# SECURE EUROPE

## 2022 ACTIVITY REPORT

European Investment Bank

EUROPEAN INVESTMENT BANK

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## WHAT'S IN THIS REPORT

Just as the world began to turn the page on one crisis, the COVID-19 pandemic, a new one erupted on Europe's doorstep: war. Russia's invasion of Ukraine has sparked a huge humanitarian crisis that has forced millions of Ukrainian women and children to flee their homes and seek safety in a **secure Europe**.

The war in Ukraine and the dramatic deterioration in relations with Russia, Europe's biggest energy supplier, have been a wake-up call. The European Union is now experiencing first-hand the dangers to its **energy security** and threats to its **autonomy** caused by its overdependence on a foreign power for such a vital commodity.

In other parts of the world, the war has made itself felt through soaring food prices, highlighting the importance of **global connections**.

The clock, meanwhile, continues to count down on the time left to avert catastrophic climate change.

**This report shows how the European Investment Bank stepped up to the challenges of 2022**. From our ongoing work rebuilding Ukraine's damaged towns and cities and our support for refugees, to our unwavering commitment to fight the global threat of climate change. The report illustrates how our backing for energy efficiency and renewable power is part of the solution to the European Union's energy security needs and its climate goals. It also shows how our support for **innovation** and breakthrough technologies brings tangible benefits to Europe's economic competitiveness, its climate goals, and its **autonomy**. And the report also showcases the contribution of EIB Global, our new international development arm, to greater well-being around the world.

**The report provides the context for these investments**: from our president's strategic thinking in the foreword, to data on the Bank's lending and borrowing, and a look at the year ahead in the highlights of our Group Operational Plan.

As a financial institution committed to multilateralism and partnership, our ambition is to help build a better tomorrow by investing in the future today. This report shows how.

# CONTENTS

# FOREWORD BY THE PRESIDENT

In 2022, the European Investment Bank was an integral part of the EU response to the many challenges that emerged during the year, from the horrific invasion of Ukraine to the energy crisis provoked by the conflict.

The EIB Group — the Bank and its subsidiary for smaller businesses, the European Investment Fund — signed financing agreements totalling €72.5 billion in 2022. Every euro went to promoting sustainability and resilience in Europe and beyond. We delivered on our promises. We exceeded our targets. We made a difference.

Because behind the massive numbers is real, tangible impact.

We are supporting next-generation biopharmaceuticals against cancer in Sweden. In Finland, we backed the development and commercialisation of quantum computers. In Spain, we are helping to turn used cooking oil into clean energy, and harvesting solar power to produce green hydrogen. There are many more such projects, and you will read about some of them in this report.

## Delivering impact and tackling investment gaps

The energy crisis has depleted government and corporate investment budgets. This comes at a time when we should be investing more, to combat climate change and to wean ourselves off Russian oil and gas. There is a risk that chronic investment gaps could become even worse. If we don't tackle them, Europe will be less competitive and less attractive for business.

The events of 2022 prove that decarbonisation is the only reliable path to secure, affordable energy for Europeans. That is why our strong response is so significant. We redoubled our efforts to support a green, innovative transition.

Russia's blackmail over gas supplies showed that the European Investment Bank was right to stop funding fossil fuel infrastructure and to focus on clean energy. It is clear to everyone now that the future lies in cleaner, more sustainable energy.

Our clean energy financing reached a record €19.4 billion in 2022. To boost energy security, we backed the upgrade of the Czech electricity grid. We accelerated the integration of renewables into the Polish energy network. In France, we financed floating windfarms — a technology enabling us to move clean energy generation into deeper waters. Our financing will help build a 1 000-kilometre cable connecting renewable power plants in Sicily and Sardinia to Italy's grid. With our package of support for the REPowerEU initiative, we will provide an additional €30 billion in energy loans and equity financing for high-impact energy projects over the next five years (on top of our regular lending). Our €36.5 billion of climate and environment lending in 2022 supported €147 billion in green investment from others. We are fully on track to meet our target of mobilising €1 trillion for our planet this decade.

## An immediate response

That is how we are responding to the long-term challenge of climate change. Our answer to the immediate threat posed by the invasion of Ukraine is another major achievement for 2022. Thanks to support from the EU budget, we provided help to the Ukrainian government within weeks of the invasion. We disbursed €1.7 billion to Ukraine under very difficult circumstances. We have another €540 million still to disburse, as concrete projects on the ground progress. We aim to ensure that Ukraine's economy stays afloat, so that it can support large parts of the country's reconstruction effort itself.

**"The events of 2022 prove that decarbonisation is the only reliable path to secure, affordable energy for Europeans. That is why our strong response is so significant. We redoubled our efforts to support a green, innovative transition."**

We also marked the establishment in 2022 of EIB Global, our dedicated arm for the European Union's development and partnership activities. In its first year of operations, EIB Global delivered €9.1 billion in new project signatures — in addition to the Ukraine financing. These projects included solar power plants in Brazil, further support for vaccination initiatives around the world, and a massive project to bring clean, plentiful water to the people of Jordan by funding one of the largest desalination plants in the world.

EIB Global's projects showcase how we advance EU policies and values around the world. We forge new partnerships. We build new, sustainable alliances everywhere. I am proud that, with EIB Global, we are making an active contribution to global prosperity under the banner of the European Union.

The European Investment Bank responded strongly to a year of great stress. We have demonstrated resilience and creativity. But we know that our job is not yet done. We must continually improve our performance and seek new, better ways to carry out our work. This report is an account of a vital stage in that journey.

**Werner Hoyer**

# 2022 HIGHLIGHTS

## EUROPEAN INVESTMENT BANK ACTIVITY IN 2022

| | |
|---|---|
| **PROJECTS APPROVED** | **€75.9bn** |
| European Union | €63.5bn |
| **SIGNATURES** | **€65.1bn** |
| European Union | €56bn |
| **DISBURSEMENTS** | **€54.3bn** |
| European Union | €47.4bn |
| **RESOURCES RAISED** (BEFORE SWAPS) | **€44.3bn** |
| Core currencies (€, $) | €37.2bn |
| Other currencies | €7.1bn |

## ACTIVITY OF EIB GLOBAL IN 2022

| | |
|---|---|
| **PROJECTS APPROVED** | **€12.4bn** |
| **TOTAL FINANCING** | **€10.8bn*** |
| **DISBURSEMENTS** | **€6.6bn** |

* Total financing includes €1.7bn of repurposed loans to Ukraine in response to Russia's war.

The European Investment Fund (EIF), part of the EIB Group, specialises in risk finance to support micro, small and medium-sized enterprises and stimulates growth and innovation across Europe. It provides financing and expertise for sound, sustainable investment and guarantee operations. EIF shareholders include the EIB, the European Commission, public and private banks and financial institutions.

