions;
- supporting sustainable, efficient and affordable public transport;
- mitigating urban poverty through investing in the social and affordable housing;
- upgrading hospitals to provide higher quality health care.

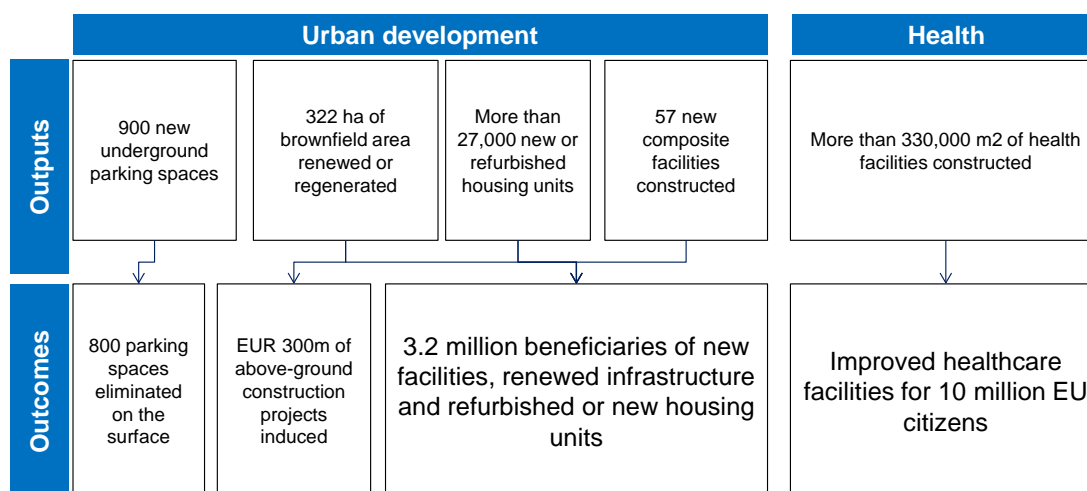
4.4.1 Urban renewal (including health) – 2014 signed operations

The set of EIB operations signed in 2014 which contribute to urban renewal (including health) comprises 38 projects, accounting for EUR 4.5bn or 6.5 percent of the EIB's annual lending volume.¹³

Based on the 3PA project monitoring indicators, the diagram in **Figure 15** illustrates the expected results of a subset of urban renewal infrastructure (including health) operations inside the EU signed by the EIB in 2014. Of the 38 Urban Renewal operations, 19 represent investments in urban development, and account for EUR 2.2bn of EIB lending; while seven operations were directed towards health and social work activities worth EUR 0.9bn of EIB lending. Three operations relate to urban transport projects and account for EUR 0.4bn. The nine operations remaining, which account for EUR 0.8bn, were approved before the introduction of the 3PA methodology and, consequently, don't report sector-specific monitoring indicators.

¹³ See **Table 7**. Of those, 27 contributed in full to the Urban Renewal objective while there are 11 more projects that contributed to multiple objectives, but contributed the most to Urban Renewal

Figure 15. Selection of expected results from urban renewal (including health) operations signed in 2014



Output indicators in **Figure 15** reflect the type of activity resulting from urban renewal (including health) operations, describing the magnitude of new or rehabilitated urban space (e.g. underground parking, regenerated brownfield areas) and urban built environment (e.g. new housing units), including health facilities.

Outcome indicators reflect the short- to medium-term results caused by the outputs of those operations, focusing on the number of beneficiaries of new facilities, rehabilitated infrastructure, new built environment, including new health patients treated. Outcome indicators also include the urban space regained by some operations (e.g. over ground parking spaces eliminated).

4.4.2 Urban renewal (including health) – project highlights

Urban renewal (including health) projects signed by the EIB in 2014 cover all geographical areas of the EU and reflect the Bank's commitment to promoting social cohesion, addressing inequalities, and improving quality of life in the urban environment. Most operations are multi-dimensional municipal infrastructure projects, such as those in Poland (*Warsaw Municipal Infrastructure*) and Northern Finland (*Oulu Urban Infrastructure* – see case study). Six urban renewal projects focus on hospital rehabilitation, such as improvements to the second largest University hospital in Germany (*Universitätsklinikum Schleswig-Holstein*); three other projects focus on brownfield regeneration; and four other projects on investment in sustainable communities, such as Barcelona's urban investment plan (*Barcelona Smart & Sustainable Urban Renewal*).

The 2014 set of urban renewal operations also features four major social housing sector projects in Belgium, Germany, and the UK (*Sanctuary Housing*), an area where EIB financing adds significant value. The social housing sector generates relatively low revenues compared with investment costs. Its financial viability is therefore not attractive to commercial banks. The EIB's financial contribution is thus crucial for ensuring a fair access to affordable housing for the most deprived segments of the population.

Supporting large-scale social housing construction in the UK

The EIB is lending EUR 426 million to Sanctuary Housing Group, the largest UK housing association, to support its capital investment programme, to be completed in Spring 2016, comprising 5,400 new units of social housing and 14,300 units of retrofitted social housing which are expected to accommodate a total of over 55,000 people.

The construction works involved in implementing this project are also expected to boost local growth and employment, with a total of 5,500 person-years of employment anticipated to be required and aimed specifically at recruiting the local population, including those who are currently unemployed, low-skilled or apprentices.



Investing in a 'Smart and Sustainable' future for Barcelona

The EIB will provide a EUR 200 million Framework Loan to finance selected components of the investment plan supporting the municipality of Barcelona in the implementation of the city's 2013-2015 investment programme.

The Loan will support schemes that promote adaptation, upgrading of public buildings and renovation and regeneration of urban areas. The selected schemes will involve smart investments pursuing energy efficiency and the utilisation of ICT technologies to improve the provision of public services and to create the adequate environment for the generation of new businesses and job opportunities.

Upgrading Warsaw's Municipal Infrastructure

The EIB will boost Warsaw's municipal infrastructure with a EUR 240 million loan, to finance mobility schemes, education, social and healthcare infrastructure projects, and the modernisation of public and green spaces as part of Warsaw's 2014-2019 investment programme.

The schemes are expected to contribute to implementation of the city's sustainable development strategy which aims at making Warsaw a modern and dynamic city to attract investment, and promote economic growth and competitiveness. They will improve the quality of public services available and develop public spaces to yield recreational, tourism and environmental benefits.





Supporting large scale hospital rehabilitation in Schleswig-Holstein

An EIB loan of EUR 400 million will support the rehabilitation and renovation of Schleswig-Holstein University Hospital (UKSH), the second-largest university hospital in Germany with more than 70 clinics and institutes offering comprehensive specialist medical care in every field, and the biggest employer in Schleswig-Holstein.

This large-scale project, to be carried out as a real estate Public-Private Partnership (PPP), will involve the major rehabilitation and extension of the hospital's two sites in Kiel and Lübeck, allowing the hospital to realise its much-needed modernisation programme to facilitate the provision of modern, quality medical care, making the hospital more efficient and competitive.

CASE STUDY: INFRASTRUCTURE - Urban renewal

Investing in Northern Finland's Municipal Infrastructure

Sector: Municipal infrastructure	Sponsor: City of Oulu, Finland
Total cost: EUR 549mn	EIB finance: EUR 250mn
Objective: <ul style="list-style-type: none"> Contribute to the urban renewal and transformation of the City of Oulu to maintain its competitiveness and attractiveness by meeting the demand of a growing population and new business developments and reduce the need for Greenfield developments 	
Expected results: <ul style="list-style-type: none"> Multi-sector, small to medium-sized investment schemes in municipal infrastructure, education and sport, social and health infrastructure, district heating and water management Improved accessibility through the planned improvements to streets, harbour, parking facilities and other traffic measures 	

Motivation

The City of Oulu is the capital of the Northern Ostrobothnia region and the largest and most populous city in Northern Finland. Oulu is the economic engine of Northern Finland, thanks to many industries within the IT, pulp, paper, wood and steel sectors. It has received several international awards, such as the smartest City in Europe 2012 (Intelligent Community of the Year), and one of the best global new cities for start-ups (Fortune 2012).

Being one of the fastest growing cities in Finland, Oulu needs to develop its urban infrastructure to meet future demand and help maintain its competitiveness. The City has a long-term investment strategy for 2013 - 2016 to modernise its basic infrastructure and improve the quality of public services. It includes public transport, street refurbishment, school upgrading, and renovation of cultural heritage, reconstruction of social facilities, district heating and water supply.



EIB contribution

The Bank has extensive experience in supporting urban infrastructure projects in Finland with a successful track record of working with the promoter, and has actively participated in the selection of the eligible schemes to ensure the most robust and potentially beneficial operations are supported. By financing almost half of the total cost of Oulu's infrastructure programme, the EIB supports and accelerates the improvement of the infrastructure and urban environment in Northern Finland, facilitating the region's continued economic growth. The EIB's financing will also help to reduce the cost of these investments to the Finnish public.

Benefits

This operation is expected to have a number of economic benefits and spill-over effects for Oulu and the entire Northern Ostrobothnia Region. The sector enhancements included in this project are expected to contribute to the sustainable development of Oulu, improve economic competitiveness and enhance social cohesion. The schemes will help develop the local economy and support conditions for regional and international trade, as Oulu also hosts the biggest port and biggest airport in the region. It is expected to improve the quality of life for the citizens of Oulu and support the long-term economic growth in the municipality and the entire region.

Policy links

The Oulu Urban Infrastructure programme satisfies a number of key EU and Bank policy objectives: it contributes to the EU's objectives on protection and enhancement of the urban environment, and the creation of sustainable cities and communities. It also involves the renovation of schools and other education facilities, such as extra-curricular schools and kindergartens, which will contribute to objectives of the Europe 2020 strategy. The project also meets EU strategies aimed at increasing investment in human capital and infrastructure for Knowledge Economy and Climate Mitigation.

5 Environment

5.1 Overview

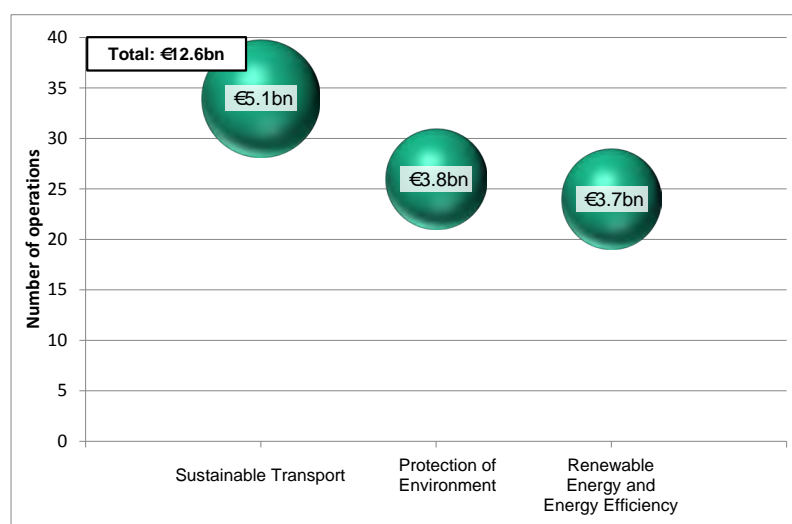
The 7th Environment Action Programme (EAP) guides EU's environment policy until 2020. The EAP's objectives are to protect, conserve and enhance the EU's natural capital; to transform the Union into a resource-efficient, green, and competitive low-carbon economy; and to safeguard the EU's citizens from environment-related pressures and risks to health and wellbeing.

EIB funding for environmental protection operations drive sustainable development in the EU, and help realise the objectives of the EAP. The Bank supports sustainable transport, provision of environmental services (e.g., water and wastewater), forestry, and agriculture initiatives, renewable energy and energy efficiency operations.

The Bank's involvement across different sectors, and its integrated, holistic approach to environmental protection financing, aims at ensuring that land, water and energy resources are developed sustainably. In addition, Bank environmental operations aim at preserving biodiversity and enhancing the resilience of communities, infrastructure and ecosystems to the impacts of climate change.

In 2014 the Bank signed 84 environment projects for a total of EUR 12.6bn (or 18 percent of total Bank's annual signings). Sustainable transport projects account for EUR 5.1bn (or 41 percent of Environment); protection of the environment projects account for EUR 3.8bn (or 30 percent);¹⁴ while renewable energy and energy efficiency account for EUR 3.7bn (or 29 percent).

Figure 16. Environment signings overview - 2014



¹⁴ This figure includes EUR 33m from projects of a cross-sectoral nature whose primary objective is Climate Action – see footnote in [Table 7](#).