## EUROPEAN INVESTMENT FUND ACTIVITY IN 2022

| | |
|---|---|
| **SIGNATURES** | **€9.18bn** |
| Equity | €4.16bn |
| Guarantees | €4.91bn |
| Inclusive finance | €0.12bn |

# THE EIB'S IMPACT

**2.4 million ha**
Agricultural land with improved management

**1.5 million ha**
Forestry land with improved management

**6.6 million**
Additional subscribers with 5G services enabled

**192 000**
Education places created

**2 million MWh/year**
Project energy savings

**31 300 GWh/year**
Electricity from renewable sources

**2.4 million**
Smart energy meters installed

**15 800 MW**
100% renewable generation capacity

**150.4 million**
People with improved health services

**836 million**
COVID-19 vaccine and other immunisation recipients

**86 900**
Households in social and affordable housing

**17 million**
People with new/upgraded urban or regional infrastructure

**517 million**
Additional passenger trips on public transport

**23 600**
New/rehabilitated vehicles or rolling stock

**10.8 million**
People with improved sanitation

**25.4 million**
People with safe drinking water

**3.1 million**
Refugees in reception centres or temporary accommodation (Ukraine solidarity package)

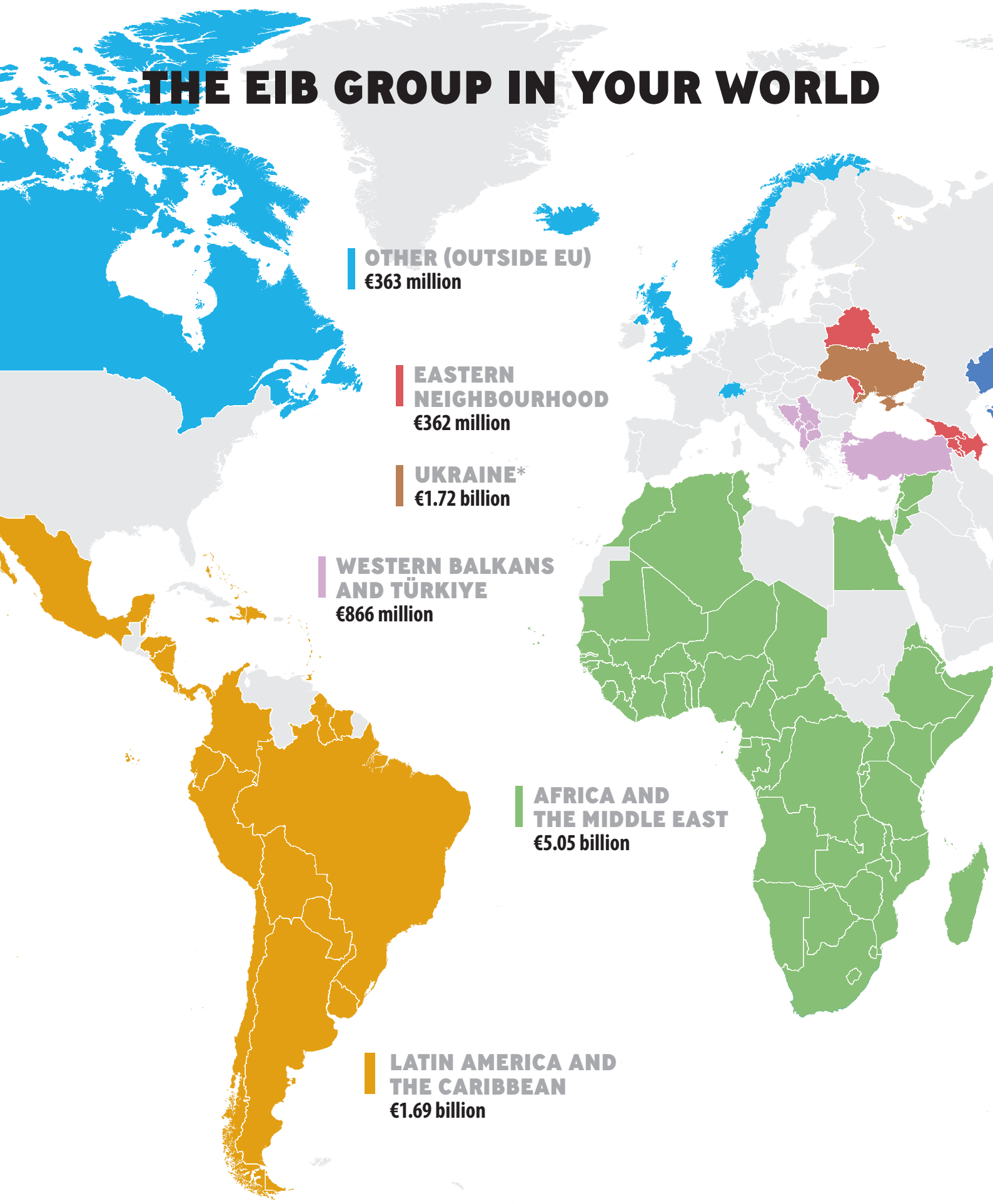
Figures are expected outcomes of financed new operations signed in 2022 for the first time, based on available data at this stage. All figures are unaudited and provisional.

# THE EIB GROUP IN YOUR COUNTRY


Darker colours signify higher investment as a percentage of GDP.


FINLAND
€1.16 billion 0.43% of GDP
SWEDEN
€1.95 billion 0.35% of GDP
ESTONIA
€172 million 0.48% of GDP
LATVIA
€300 million 0.79% of GDP
LITHUANIA
€303 million 0.45% of GDP
POLAND
€5.45 billion 0.83% of GDP
GERMANY
€6.61 billion 0.17% of GDP
CZECH REPUBLIC
€1.85 billion 0.66% of GDP
SLOVAKIA
€54.5 million 0.05% of GDP
AUSTRIA
€1.62 billion 0.36% of GDP
HUNGARY
€804 million 0.50% of GDP
SLOVENIA
€42 million 0.07% of GDP
CROATIA
€218 million 0.33% of GDP
ROMANIA
€1.01 billion 0.36% of GDP
ITALY
€10.09 billion 0.53% of GDP
BULGARIA
€494 million 0.60% of GDP
GREECE
€2.19 billion 1.04% of GDP
MALTA
€20 million 0.12% of GDP
€250 million 0.94% of GDP
CYPRUS

# THE EIB GROUP IN YOUR WORLD



**OTHER (OUTSIDE EU)**
€363 million

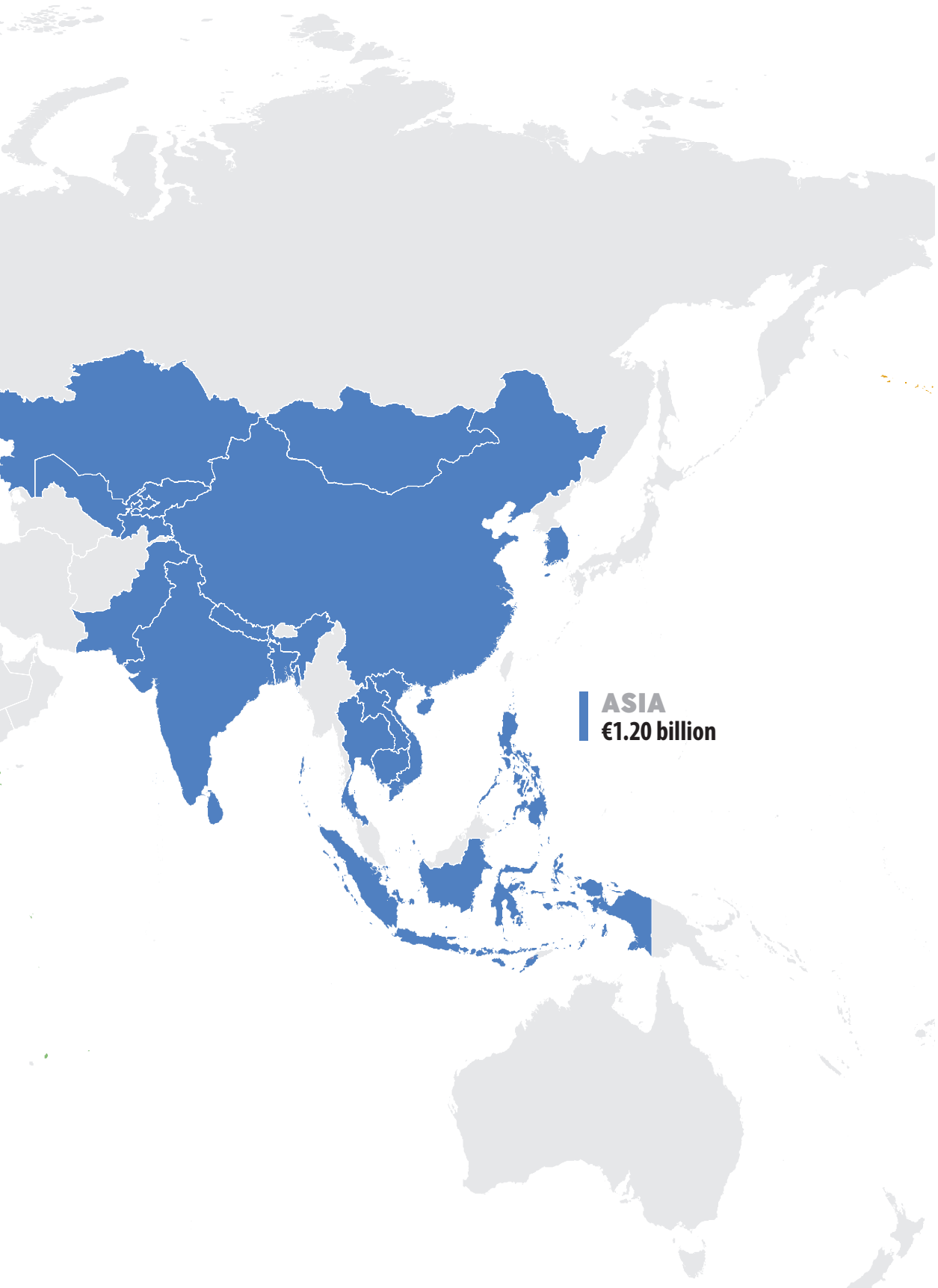
**EASTERN NEIGHBOURHOOD**
€362 million

**UKRAINE***
€1.72 billion

**WESTERN BALKANS AND TÜRKIYE**
€866 million

**AFRICA AND THE MIDDLE EAST**
€5.05 billion

**LATIN AMERICA AND THE CARIBBEAN**
€1.69 billion




* Repurposed loans to Ukraine in response to Russia's war.

The European Investment Bank does not endorse, accept or judge the legal status of any territory, boundaries, colours, denominations or information depicted on this map.

Following EU sanctions against Syria in November 2011, the EIB suspended all loan and advisory activity in the country. However, the EIB is part of the Syria core donor group monitoring the situation under EU and UN co-leadership.

# ENERGY SECURITY

"The energy crisis accelerates the need for Europe to transition to alternative renewable energy sources and to become more energy efficient. This dual objective is the essence of REPowerEU and the EIB will have a key role to play in its delivery. For the EIB's advisory services, it also means identifying and helping to bring new technologies to market, as well as helping governments make smarter use of their public funding resources, leveraging more private investment where possible."

**Frank Lee,** head of climate and social finance advisory services, EIB

"Since its creation the EIB has been a key financier of critical energy infrastructure. The current situation reaffirms the strategic importance of energy and the importance of having diverse supplies. The EIB has stepped up its lending for energy projects — including for energy efficiency, renewables, district heating and connecting electricity networks domestically and internationally — both in the European Union and around the world."

**Sanjoy Rajan,** head of energy security, EIB

# ENERGY SECURITY

**Energy is a security issue and decarbonisation is a matter of strategic autonomy. Russia's invasion of Ukraine and its use of energy exports as a weapon fundamentally change the geopolitics and economics of energy in Europe. It's also imperative to cut carbon emissions to mitigate climate change. Investment in energy efficiency and renewable power generation is the ideal solution to both problems.**

**We support Europe's need for a rapid green energy transition by investing in energy efficiency and renewable power projects, and by promoting innovation and new technologies.**

# FOR THE LONG HAUL

## The European Investment Bank backs hundreds of projects essential to Ukrainian people's lives, disbursing money for these even as the war continues

When Violaine Silvestro von Kameke explains that her main job involves investing in dozens of cities in Ukraine during the war, people are surprised, to say the least. "People think the war has stopped our activity in Ukraine," says the senior loan officer at the European Investment Bank. "But we are disbursing a lot of money in Ukraine and working on many complex projects there. We are very active."

The European Investment Bank relocated its employees from Ukraine after the Russian invasion in February 2022. But at the same time it dramatically increased its assistance to the country, **which the government estimates will need about €765 billion over the next ten years to recover from the Russian invasion.**

The European Investment Bank approved two major funding packages for Ukraine during the war: a first package of €668 million shortly after the war began to help the government pay for urgent needs; and a second package of €1.59 billion to repair damaged infrastructure and resume critical projects, signed in July 2022. A little more than €1 billion from this package has been disbursed.

Other EIB assistance in 2022 included €2.5 million in donations from the EIB Institute, the EU bank's social and cultural arm, and nearly €18 million in grants from the Eastern Partnership Technical Assistance Trust Fund to care for about 700 000 people who fled their homes. This fund is backed by Austria, France, Germany, Latvia, Lithuania, Poland, Sweden and the United Kingdom.

In addition, the Bank signed a memorandum with Ukraine calling for more investment in Kyiv's transport system and repurposed €59 million in grants to repair trains and railways in Ukraine, install temporary replacement bridges, and improve healthcare and housing for people forced to flee their homes.

### Supporting projects away from conflict areas

"We can't launch big, national projects right now, so our work is focused on small projects and helping people live during these hard times," says Hervé Guenassia, another senior European Investment Bank loan officer working on Ukrainian projects. "If we did a big project, such as repairing an airport, we are sure Russia would destroy it."

The European Investment Bank has been working in Ukraine for 15 years, financing more than €8 billion in projects. In 2014, after Russia occupied eastern Ukraine and annexed Crimea, we approved a €200 million early recovery framework loan to assist people who fled the conflict and the towns that accepted large numbers of refugees. Some of the projects that the loan helped to fund have since been destroyed by the war, including a state-of-the art library and technology centre in Mariupol.