5.2 Sustainable transport

Comprehensive and efficient transport networks (at local, regional and EU-wide levels) are vital to drive economic growth and social cohesion, as underlined by the EU's new transport infrastructure policy. However, pending the development of alternatives, the European transport sector's current dependence on fossil fuels make it a major contributor to CO₂ emissions in Europe, accounting for around one quarter of all CO₂ emissions across the EU28. It is therefore important for EU Member States to prioritise high-quality, low carbon passenger and freight transport modes where they provide a sustainable economic alternative. This is most pressing within and in connecting to urban centres across Europe, where inadequate infrastructure and outmoded public transport services cause congestion and pollution, negatively impacting on the environment and people's quality of life, and constraining economic growth.

Sustainable transport offers environmental benefits in the long run; however, its upfront development costs are significant, both in terms of direct investment in infrastructure and rolling stock, and in terms of funding R&D for underlying low-carbon and technological innovations. The EIB provides a crucial source of low-cost funding for public and private sustainable transport initiatives and, as such, plays an important role in screening and selecting operations which offer tangible, long-term positive impacts in the context of wider regional and national transport strategies and EU policy goals.

5.2.1 Sustainable transport – 2014 signed operations

Environmental sustainability is a key consideration in all transport projects supported by the EIB. Two of the Bank's three key Transport Lending Policy objectives specifically address climate action, safety, and resource efficiency. The Bank's sustainable transport operations signed in 2014 are shaped by these lending criteria and the Bank's wider climate action objectives, and are also aligned to the key aims of EU sustainable transport policy, namely:

- Promoting co-modality, i.e. optimally combining different modes of transport within the same transport chain, particularly for freight; and
- Supporting a shift towards the least polluting and most energy efficient modes of transport, and the technical RDI needed to achieve this, especially in the case of long distance and urban travel.

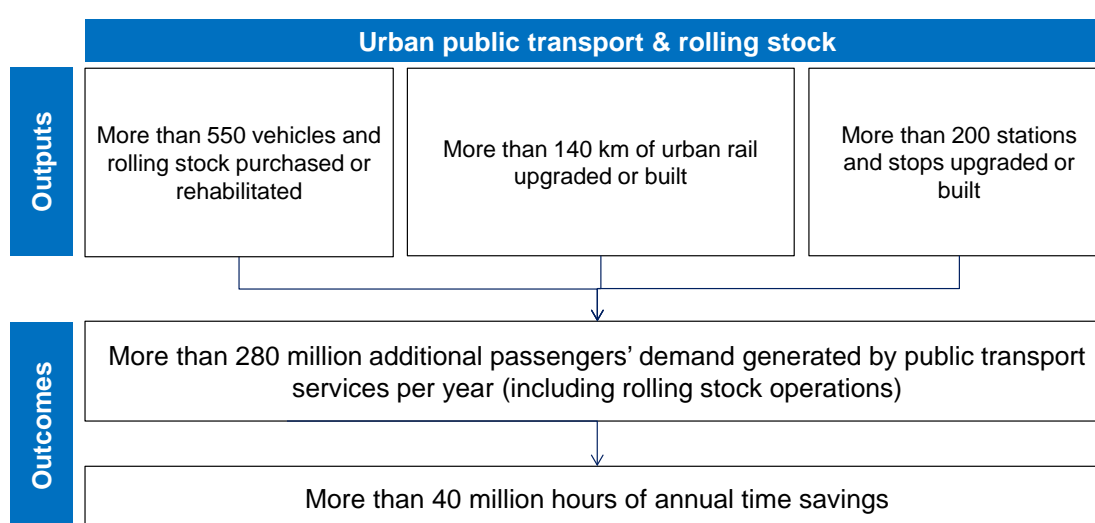
The EIB's sustainable transport operations in 2014 prioritise EU Members' successful transitioning to efficient, affordable, low-carbon transport systems, with a focus on projects that address urban congestion, and railway construction and upgrading schemes where most needed across the EU.

The set of EIB operations signed in 2014 which contribute to Sustainable Transport comprises 34 operations, accounting for EUR 5.1bn or 7.4 percent of the EIB's total lending volume in 2014.¹⁵

¹⁵ See [Table 7](#). Of those, 26 contributed in full to the Sustainable Transport objective while there are 8 more projects that contributed to multiple objectives, but contributed the most to Sustainable Transport

Based on the 3PA project monitoring indicators, the diagram in **Figure 17** illustrates the expected results of a subset of the sustainable transport operations inside the EU signed by the EIB in 2014. Of the 34 Sustainable transport operations, ten represent investments in *urban transport* (including bus and tram lines and metro line tracks), and account for EUR 2.0bn of EIB financing. Eight operations were directed towards *railway* investments, and account for EUR 1.3bn of EIB financing. There are also three *urban streets*, two *urban development*, and one *sea transport* project accounting for EUR 0.9bn. The ten operations remaining, which account for EUR 0.9bn, were approved before the introduction of the 3PA methodology and, consequently, do not report sector-specific monitoring indicators. Major schemes allocated under framework loans are also excluded from the results reporting.

Figure 17. Selection of expected results from sustainable transport operations signed in 2014



Output indicators in **Figure 17** reflect the type of activity resulting from sustainable transport operations, mainly describing the magnitude of new and rehabilitated urban transport infrastructure and public transport capacity, from the number of kilometres of urban streets and bus, tram or metro lanes to stations and public transport rolling stock vehicles.

Outcome indicators reflect the short to medium term impacts caused by the outputs of those operations, focusing on the effect of increased transport capacity on passenger and freight demand, and on the benefits generated in terms of additional passenger demand being served, vehicle operating cost savings, and user time savings.

5.2.2 Sustainable transport – project highlights

The Sustainable Transport projects signed by the Bank in 2014 cover all regions of the EU, with a particular focus on supporting comprehensive and robust urban transport and mixed investment schemes aimed at reducing congestion and contributing to the environment by improving the modal split between private and public transport and enhanced inter-modal connections. An efficient, affordable and

sustainable public transport system is essential for major cities, such as Dublin, where the Bank is providing a crucial EUR 150mn loan to support the extension of Dublin's tramway system (*Dublin Luas Cross City* – see case study); and in Greece's second largest city, where a EUR 200mn EIB loan will help finance the extension of the city's metro system to help reduce pollution and urban congestion (*Thessaloniki Metro extension*).

Investments in rail transport form a significant component of the EIB's 2014 sustainable transport operations. For example, the construction of a key railway line in Poland (*Gdansk Metropolitan Rail*) will connect the centre of Gdansk with Gdansk Lech Walesa international airport and other existing regional railway lines, helping to improve regional inter-modality and the quality of public transport, and reducing the use of private cars with its associated environmental impacts.