**"It is very sad to see so many of these projects destroyed, because this work brought so much hope to the local people,"** says Roy Draycott, a civil engineer at the European Investment Bank who worked in the Kyiv office for six years.

> **"We're there for the long haul. I would go back to the country myself next week to start rebuilding if I could."**
>
> **Roy Draycott, civil engineer, EIB**

### Daily conversations with mayors during war

Even during the worst periods of the conflict, Guenassia and Silvestro von Kameke continued to get calls from mayors asking for technical advice and financial assistance. In August and September 2022, the Bank held a call for proposals to finance projects in Ukraine that received about 1 000 applications from cities and private companies. The EU bank plans to approve more than 300 of these requests and hold more calls for project proposals at the end of 2022 and beginning of 2023.

Projects approved in 2022 to help Ukraine include new tram cars in Kyiv and Lviv, new buses for Lutsk, repairs to healthcare facilities in Odessa and reconstruction funding for damaged educational and social facilities in cities across the country.

### Broken bridges shut down whole towns

Bridges have been destroyed all over Ukraine by Russian forces, as well as by Ukrainians trying to halt the Russian advance. The EU bank is helping to finance temporary floating pontoon bridges across Ukraine.

"Sometimes, if a bridge is broken, it's a disaster for a town," Guenassia says. "You might not have drinking water, because it was being transported. People might not be able to reach the hospital, they can't go to school or get to work, or shop."

Draycott, the civil engineer, plans to return to live and work in the country as soon as the war is over. "The EIB is not abandoning Ukraine," says Draycott. "We're there for the long haul. I would go back to the country myself next week to start rebuilding if I could."


The European Investment Bank has been working in Ukraine for 15 years

# THERE CAN BE NO OTHER FLAG HERE

## Under fierce assault since the Russian invasion, one Ukraine mayor describes how EU loans helped the population reject their occupiers

When the full-scale invasion began, Russian leaders claimed they would be welcomed in parts of Ukraine, especially near the border, where cultural, linguistic and ethnic ties are strong.

Thanks to people like Ivan Fedorov, the welcome has not been warm.

"My primary task today is to help people and quicken the Ukrainian victory," says Fedorov, 34, the youngest mayor ever elected in Melitopol, a city just north of Crimea, where 90% of residents speak Russian. Fedorov quickly labelled the Russians as "occupiers," kept the Ukrainian flag flying as long as possible and openly encouraged resistance.

Melitopol has been under occupation since the war began and is part of the four regions Russia annexed in September. Fedorov makes regular live broadcasts on social media to reassure residents and encourage them. "There can be no other flag here," he said in one address.

### Love the city and develop it further

Life has been hard in Melitopol, which was one of the first cities to fall during the war. The city's population of about 150 000 at the start of the war has fallen by about two-thirds.

On 11 March, Russian soldiers came to Fedorov's office, put a bag over his head, and arrested him. He was held for a week, until a prisoner swap was arranged. He wasn't physically tortured, but he did sit next to people who had been hurt by interrogators, including some whose hands had been broken.

Fedorov is well known to European Investment Bank loan officers and engineers. The Bank has been helping the town and its region of Zaporizhzhia since the 2014 Russian invasion, rebuilding kindergartens, schools, medical centres and other sites in Melitopol. The many years of partnerships and construction projects helped residents lean towards Europe when Russia arrived.

**"This is about improving the quality of life,"** Fedorov says, when asked why he works with the European Investment Bank. "We get help with business, tourism, logistics. We are able to further develop a plan for reconstruction, there is zero tolerance for corruption and people get to love their city and develop it further."

# THE NEEDS OF REFUGEES

## The EIB solidarity package helps local authorities in Poland support hosts and adapt infrastructure to the needs of refugees

As Russian troops invaded, over 7.5 million Ukrainian refugees fled across the border to Poland. Thousands of Polish volunteers mobilised to help the displaced and welcome them into their homes, schools and businesses.

Now Poland faces a new challenge — settling these arrivals for the longer term.

"Ten months into the war, the needs of the refugees have changed," says Grzegorz Gajda, a senior urban sector specialist at the European Investment Bank who hosted five Ukrainian refugees at his home in Poland. "They need employment, a stable income, free education, and free access to health and public services to create a new life in Poland."

To help integrate the refugees, the EU bank approved a €2 billion loan, signed in June 2022. The financing is made under the Solidarity Package for Ukraine, in cooperation with the European Commission.

### Adapting to a new reality

Poland has welcomed over 1.5 million Ukrainian refugees since the beginning of the war. The scale of the influx is such that the population of Rzeszów, the largest city in south-eastern Poland, has increased by 50%. Warsaw, Kraków and Gdańsk have also seen large increases.

"When the initial local enthusiasm runs out and the resources are depleted, there is a need for a systemic solution," says Tomasz Balawajder, a legal counsel at the European Investment Bank. "You need to make sure that the public sector will function efficiently and provide financial support and social benefits to the host communities and refugees."

### Supporting Poland's efforts

Integrating millions of refugees requires time, careful planning, new infrastructure, and funds.

That is why less than one month after the invasion, the Polish government established the Aid Fund, operated by Bank Gospodarstwa Krajowego (BGK).

The European Investment Bank has already disbursed €600 million to the Fund, the first tranche of the €2 billion allocated. BGK distributes the funds to local governments and other public entities.

"We had to create a new form of cooperation to generate resources for a wide spectrum of activities supporting the Ukrainian refugees and helping them feel like Polish citizens," says Robert Faliński, director of the Fund Managing Office at BGK.

# BUILDING ENERGY EFFICIENCY, BRICK BY BRICK

## Cities and regions across Europe are slashing costs and emissions with energy efficiency investments

Four out of five buildings in Spain consume more energy than they need to. Unión de Créditos Inmobiliarios (UCI), a specialised mortgage lender from Madrid, wants to change that.

UCI's Residential Energy Rehabilitation programme aims to promote the use of renewable energy and halve the total energy consumption of some 3 720 residences in Madrid, Barcelona and Seville.

"Our goal is to improve energy efficiency both in Spain and in Portugal, for homeowners and building owners," says Cátia de Almeida Alves, sustainability and corporate responsibility director at UCI.

While refurbishing apartments is key for cutting emissions and energy use, few projects receive funding. "A survey carried out by the Spanish government indicated that only 2.3% of these renovations receive bank financing," says Isidoro Tapia, a loan officer at the EIB. "So, building renovations by homeowners' associations is a segment currently underserved by third-party financing."

UCI is trying to fill that financing gap with €2.6 million from the European Local Energy Assistance (ELENA) programme, an EIB-EU initiative that provides technical assistance for energy efficiency and renewable energy investments in buildings and urban transport.

### Refitting public buildings in Wallonia

Climate change and high energy prices are pushing developers to weave energy efficiency into the design, construction and materials used for building.

B.E. FIN, a firm owned by the Walloon Region of Belgium and Société Régionale d'Investissement de Wallonie (SRIW), has set up a project called RenoWatt to promote, advise on and help implement public building renovations across Wallonia. The project, which has received a €3.5 million grant from ELENA, aims to renovate 500 buildings in 262 municipalities and save about 35% of the energy currently being used. It has the potential to cut 7 545 tonnes of carbon per year.

### Tearing out old heating pipes in Lithuania

In Vilnius, worn-out heating pipes from the last century let hot air seep out and increase the risk of incidents, such as leaks and disruptions to the heating in people's homes.

The EIB is providing a long-term credit facility of €43 million to Vilniaus Šilumos Tinklai, the company that provides heat and hot water to Vilnius, for the modernisation works.

Plans also call for a new power plant running on biomass and solar energy and the installation of an efficient absorption heat pump. Altogether, the project will update the heating infrastructure for 200 000 homes, improving energy efficiency and cutting carbon emissions and other airborne pollutants.

# IN TUNE WITH THE ZEITGEIST

## InvestEU support for an energy-efficient social housing project in Hannover tackles the rising cost of living and the lack of affordable housing

Driven by the sharp rise in energy and food prices since Russia's invasion of Ukraine, the percentage of German households that spend more than 10% of their net income on energy bills has doubled since 2021 to 41%. Combined with a scarcity of new apartments and rising rents, the cost of living crisis has catapulted housing affordability to the second biggest concern weighing on Germans.

The northern city of Hannover's plan to build 640 new, energy-efficient, affordable apartments for rent, is perfectly in tune with the Zeitgeist, in which worries about climate change also feature prominently. The new apartments, which will be built and owned by hanova, the city's municipal housing company, will include 232 social housing units and 408 affordable housing units.

"Hannover's growing economy makes the city an attractive metropolitan area," says Karsten Klaus, chief executive of hanova. "Due to the rapidly increasing number of inhabitants and the current crises, the demand for affordable housing is also increasing. However, this is in short supply. We help to create decent, affordable housing for people on low and middle incomes, thereby reducing imbalances in the city's housing market."

### An efficient response

82% of the new buildings will be designed to achieve an energy performance at least 20% better than Germany's near zero-energy building standard (KfW 55). The rest will target an energy performance of at least 10% better than this standard. The project is also in line with the EU Energy Performance of Buildings Directive.

While new energy-efficient homes will mean lower energy bills for future tenants and lower carbon emissions, they are not cheap to build. Hanova's project is expected to cost around €200 million. Its numerous social and environmental benefits, however, make it exactly the kind of project that the European Investment Bank aims to support.

"We were keen to be involved with this project, because it clearly supports two important EU policy goals — social inclusion and climate action," says Sotir Trambev, a loan officer at the EU bank. "Using InvestEU, we managed to put together a package that goes far beyond anything we have been able to do in the past for this sector."

The deal is the first investment made by the InvestEU programme in Germany. "A package like this would not have been possible without it," says Trambev.

# TUGGING TURBINES OUT TO SEA

## A port in southern France embarks on a huge expansion to support two floating wind farms in the Mediterranean

Wind turbines are hulking steel beasts that weigh hundreds of tonnes. On land, they tower over landscapes. But imagine trying to assemble one in a traditional seaport, hauling the 100-metre-long turbine and 90-metre blades onto a floating platform — and then gently tugging the whole thing out to a wind farm in the middle of the sea.

Manoeuvring wind turbines requires a major revamp of port infrastructure, but Port-la-Nouvelle thinks it's up to the challenge. The port near Montpellier, southern France, traditionally handled cereal and other agricultural exports destined for North Africa. Now, the Occitania region is investing €340 million, €150 million of which is being provided by the European Investment Bank, to refurbish ports in Sète and Port-la-Nouvelle. The plans call for Port-la-Nouvelle to be transformed into a Mediterranean hub for the construction, logistics and support of offshore floating wind farms. The hub will also eventually produce green hydrogen from the clean energy generated by the wind farms.

"It requires an industrial process and infrastructure that are very different from what we usually do," says Didier Codorniou, director of maritime affairs for the French Occitania region.

### Making room for giants

Port-la-Nouvelle's transition is part of an ambitious renewable energy strategy laid out by the Occitania region. The region is hoping to benefit from the development of two floating offshore wind farms planned in the Mediterranean, whose production is expected to cover the energy needs of 400 000 people. Occitania, which has one of the highest unemployment rates in France, sees renewable energy as an opportunity to re-energise its traditional economy of agriculture, tourism and, further inland, aerospace.

"The new infrastructure supports the efforts to develop greener port activities and decarbonise energy production and, as such, is an additional step towards reaching our goal for carbon neutrality at the European level," says Shirley Moussavou, the EIB loan officer for the Port-la-Nouvelle project. "Floating offshore wind farms are also at the forefront of the energy transition agenda in France."

In addition to financing Port-la-Nouvelle, the EIB is also supporting the pilot wind farms — one offshore from Leucate-Le Barcarès, run by Les Éoliennes Flottantes du Golfe du Lion, and another close to Gruissan, which will be operated by EolMed. The Bank signed an €85 million loan with EolMed in April and a €75 million loan with Les Éoliennes Flottantes in May. Both loans are backed by a guarantee from the European Fund for Strategic Investments. The Bank is also providing €50 million to a third offshore park, planned 40 kilometres west of Marseille.

Port-la-Nouvelle is situated just less than 20 kilometres from the parks run by Les Éoliennes Flottantes and EolMed. The relatively short distance between the port and the wind farms reduces the risks involved in transporting the huge structures at sea.

The Occitania region, which includes the area from around Toulouse, down to Spain and over to Montpellier, is known for its good weather. But it's also known for its wind, the famous mistral, a strong

northwesterly gale that blows from southern France into the Gulf of Lion, where the wind farms will be located.

While those winds are good for generating power, they are terrible for keeping a 600-tonne turbine stable on a 90x90-metre floater. To be able to assemble the turbines on the floaters, the port's main basin must be protected from high waves and provide enough space to manipulate the turbines. Stocking the parts for wind turbines, blades and the floaters also requires large loading docks. "Storage is really the name of the game," says Julien Ciglar, project manager for marine renewable energies at Occitania's Regional Agency for Economic Development.

## Logistical conundrum

Wind turbines, blades and other infrastructure tend to be transported by sea from factories throughout Europe. One of the main wind turbine suppliers to the pilot farms is Vestas, whose main production site is located in Denmark. Sea transportation meant the port's entry had to be enlarged to accommodate ships 100-200 metres long.

To accommodate the wind farms' needs, the port has planned an enlargement and renovation that includes the construction of a 250-metre platform strong enough to support heavy cranes, the extension of dykes surrounding the port to deepen its basin, and the construction of an additional terminal to assemble the wind turbines and storage facilities. The first phase of the construction is expected to be completed in 2023.

## Renewable ambitions

Before the pilot wind farms were announced, Port-la-Nouvelle was struggling to redefine itself. Business was waning. The port's main business of cereal exports was in decline, and the port lacked the infrastructure to accommodate larger ships transporting hydrocarbons like fossil fuels and chemicals.

The surrounding region of the eastern Pyrenees has limited industry and unemployment at close to 10%. Turning the port's business toward renewable energy offered an opportunity to "revitalise the area's economy," Codorniou says. "It offered a chance to transform our model and a means to decarbonise," he says, "while also enabling the creation of jobs in the region."