Ports form the main gateway to international trade for the EU and demand for sea transport is rising. A new ferry link between Norway and Denmark, supported by a EUR 124mn EIB loan (*Fjord Line Ropax Vessels*), demonstrates the potential benefits of modern fuel-efficient sea transport in maximising passenger and freight capacity across strategic routes while minimising adverse environmental impacts.

Reducing air pollution and urban congestion in Greek cities

With a EUR 200 million loan, the EIB will help finance the second phase of the Thessaloniki Metro, a 4.8 km eastward extension towards the densely-populated municipality of Kalamaria.

The project, which also includes Park and Ride facilities to maximise inter-modal benefits for commuters, is expected to alleviate traffic congestion and reduce associated environmental impacts, such as poor air quality in Thessaloniki - Greece's second largest conurbation, and a major business centre for the southern Balkans.





Improving transport inter-modality in Poland

A EUR 36 million EIB loan will support the construction of a key 17-km long railway line, utilising the corridor of an old disused regional railway, serving suburban and regional passengers in the Tricity area of Poland. The line will connect the centre of Gdansk with the Lech Walesa international airport, with Gdynia, with the Kaszuby region and other existing regional railway lines.

The project, which also includes new Park and Ride facilities, should improve regional inter-modality and quality of public transport in the Pomeranian region. In line with the Bank's and the Region's sustainable urban transport objectives, this project will provide efficient public transport connections. It is expected to reduce the use of private cars and traffic congestion, improving the quality of the environment and journey times, contributing to social and economic cohesion in a Convergence Region.

Maximising capacity while minimising environmental impacts of Nordic ferry services

The EIB is supporting the expansion of the Fjord Line fleet with a EUR 124m loan for two new LNG cruise ferries which will provide daily services to travel between Hirtshals (Denmark) and Bergen, Stavanger, Langesund (Norway). The new ferries are rated as the most environmental friendly vessels in the world on the environmental ship index. They use clean technology which reduce harmful emissions compared with standard marine engines powered by heavy fuel oil.

The new vessels are set to almost quadruple both passenger and cargo capacity, offering transport for up to 1 500 passengers and 600 vehicles each day and increasing the number of routes from two to four with daily departures from all ports in Norway, Denmark and Sweden. New ferry services are expected to create 400 new jobs in the EU and should strengthen trade links between the EU and Norway.



CASE STUDY: ENVIRONMENT - Sustainable transport

Expanding Dublin's Sustainable Tramway

Sector: Urban transport	Sponsor: National Treasury Management Agency, Ireland
Total cost: EUR 300mn	EIB finance: EUR 150mn
Objective:	
<ul style="list-style-type: none"> • Build the Luas Dublin Cross City project to connect the Red and Green Lines of Dublin's LUAS light rail tram system in the inner city centre. 	
Expected results:	
<ul style="list-style-type: none"> • 5.6km of new track, 10 new trams, 13 new stations, and a depo • Increase annual passenger by 10mn (28 percent) to 40.1 m boarding passengers in 2020 • 1.26mn hours of time savings per year • 800 jobs during construction and 60 full time jobs during operation. 	

Motivation

Modern tram (or "light rail") systems optimize urban space and offer a wide range of user benefits: they exhibit a reduced environmental impact when compared with fossil fuel alternatives (both in terms of harmful emissions and noise pollution); they are safe and fast and, being independent of road traffic, they offer reliable routes and services, with established timetables; and they operate across central urban areas while also connecting to suburban areas and railway stations.

Dublin's light rail tramway system, Luas, opened in 2004 and forms a key part of the city's transport strategy. It has proved an excellent example of the advantages of light rail, and over 30 million passengers a year now use the system. The new LUAS link will enable the vital connection between the two existing Luas Red and Green lines in the inner city centre and the connection with the Maynooth railway line on the north side of the city.

**EIB contribution**

The EIB is a long-standing long-term investor in Ireland's infrastructure and PPP programme, committed to supporting sustainable urban transports that will improve public transport capacity and efficiency, and help reduce congestion and pollution. By providing nearly half the total funding for the Luas Cross City project, the Bank offers a low-cost source of funding to support the improvement of the infrastructure and urban environment in Dublin. The EIB intervention therefore significantly complements other sources of finance, and was of high value when the loan was put in place in a context of uncertain/limited access to the capital markets.

Benefits

The Luas Cross City project is expected to deliver a range of benefits, including the creation of a comprehensive network of light-rail in Dublin, facilitating numerous new public transport journeys, such as connecting Sandyford, Dundrum and Ranelagh with Grangegorman and commuter rail stations in Kildare. The expected increase in annual passengers on the system, and reduction of car trips during peak hours will reduce congestion, associated emissions and negative environmental impacts. Through the reduced travel times and improved efficiency and reliability of Dublin's public transport system, the project should also have positive impacts for wider economic growth and quality of life.

Policy links

The Luas Cross City project forms part of the wider transport strategy for the Greater Dublin Area (Draft Transport Strategy 2011-2030). It will increase the attractiveness of Dublin's public transport network and overall urban environment, improving accessibility while optimising costs and reducing private car use and associated pollution, in line with the key EU objectives of protection and enhancement of the urban environment and creation of sustainable cities and communities and supporting the EIB's Climate Action (Mitigation) and Sustainable Transport policies.

5.3 Protection of the environment

Protection of the environment is a long-standing EU policy objective and one of the EIB's key project activities. The promotion of sustainable development through the preservation and enhancement of environmental and social capital underpins the EIB's lending strategy and objectives across sectors. Conserving the EU's natural resources and ecosystems is fundamental to the well-being and sustainable development of Europe's communities and the economy. Investing in the provision of environmental services, such as for example drinking water and sustainable solid waste collection and treatment, protects the environment, increases European citizens' quality of life, and provides key inputs and services for Europe's industries.

Under the protection of the environment policy objective the EIB finances projects with beneficial impacts on the natural environment, biodiversity and human living conditions. These include nature and biodiversity protection projects, projects which improve the quality of air, water or soil, sustainable urban development projects, promotion of efficient and sustainable natural resource or ecosystems management (e.g. forestry), depollution projects (soils, industrial sites). In addition to a number of projects that are Climate Action, such as afforestation, Protection of the Environment also includes cross-sectoral climate action projects and further resource efficiency projects that are not eligible under the other Policy Objectives (Innovation, SMEs, and Infrastructure).