The immediate pilot projects are expected to create about 300 full-time jobs. The French government, however, has big plans for offshore wind. Initial plans call for two pilot farms with three wind turbines each. But by 2030 the French government plans to expand the farms, creating a 250 MW floating wind park in the middle of the Gulf of Lion, which will eventually provide energy for more than 400 000 people. Another, similar-sized floating wind park is planned off the coast of Marseille.

"The region has a strong ambition to make Port-la-Nouvelle the port of energy transition, not just for France, but for the Mediterranean in general," Ciglar says.

### Pivoting to green hydrogen

The infrastructure and support Port-la-Nouvelle will provide to the wind farms is part of a bigger regional strategy to create a hub of renewable energy. A consortium called Wind'Occ has brought together 170 firms and 25 academic institutions and laboratories from the region to support the emerging wind power industry.

The region is also focusing on green hydrogen. In 2019, it adopted a €150 million Green Hydrogen Plan, which envisages creating the infrastructure to produce, store and distribute hydrogen, and to use the energy to power local transport, like buses and trains. A related project, Corridor H2, will develop a network of hydrogen distribution stations in Occitania along the road that runs from the Mediterranean to the North Sea. The EIB is lending €40 million to the Corridor H2 project.

"The region could show other areas of France how to develop these kinds of activities," said José Rino, an expert in the Air, Maritime and Innovative Transport division at the EIB.

> **"The region has a strong ambition to make Port-la-Nouvelle the port of energy transition, not just for France, but for the Mediterranean in general."**
>
> **Julien Ciglar, project manager for marine renewable energies at Occitania's Regional Agency for Economic Development**

# TURNING UP WIND POWER INNOVATION

## Price pressures and extreme environments push turbine makers to innovate

For wind turbine manufacturers like Vestas, the market environment in which they operate can be as tough as the rough seas and high winds that their products must withstand. After years of public support, the industry is consolidating in response to price pressures.

Part of that pressure comes from wind farm developers who often promise low prices on the electricity produced by wind farms. Developers then put the squeeze on turbine makers. Rising prices for raw materials are another headache.

At the same time, turbine makers invest heavily in research and development to improve the performance of their equipment and to meet the demand for new wind parks in ever more extreme environments.

"The industry is facing severe price pressure," says Matteo Fusari, a senior engineer and principal advisor at the European Investment Bank, which is financing Vestas. "It is of utmost importance for European equipment makers to exploit synergies between product platforms, reduce product complexity and optimise global production, procurement processes and footprints to ensure their competitiveness."

The Danish company Vestas leads the wind turbine market globally, with about 15% of the market. Close on its heels, however, are giants like China's Xinjiang Goldwind Science & Technology with 13% and GE Renewable Energy with 12%. "Vestas is one of the champions," says Delia Fornade, an EIB loan officer who worked on the project.

The EIB has lent Vestas €475 million to support research, development and innovation activities carried out in the European Union from 2022 to 2025. The loan, which was signed in July and has already been disbursed, covers about half the company's €952 million research and development budget for that period.

The project focuses on several areas. The first is developing new rotor hubs and blades that can withstand cold climates or extreme weather conditions, and simplifying products to accelerate their deployment. The second is creating new designs for shared and modular platforms for onshore wind turbines to make them more adaptable to different conditions. The third area focuses on new modular platforms for offshore wind turbines, to enable the company to exploit synergies and economies of scale with advances in its onshore products.

The Vestas loan comes at a critical time in Europe's energy transition. Europe's desire to end its dependence on Russian oil and gas has reinvigorated support for renewable energy like solar and wind power, whose prices are increasingly competitive.

# THE WAY FORWARD IN FUEL

## A French company's new storage tanks and automation technologies will make it easier for cars and trucks to run on hydrogen

Faurecia, a big supplier of car parts based near Paris, believes green hydrogen could supply almost 20% of the world's energy demand by 2050, effectively eliminating six gigatonnes of carbon emissions every year. By 2030, it estimates that 5 million vehicles equipped with fuel cell technology will already be on the roads.

Faurecia is a leader in hydrogen storage tanks for cars, trucks and large filling stations. It aims to help the automotive industry start using hydrogen more quickly. The company is also working on hydrogen fuel cell systems and developing technology for automated driving. All these innovations will enable the use of hydrogen in many types of vehicles, but especially in heavy-duty and off-road vehicles made with high-horsepower engines that consume a lot of fossil fuel.

"Breakthrough technologies like hydrogen will play a crucial role in the transformation and decarbonisation of the automotive industry," says Antonello Locci, an advisor for innovation and advanced manufacturing projects at the European Investment Bank.

Transport is the largest producer of greenhouse gas emissions in the European Union, accounting for around 31% of the total. By combining air and hydrogen, hydrogen fuel cells can produce all the electricity a vehicle needs to operate. But the fuel cells emit only heat and water, not carbon dioxide or other pollutants.

Fuel cells also have other advantages over combustion engines. They are more powerful and energy efficient than fossil fuels, run silently and require less time to charge, providing the same flexibility as cars with traditional engines.

To help the automotive industry transform, the European Investment Bank approved a €315 million loan for Faurecia in July 2022. This financing is part of the InvestEU programme, designed to boost innovation and create more jobs. "InvestEU eases the risk, making it possible to offer bigger long-term loans to companies in key parts of the economy," says Nor Mebkhout, a loan officer at the European Investment Bank.

With the bank's support, Faurecia will continue to develop the next generation of hydrogen storage tanks to be used in vehicles and at filling stations. It will also improve the autonomy and recyclability of its products.

The Faurecia project will also create jobs and help parts of eastern and central-northern France become more economically competitive.

# GREEN AND LOCAL IN CYPRUS

## An urban regeneration project aims to make municipalities greener, boost the economy and improve people's lives

Cyprus wants to reduce its emissions and become greener, starting with projects to transform its cities and towns. But this is a lengthy, complex and costly task.

"Municipalities must implement a number of green investments and introduce greener technologies," says Michalis Socratous, the secretary general of the Union of Cyprus Municipalities. "We realised that to make them greener, we had to first upgrade and restructure urban areas, renovate buildings and public spaces, and make public transport more sustainable."

The Municipal Strategic Plan for Sustainable Development is an initiative that aims to do exactly that. Set up by the Cypriot government and the Union of Cyprus Municipalities, it will finance numerous projects to regenerate and rehabilitate municipalities across Cyprus.

The European Investment Bank is supporting the plan with a €150 million framework loan signed in November, and with technical assistance through its Advisory Hub.

"A framework loan is basically an 'umbrella' investment that enables us to finance tens or even hundreds of key projects," says Nicos Yiambides, a senior loan officer with the European Investment Bank. "It also allows us to back smaller projects and municipalities that would not traditionally benefit from our financing."

### What are the benefits of urban regeneration?

If done successfully, urban regeneration can create greener urban spaces while significantly improving the lives of people who live and work in the city.