5.3.1 Protection of the environment – 2014 signed operations

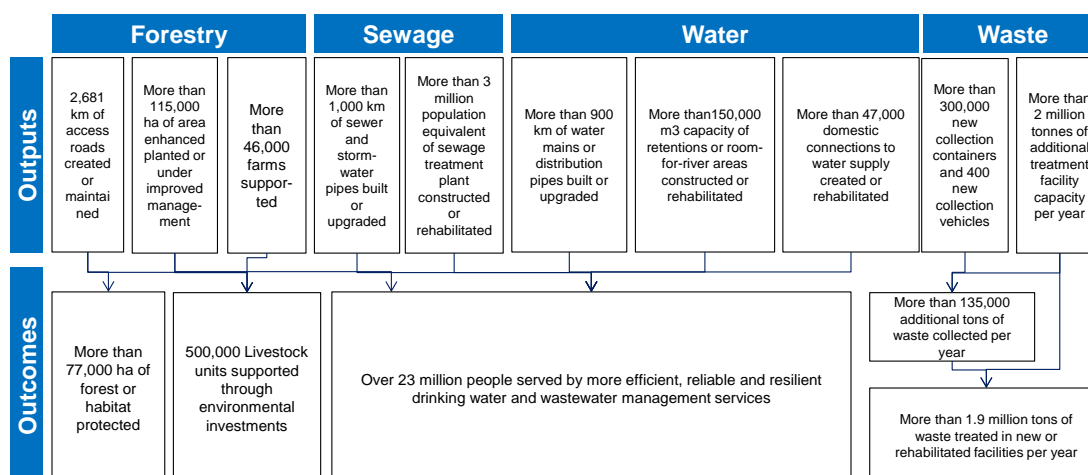
The EIB's 2014 Protection of the Environment signed operations focus particularly on water and waste operations. As the largest debt finance provider to Europe's water sector, active across the entire water value chain, the EIB plays a vital role in supporting the EU's water and wastewater provision and management services, which are critical to Europe's competitiveness – not least given that energy is the largest water user in the EU.

The set of 2014 signed operations features 26 projects in Protection of the Environment which account for EUR 3.8bn or 5.5 percent of the EIB's total lending volume in 2014.¹⁶

Based on the 3PA project monitoring indicators, the diagram in **Figure 18** illustrates the expected results of a subset of Protection of the Environment operations inside the EU signed by the EIB in 2014. Investments in *water supply and wastewater management* and account for ten operations or EUR 1.6bn; and another three operations worth EUR 0.5bn were directed towards forestry. There are four operations financing waste collection and treatment projects as well as electricity generation and manufacturing which account for EUR 0.7bn. The nine operations remaining, which account for EUR 1.0bn, were approved before the introduction of the 3PA methodology and, consequently, don't report sector-specific monitoring indicators.

¹⁶ See **Table 7**. Of those, 18 contributed in full to the Protection of the Environment objective while there are 8 more projects that contributed to multiple objectives, but contributed the most to Protection of the Environment.

Figure 18. Selection of expected results from Protection of the Environment operations signed in 2014



Output indicators in **Figure 18** reflect the type of activity resulting from protection of the environment operations, mainly describing the magnitude of improved forestry land or farms being supported, and environmental infrastructure capacity being built or improved across environmental sectors such as sewage, (e.g. sewer and storm water pipes), water (e.g. water distribution pipes), waste (e.g. waste collection equipment and vehicles).

Outcome indicators reflect the short to medium term impacts caused by the outputs of those operations, focusing on the forest area protected and farm livestock units supported via environmental investments; the population benefitting from improved and resilient water and wastewater services; and the additional volume of waste collected and treated in new or rehabilitated facilities.

5.3.2 Protection of the environment – project highlights

The Bank's 2014 signed operations aimed at mitigating water security threats and associated risks to the economy, environment and people's well-being. They also prioritise the mitigation of the environmental and public health hazards related to waste while contributing to increased materials and energy recovery from waste, supporting EU goals towards a resource efficient, green, and competitive low-carbon economy. An example is a major investment programme for waste collection and treatment activities and hydro-energy production plants in Italy (*A2A Ambiente*).

The EIB's 2014 signings for forestry and agriculture projects will help foster essential economic growth and employment in rural areas, many of which have been particularly hard-hit and slower to recover from the recent economic crisis. This includes support for the Rural Development Programmes of Slovakia (*Slovakia Forestry & Environment*) and for Spain's coastal and forest protection programme (*Forestry & Coastal Management*). These EIB-backed initiatives will support sustainable landscapes, strengthen the availability of a range of key renewable resources, and protect forests, which play a key role in maintaining soil health, reducing soil erosion and mitigating flood risks, and which serve as important carbon sinks as they grow.

EIB support is particularly crucial in those countries still lagging behind in complying with the standards of EU Environmental Directives, or which are particularly vulnerable to flooding exacerbated by climate change, such as Italy, where significant investment in the water and waste sector and climate adaptation measures is needed. At times, investment backlog is due to the difficulty of accessing finance for small and weak service providers. An EIB operation which offers significant environmental and financial benefits, and involves innovative structured financing that increases access to credit for local water utilities, is in Italy's Veneto region (*Viveracqua Hydrobond* – see case study).

Reducing environmental and climate change impacts in Italy

In line with the EIB's lending objectives for environmental sustainability, climate action and renewable energy, the Bank's EUR 115 million loan to the A2A Group in Italy will provide nearly half the funding to deliver a major solid waste and hydropower investment programme.

The investments will increase energy and materials recovery from residual waste and reduce the environmental and climate change impacts from waste collection and treatment. Additionally, the hydropower component consists of the refurbishment and repowering of a number of hydroelectric power plants, which will improve the efficiency and reliability of the power plants and extend their economic life, supporting renewable energy targets



Protecting Spain's natural assets

An EIB loan of EUR 120 million loan to Spain's Ministry of Agriculture, Food and the Environment will support Spain's 2013-2016 coastal and forestry protection programme, involving the rehabilitation of coastal areas, recovery of areas affected by forest fires, and other investments targeted at environmental protection across the country.

The EIB's support for Spain's economy will facilitate investment that gives a boost to economic growth and employment in a large number of Spanish municipalities, while contributing to the protection of the country's forests and coasts, which are vital to Spain's economy.

Boosting Slovakia's rural economy

The Bank will support the implementation of Slovakia's first full Rural Development Programme (RDP), involving sustainable afforestation, improved forest management and protection, and small-scale rural and agricultural infrastructure measures across the country. The EIB's EUR 120 million finance will make an exceptional inter-sectoral contribution to EU environmental protection policy objectives, and additionally support convergence, rural development, and renewable energy goals.

The overall RDP is expected to boost regional growth and employment for rural communities generating approximately 8,800 full-time posts per year over the 5 years of the programme operation.



CASE STUDY: ENVIRONMENT – Protection of the environment

Innovative financing to improve water and wastewater services in Italy

Sector: Water and wastewater	Sponsor: Association of small and medium-sized utilities
Total cost: EUR 338mn	EIB finance: EUR 146mn
Objective:	
<ul style="list-style-type: none"> The <i>Viveracqua Hydrobond project</i> uses an innovative securitisation financing structure to support investments in water supply and wastewater collection in nine small water operators located in the Veneto region of Italy to improve their service efficiency, delivering environmental and economic benefits for customers and the wider region. 	
Expected results:	
<ul style="list-style-type: none"> connection of new customers; reduction of technical losses; reduction of environmental and public health risks; and reduced operating costs through improved efficiency 	

Motivation

Many municipalities in the Veneto region need to invest in water treatment, water distribution, and wastewater collection and treatment to achieve efficient and sustainable water and wastewater services, and comply with the EU Urban Wastewater and the EU Water Framework Directives, as required by national legislation and the Regional Water Resources Protection Plans. However, each municipality on its own does not have the size and credit capacity to finance those investments. Thus, they have created 'Viveracqua', a consortium designed specifically to engage in activities such as accessing finance.

The 2014-2018 investment programmes to be financed are based on Master Plans agreed by the operators with the Veneto Water and Wastewater Service regulator. They cover small and medium scale work components, none of which exceeds EUR 25mn. They relate to *water supply* (e.g. new water abstraction/treatment works, improved distribution networks, water reservoirs, household meters, leakage reduction etc.); and *wastewater collection* (e.g. new sewage networks, upgraded wastewater treatment plants, IT systems for remote operations control of plants and networks etc.)

EIB contribution

The Viveracqua Hydrobond project is an innovative finance initiative through which the Bank, with the support of modest regional and company guarantees, is able to leverage significant, long term finance which the individual companies could otherwise not secure due to their limited size and sub investment grade status. The exceptional nature of the EIB's intervention promotes a new financing tool that has the potential to be used in other regions and offer similar benefits to small utility companies and their customers.

Benefits

The Viveracqua water and wastewater investment programmes are expected to improve overall resource efficiency, reliability and quality of water supply, to accommodate new demand, and to reduce environmental and public health risks from wastewater contamination.

Additionally these interventions will help the operators meet the requirements of Italian legislation and EU Directives, such as compliance with the Urban Wastewater Directive and the Water Framework Directive, and Regional Water Resources Protection Plans.

Policy links

This project supports a number of EU and EIB environmental policy objectives. The investments in the security of water supply contribute to increasing the resilience to potential effects of climate change, while investments into network and treatment process rationalisation contribute towards emissions reduction and to resource efficiency. By providing better wastewater services, including compliance with the EC Urban Waste Water Treatment Directive, the project is expected to improve the quality of the water bodies receiving the wastewaters, contributing towards the achievement of “ecological status” and compliance with the Water Framework Directive.

5.4 Renewable energy and energy efficiency

The EU's current overreliance on imported energy and associated risks to energy security, coupled with the environmental impacts of carbon-based energy production, make it more crucial and pressing than ever for EU Members to develop alternative, sustainable energy sources, and to maximise energy efficiency. Renewable energy and energy efficiency initiatives offer the opportunity to provide affordable, secure energy while reducing environmental damage.

In keeping with being the global leader in environmental policy and driver of green growth, the EU has set ambitious targets for both renewable energies and improvements in energy efficiency, aiming to create 20 percent of energy consumption from renewables and increase energy efficiency by 20 percent by 2020. Achieving these targets requires significant investments. As one of the world's largest energy lenders, the EIB is committed to providing financial backing and technical assistance for energy operations aimed at achieving sustainable, secure and competitive energy for all EU Members.

In July 2013, following a comprehensive review, the EIB adopted new guidelines to reinforce support for investment in renewable energy, energy efficiency and energy networks, and energy RDI projects to help EU to meet its energy and climate objectives, and boost local employment across Europe. In general, energy efficiency projects supported by the Bank need to demonstrate that they are economically justified in the basis of cost-benefit analysis – i.e. that the net present cost of the project over its life is less than the net present value of the energy saved, including externalities. In those cases where it is difficult to clearly separate the energy efficiency components in the project cost from other components (for example in retrofitting of buildings or in the case of industry and SMEs), the requirement is that the savings have to cover at least 50% of the project costs.

The new energy lending criteria includes streamlined guidelines for lending for energy efficiency projects in buildings, for example with reliance on pre-calculated cost-optimal levels. Also, the new energy lending criteria supports projects involving the extension of existing technologies to new markets, and the support to new and innovative technologies including near-zero energy buildings.

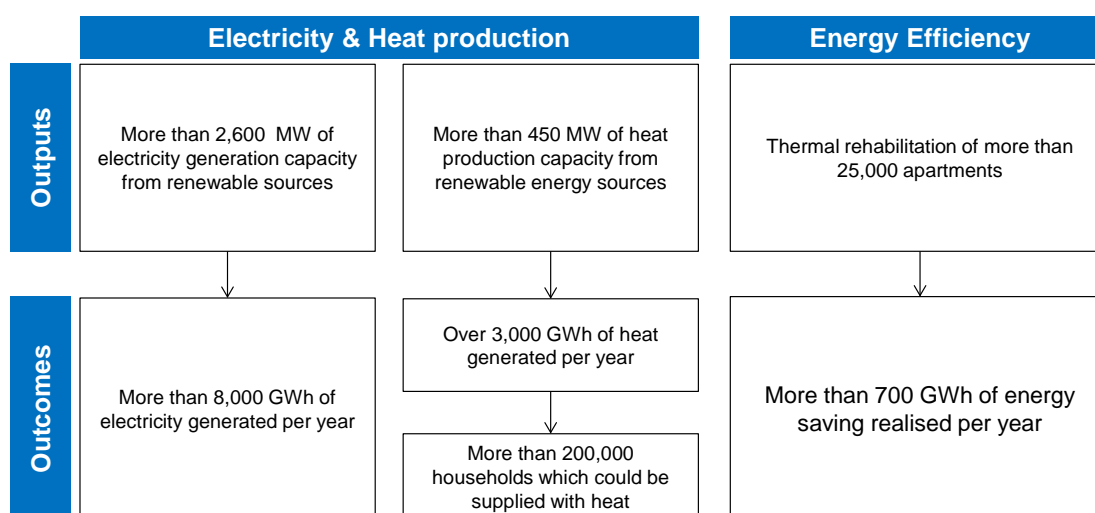
5.4.1 Renewable Energy and Energy Efficiency – 2014 signed operations

Renewable energy and energy efficiency operations signed by the EIB in 2014 reflect the Bank's enhanced sustainable energy commitments, covering financing for both public and private sector investment in energy infrastructure across the EU, and ranging from mature renewable energy technologies to early-stage or evolving technologies. These operations are expected to support the provision of clean, affordable energy and economic growth in the EU, and to contribute to reduce social costs related to pollution, such as health expenditures.