Improved infrastructure makes urban areas more attractive as business locations and tourist destinations, boosting growth and job creation. It also contributes to the well-being of residents who will enjoy better education, public services and recreational facilities.

Take the urban regeneration of the historic centre of Limassol, Cyprus's second-largest city. Completed in 2013, the project restored historic buildings and urban spaces to their former glory, improved traffic management, created pedestrian zones, and built new electricity, telecommunications and water connections.

The Municipal Strategic Plan for Sustainable Development aims to do the same on a national scale. Backed by the European Investment Bank, the Cypriot government will implement projects that reconstruct public spaces and green areas, improve cycle paths and public transport networks, renovate public buildings, upgrade the sewage and water networks, regenerate degraded urban areas, and create smart cities using digital solutions to offer better and more efficient public services.

# THE LAST GREEN MILE

## Italy's largest logistics operator replaces traditional vehicles with a zero-emissions fleet to deliver mail and parcels, cutting emissions

It's late autumn, but still warm in Rome, the air crisp and clear. The sun is piercing through the clouds on the terracotta-coloured houses in a narrow street of the Bravetta residential district. A couple of electric tricycles, roughly the size of a golf buggy, are silently helping postal staff deliver letters and parcels on their rounds.

Hundreds of electric tricycles and vehicles will soon populate a dozen districts in Rome, of which 57 will be in the Maggiolino distribution centre, which serves the Nomentano where Anna Manghetti lives. "It's really exciting to see these new tricycles making their way into our daily deliveries," she says, "a good cause to work for."

Manghetti is head of finance at Poste Italiane, the largest logistics operator in the country and a leading player in the financial, insurance and payment services sector. Thanks to a €100 million loan from the European Investment Bank in March, Poste Italiane was able to replace its traditional fuel and petrol fleet with zero-emission tricycles and vehicles.

"As the EU climate bank, we're proud to support Poste Italiane's ambitious decarbonisation plan," says Giovanni Aldeghi, the senior European Investment Bank officer who has worked on **the EU bank's largest ever financing of a zero-emission mobility platform.**

### How green is our parcel?

The trickiest part of a parcel's journey from warehouse to doorstep is the so-called "last mile", the final step in the delivery process from a distribution centre to the recipient.

The boom in online shopping since the COVID-19 pandemic has worsened transport-related carbon emissions. Cities and logistics companies have struggled with unnecessary delivery journeys, congestion, parking and local residents' concerns about noise and air pollution.

If the last-mile delivery were more efficient and greener, cities would be healthier and more liveable. The idea started spinning through Manghetti's mind during summer 2020.

The Poste Italiane Green Mobility project has been supervised by Chief Executive Matteo Del Fante and the team reporting to Chief Financial Officer Camillo Greco with the backing of Giuseppe Lasco, co-general manager, and Marcello Grosso, head of group sustainable development, risk and compliance.

The Green Mobility project is about the replacement of the company's traditional fuel and petrol vehicles with 4 150 electric vehicles for deliveries in cities and their surroundings. This also includes the associated charging stations and IT platform at a total cost of €145 million.

### Unique financing

The EU bank's loan to Poste Italiane has a number of unique features. For a start, it covers the rental fees for the renewal of the electric fleet, the installation of the associated charging points and IT platform. It also finances the leasing fees of the electric fleet, which are accounted for in the assets as rights of use.

> **"This is the future."**
>
> **Tiago Lopes, senior engineer, EIB**

To help Poste Italiane speed up its green transition the Bank is also financing 69% of the project, which is substantially more than the Bank's standard financing ceiling of 50%.

The plan is ambitious: to reduce the emissions produced by the postal delivery fleet by 40%. The ultimate goal is carbon neutrality by 2030, ahead of the timeline set by the European Union.

### More than just electric vehicles

As of mid-October 2022, 1 100 electric vehicles are already delivering mail in 70 Italian cities and towns, including Turin, Florence, Trieste, Bologna, Naples and, of course, Rome.

The electricity used to charge these vehicles comes from renewable sources. The project will reduce air pollution, greenhouse gas emissions and noise in city centres, saving 3 000 tonnes of carbon emissions each year. This is equivalent to the average emissions of 3 000 passengers on return flights from Paris to New York.

To further reduce its environmental impact, Poste will also use the European Investment Bank's financing to support its IT platform. The innovative model optimises the postal worker's route according to mail traffic, distance, type of road, traffic restrictions and parcel volume. The route planning integrates the range limits of electric vehicles and the availability of charging stations.

"The success of this project depends on the interpretation of a large amount of data gathered in real time," says Tiago Lopes, a European Investment Bank senior engineer who has worked on this operation. "This is the future."

# INNOVATION AND AUTONOMY

"The EIB is a proud provider of catalytic funding for European innovation, fostering independent, resilient and secure health systems for European citizens while also supporting Europe's biotech and medtech gems. This position has been strengthened during the recent coronavirus pandemic, with the EIB contributing over €1.6 billion in financing for life sciences projects in 2021, including for BioNTech, developer of the mRNA COVID-19 vaccine. Our work also helps to accelerate the commercialisation of fundamental research, drive intellectual property development and support the creation and growth of innovative products for unmet medical needs that help improve the quality of life of patients in Europe and around the world."

**Dana Burduja,** head of life sciences and health, EIB

"If Europe wants economic autonomy, it will have to invest massively in innovation and the key technologies for the digitalisation of its economy, in particular chips, data centres and cybersecurity. Digitalisation is inevitable, comes earlier than expected, and affects you more than you think. But you need to invest to ride the wave."

**Harald Gruber,** head of digital infrastructure, EIB

# INNOVATION AND AUTONOMY

**Innovation is vital to Europe's economic prosperity, autonomy and climate goals, which simply cannot be met with today's technologies alone.**

**Our financial and technical support has helped European companies achieve breakthroughs in areas from floating wind farms to mRNA vaccines. It also reduces the need for European entrepreneurs, scientists and engineers to turn to foreign capital, enhancing our autonomy in strategic sectors.**

# BEETS TO BEAT DISEASE

## A French firm is breeding plants that resist climate change and need less pesticide and fertiliser

An EU ban on neonicotinoids, an insecticide used to protect plants like sugar beets from diseases spread by aphids, seemed like a good idea in 2018. The insecticide was found to harm bee populations, and the European Union had decided to prohibit neonicotinoids as part of a larger push for more sustainable agriculture.

But the ban led to the ravages of jaundice in some sugar beet fields, cutting harvests in one of the world's biggest producers of sugar from beets and threatening the industry. As a result, France rolled back the ban until 2023.

That's not much time. Developing new plant varieties usually takes seven to ten years. The Florimond Desprez Group, a plant breeder and seed producer in northern France, is working hard on the problem. The company has been breeding sugar beets for almost 200 years, and it is tapping its deep experience to develop a plant that can resist jaundice, while still maintaining its natural resistance to other scourges, such as the rhizomania virus.

It's a race that has implications for other plants and areas of agriculture.

"For agriculture to be more sustainable, we need to use less nitrogen fertiliser, which has a significant carbon footprint, and fewer pesticides," says Marin Desprez, group strategy director at the Florimond Desprez Group. "If a plant variety is naturally resistant or tolerant to a disease, you don't need chemicals to protect it."