The set of 2014 renewable energy and energy efficiency signed operations comprises 24 operations, which account for EUR 3.7bn or 5.4 percent of the EIB's total lending volume in 2014.¹⁷

Based on the 3PA project monitoring indicators, the diagram in **Figure 19** illustrates the expected results of a subset of renewable energy and energy efficiency operations inside the EU signed by the EIB in 2014. Investments in electricity generation account for twelve operations or EUR 1.7bn; there are also five operations financing electricity, heat transmission and distribution, and urban development projects that account for EUR 0.6bn. The seven operations remaining, which account for EUR 1.4bn, were approved before the introduction of the 3PA methodology and, consequently, don't report sector-specific monitoring indicators.

Figure 19. Selection of expected results from Renewable Energy and Energy Efficiency operations signed in 2014



Output indicators in **Figure 19** reflect the type of activity resulting from renewable energy and energy efficiency operations, mainly describing the magnitude of new electricity and heat generation capacity built for the use of renewable energy sources, and thermal rehabilitation of the built environment.

Outcome indicators reflect the short to medium term impacts caused by the outputs of those operations, focusing on the amount of power and heat generated from renewable energy sources, additional household heat demand being served, and the amount of energy savings to be achieved.

5.4.2 Renewable Energy and Energy Efficiency – project highlights

The set of renewable energy and energy efficiency operations signed by the EIB in 2014 emphasises the complementarities between the environment and the

¹⁷ See **Table 7**. Of those, 19 contributed in full to the Renewable Energy and Energy Efficiency objective while there are 5 more projects that contributed to multiple objectives, but contributed the most to Renewable Energy and Energy Efficiency

production and use of energy, and the EU's potential to harness its natural assets in a sustainable way. They include operations to develop biomass energy production schemes in France (*Biomasse Cogeneration & Valorisation Dechets*); the construction onshore windfarms, such as the expansion of wind power in Lower Austria (*Winlandkraft Wind Power*); and offshore windfarms in Northern Europe, for example, the UK (*West of Duddon Sands offshore windfarm*) and the Netherlands, to build the world's largest offshore windfarm (*Offshore Wind* – see case study).

The Bank's backing for these renewable energy operations is expected to help deliver both environmental and economic benefits for EU Member States through decarbonising energy production and improving energy security. In supporting related innovative research and development operations, the Bank further helps maintain Europe's global leadership in renewable energy RDI.

The energy efficiency operations signed by the Bank in 2014 focus on supporting the development of 'sustainable cities' through the improvement of energy efficiency in residential and public buildings and other municipal infrastructure, such as district heating and industrial facilities. In 2014, these operations mainly involve the retrofitting and expansion of existing social and urban infrastructure and services, such as the sustainable housing schemes in Romania's capital (*Bucharest S1 Thermal Rehabilitation II*), which involve the thermal rehabilitation of multi-storey buildings and form part of Romania's National Energy Efficiency Action Plan. The EIB's support for energy efficiency measures will help reduce energy consumption and energy costs, and limit the environmental impacts of energy generation through reduced demand.

Expanding Austria's Onshore Wind Energy

The EIB's EUR 85 million loan for the EUR 177 million expansion of wind power in Lower Austria will help create four wind farms comprising 34 turbines and generating a total capacity of 105 MW. This programme supports Austria's renewable energy goals. It will improve climate action and environmental protection, and enhance energy independence and security.

The EIB adds particular value to the project through offering loans at favourable interest rates and with long maturities matched to the projects' lengths, and through working with local banking partner, Raiffeisenlandesbank Niederösterreich-Wien, enabling more rapid and targeted provision of funds to the promoter, WindLandKraft GmbH.





Supporting environmentally-driven biomass energy generation in France

The Bank is providing a EUR 200 million loan for the financing of biomass-fed schemes in France, including biomass-fired heat only and heat and power generation units, and solid waste treatment schemes based on biodegradable waste streams to generate biogas and electricity.

The combined schemes will produce 400GWh per year of electricity and 500GWh per year of heat from renewable energy sources, and treat 300,000 tonnes/year of waste. Through the reduction and valorisation of biodegradable municipal waste, this project will also reduce waste going into landfills, thereby strengthening the economic value of waste and helping to meet the recovery and recycling targets set out in the EU Waste and Landfill Directives.

Utilising Belfast harbour to support the UK offshore wind industry

The West of Duddon Sands Offshore Windfarm project, which the EIB is supporting with a EUR 209 million loan, involves the installation and operation of a 389 MW offshore wind farm in the Irish Sea, including onshore O&M facilities.

The project will help meet the EU and national targets of energy generated from renewable energy sources, generating 1,392 GWh per year of electricity with significantly lower pollution and GHG emissions than conventional fossil fuel based power plants. The project utilises Belfast harbour as a feeder port for its foundations and wind turbines. The harbour facilities, which have recently been completed, are specifically designed to serve the needs of the offshore wind industry. They feature an increased land-based storage area and can be used by new generation vessels without any tidal restrictions.



Reducing energy consumption in Bucharest's residential buildings

Romania's residential buildings account for one third of the country's total energy consumption. A EUR 22.47 million EIB loan --the first tranche of a EUR136.5 million loan - will help finance the second phase of a major thermal rehabilitation programme to improve energy efficiency in multi-storey buildings in Bucharest.

The planned refurbishment of 406 buildings with almost 19,000 apartments is expected to achieve energy savings totalling some 190 GWh per year once fully implemented, which represent a 50% reduction in the heating energy consumption of the buildings.

The EIB's funding will contribute to the implementation of Romania's National Energy Efficiency Action Plan and will help Romania to meet its commitments under the EU Directive on the energy performance of buildings

CASE STUDY: ENVIRONMENT – Renewable energy and energy efficiency

Investing in the world's largest offshore wind-farm

Sector: Renewable energy	Sponsor: Typhoon Capital
Total cost: EUR 2.8bn	EIB finance: 587mn
Objective: <ul style="list-style-type: none"> • Help finance <i>Gemini windfarm</i>, the largest offshore windfarm worldwide, off the coast of the Netherlands, making a vital contribution to national and EU renewable energy targets, and helping to achieve an environmentally sustainable and secure energy supply for Europe 	
Expected results: <ul style="list-style-type: none"> • Design, construction and operation of a 15-turbine, 600 MW offshore windfarm • Supply renewable electricity for more than 1.5 million people • Create more than 5000 jobs during construction, and 75 permanent jobs maintaining the windfarm's turbines during the first 15 years of operation. 	

Motivation

Given that Europe is the world's largest energy importer, developing renewable sources of energy with substantially lower environmental impacts, such as offshore wind power, is critical to diversifying energy sources and ensuring a sustainable and affordable energy supply for Europe's future.

The EIB's support of this landmark project will make a significant contribution to realising Europe's substantial offshore wind potential and to achieving Europe's ambitious 2020 renewable energy and environmental objectives. Offshore wind farms produce electricity with substantially lower environmental impacts, particularly greenhouse gas emissions.



EIB contribution

EIB's financial support is fundamental to the success of renewable energy initiatives in the EU. The EIB is one of the largest financiers of the offshore wind energy sector in Europe, and the Bank's capacity to offer long maturities and favourable terms to experienced promoters are pivotal to projects of this scale.

This operation is also the largest renewable energy project in the world to be developed using project finance where the only security provided to the lenders consists of the project itself and expected revenues. 85 percent of electricity generated by the Gemini windfarm will be marketed by Dutch energy company Delta. The EIB will finance the project alongside Northland Power, Danish pension fund PKA and a consortium of international commercial banks.

Benefits

The project will help create the biggest offshore wind power plants in the world, demonstrating Europe's strength as a global leader and innovator in the wind energy sector. The project is expected to produce the largest amount of renewable energy of any offshore windfarm in the world, reducing climate impacts compared with carbon-generated energy and improving security of energy supply.

The project will also improve efficiency of energy production, through the use of new, innovative turbine technology which enables operation during higher wind speeds by rotating rotor blades to reduce exposure.

Policy links

The development of offshore wind energy supports EU and national targets for renewable energy generation and a number of the Bank's priority energy objectives around security of energy supply and environmental and climate change impacts. As a major innovative renewable energy project, the Gemini offshore wind-farm will contribute significantly both to EU 2020 and national targets for renewable energy and decarbonisation, helping to produce electricity with substantially lower environmental impacts, particularly greenhouse gas emissions, compared with fossil-fuel generated energy.

Annex 1: EIB's carbon footprint estimates

The EIB Carbon Footprint Exercise (CFE) estimates and reports Greenhouse Gas (GHG) emissions from projects where, in one standard year of operations, either:

- their absolute emissions (actual emissions from the project) exceed 100 000t CO₂-eq/year;
- and/or
- their relative emissions (estimated emissions increases or reductions compared to the expected alternative) exceed 20 000t CO₂-eq/year.

Absolute emissions refer to the direct emissions of the project itself (Scope 1 emissions) plus emissions from generation of the power supply used by the project (Scope 2 emissions). Other indirect emissions, such as those from vehicles using the infrastructure (Scope 3 emissions), are not normally included in project data, except for projects with physical infrastructure links such as roads, railways and metros.

Relative emissions are estimated by comparing the absolute emissions of the project with the emissions from a baseline identified as the most likely alternative scenario without the EIB-financed project, which would imply the use of different sources of energy or transport modes, for example. Whilst relative emissions are important for comparing technologies and projects, the EIB's footprint approach focuses on the absolute emissions from each project, as they are those which will ultimately affect our climate.

Individual project GHG data is assessed at project appraisal stage, and reported on the Bank's Environmental and Social Data Sheets (ESDS), which are published in the Bank website on the Public Register. For the purposes of annual reporting, the project emissions are aggregated – but with figures prorated to the volume of EIB funding of each project in the year. Thus if the EIB funds 50 percent of a project in a given year, 50 percent of the project emissions will be reported in that year. Without prorating, total project emissions (absolute) and emissions reductions (relative) would be significantly larger, and the exercise would risk double-counting emissions, making any comparison with other IFIs that also report GHG project emissions meaningless.

Operations signed in 2014 inside the EU

In 2014, 54 of all signed projects in the EU (including two large allocations approved during the year) had estimated GHG emissions above the absolute or relative emissions thresholds, and were therefore included in the 2014 Carbon Footprint Exercise. They include GHG figures for projects related to Renewable Energy, Conventional Energy and Energy Efficiency projects, Transport, Industry, Water and Solid Waste and, for the first year, the forestry sector, where CO₂ sequestered (i.e. taken out of the atmosphere) is included in the absolute and relative aggregate figures.

The 54 signed projects (including two allocation approvals) amount to EUR 13.2bn, or 19 percent of the total volume of EU projects signed by the Bank in 2014. The corresponding total absolute GHG emissions (including a small reduction of 0.2 Mt for CO₂ sequestration) are estimated at 2.6 Mt CO₂-eq/year, with overall reduced/avoided emissions from the same financing estimated at 1.8 Mt CO₂-eq/year.

© EIB Photolibrary, © Iberdrola/Chris James, © Jazztel, © Shutterstock, © 2007 - 2012 UCB S.A., Belgium, © Chiesi Farmaceutici SpA, © CIE Automotive, © ALSPAW, © GFC / RSHP (Rogers Stirk Harbour & Partners), © Stockholm County Council, © Igor Plotnikou/Shutterstock, © PKP IC/Bartłomiej Banaszak, ©TAURON POLSKA ENERGIA, © PKP PLK S.A., © Urząd m.st. Warszawy, © UKSH, © Lansimetro, © Ververidis Vasilis/Shutterstock.com, © Fjord Line/Mike Louagie, Photographer, © Dublin Light Rail, © Imwind, © Iberdrola/Chris James, photographer, © Bucharest Municipality.



European Investment Bank
98-100, boulevard Konrad Adenauer
L-2950 Luxembourg
☎ +352 4379-1
☎ +352 437704
www.eib.org – ✉ info@eib.org

Report on 3 Pillar Assessment for EIB operations inside the EU



2014