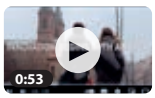
Agriculture is under pressure because of climate change, the need to reduce its environmental footprint and a growing world population to feed. Breeding plants that require less resources or chemical treatments, but that still produce enough food in increasingly difficult conditions, will be key.

The European Investment Bank is supporting Florimond Desprez's research and development, primarily in France and Belgium, with a €40 million loan signed in April. The loan is backed by a guarantee from the European Fund for Strategic Investments, now part of the InvestEU Fund.

"The sector needs a lot of investment, and funding is not easily available, particularly when you are not a large company," says Zeina Chebli, the European Investment Bank loan officer on the project.

### Breeding plants for centuries

Florimond Desprez is a quintessential family business. The Desprez family founded the enterprise in 1830 — five generations ago — in Cappelle-en-Pévèle, a village just south of Lille. The business benefited from a burgeoning sugar beet industry created with Napoleon Bonaparte's support. Over the years, the firm has diversified into crops such as industrial chicory, potatoes and wheat.




European Fund for Strategic Investments

> **"If a plant variety is naturally resistant or tolerant to a disease, you don't need chemicals to protect it."**
>
> **Marin Desprez, group strategy director at the Florimond Desprez Group**

"Through the loan, we help them remain competitive and address key environmental challenges of the agriculture sector — such as adaptation to climate change — while supporting rural areas, notably in northern France," says Sébastien Collot, a senior engineer in the European Investment Bank's bioeconomy team.

The idea behind plant breeding is relatively simple. A variety of wheat, for example, that makes particularly tasty or crunchy bread, will be crossed with another variety that is particularly hearty or resistant to disease. Researchers will pollinate one variety with the other by hand, creating a hybrid. The numerous offspring of that hybrid will then be planted and observed, to ensure that the desired characteristics — tasty bread and disease resistance — can be found in the new plant.

## Agriculture under pressure

For the last 50 years, agriculture has managed to keep up with the explosion in the world population. But innovation will have to ramp up if agriculture is to meet future food demand. "We have a combination of factors, with less land available on Earth, more people and increasingly adverse climate conditions," says the European Investment Bank's Collot. "So, research is important."

Research is also imperative for dealing with pests and pestilence that don't normally plague northern Europe. Farmers found stem rust on wheat in the Champagne region of France last year, a disease that for 20 to 30 years only existed in Morocco. Insects that used to die off during winter now live and multiply, thanks in part to climate change. "The impacts are strong in terms of the crop yields," Desprez says. "They are strong in terms of new diseases and the trauma experienced by farmers, and they put our food security in danger."

With the extreme pressure on agriculture, it's easy to fear for the future. But Desprez says a renewed focus on innovation and the development of plant varieties presents enormous opportunities. "I am confident that our occupation, which has a real social utility, will support a more sustainable form of agriculture and better food autonomy in Europe," he says.

# VENTURE CAPITAL FOR DINNER, ANYONE?

## Feeding a hungry world with venture capital

Livestock suffer from parasites. To counter them, farmers need to send faecal samples to a lab and wait up to five days for results. But often, they just dose their whole herd with medication. "Overuse of medication could affect the food chain as well," says Daniel Izquierdo, managing director and co-founder of Micron Agritech. "What goes into animals ends up on our plates."

With fellow students from the Technological University of Dublin, Izquierdo developed a machine-learning solution that allows farmers to perform rapid tests themselves with a special kit and a smartphone.

The project won the team several awards and prize money, so in 2019 they were ready to spin out of the university and set up their own company. An equity investment from The Yield Lab Europe, a venture capital firm backed by the European Investment Fund, helped them take the next step. "They helped our product development and got us to where we are today," says Izquierdo.

Micron Agritech is one example of how venture capital is helping to bring much-needed innovation to the agricultural sector. The world's population is expected to peak at 10.4 billion in about 60 years' time, but feeding all these people will not be easy for our already stretched planet. Venture capital to support innovation and new technologies is vital to ensure that future generations don't go hungry, which is why the European Investment Fund invests in funds like The Yield Lab Europe.

"By investing in funds managed by venture capital and private equity firms, we can multiply the resources we provide to the market," says Adelaide Cracco, head of climate and environmental impact at the European Investment Fund. "When we work alongside investors in this way, every euro we invest attracts another four euros from other investors."

### Buzzing with innovation

Another agri-tech startup supported by the European Investment Fund is ApisProtect, a company in Cork, Ireland, which has developed an innovative system that helps beekeepers increase productivity and reduce costs.

Using a combination of the internet of things and artificial intelligence technology, ApisProtect remotely extracts and interprets data from hives.

Venture capital investments like Micron Agritech and ApisProtect promote innovation in the early stages of development. "Innovations like these can have game-changing potential that can disrupt industries," says the European Investment Fund's Cracco, "and create new products and technologies needed for the future which will have a huge impact."

# RISE OF THE DELIVERY ROBOTS

**Robotics company Starship Technologies is reshaping our shopping and delivery habits, bringing green innovation to urban mobility**

Imagine this: you just came home from work and you are hungry. So, you decide to order some food online and wait for it to arrive. But when you open the door after receiving a delivery notification there's no one there but a small, futuristic-looking, white robot the size of a shopping basket.

This might sound like science fiction, but it is already a reality for many consumers in Estonia, Finland, Denmark, the United Kingdom and the United States.

Behind this innovation is Starship Technologies, a company founded in 2014 in Estonia by the co-founder and chief architect of Skype, Ahti Heinla and Janus Friis. Since then, the company has completed over 3.5 million commercial deliveries, covering a distance of more than 7 million km globally, more than any of its competitors.

## Delivery robots from the future

Starship's robots are more R2-D2 than Terminator, but don't let their cute looks fool you — they are tough. Thanks to their 12 cameras and six wheels, the robots can climb kerbs, avoid objects, move out of the way of nearby pedestrians, and even detect obstacles, like moving cars up to 300 metres away.

They can make deliveries smarter, too. Electric powered and guided by a combination of sensors, artificial intelligence and machine learning, they can identify the shortest and safest routes, slashing the time and carbon footprint of deliveries. "The average Starship delivery uses the same amount of energy that a kettle needs to boil water for just one cup of tea," says Henry Harris-Burland, vice-president of marketing at Starship.

## Delivering greener and more innovative solutions

Freight transport is a big source of pollution in many cities, but Starship's delivery robots can reduce congestion and harmful emissions in the last mile. "Each robot can take ten cars off the road on average," says Harris-Burland. "A recent study, conducted with Milton Keynes Council in the United Kingdom, showed that more than 280 000 car journeys have been avoided thanks to our robots. That's 137 tonnes of $CO_2$ and 22 kg of nitrous oxide emissions avoided."

The European Investment Bank is backing the company with a €50 million quasi-equity venture loan, signed in January 2022. This financing, supported by the European Fund for Strategic Investments, is part of the European Growth Finance Facility, a product designed to address the dearth of venture capital for innovative startups in Europe.

# CREATING IOT LEADERS

## Two European companies are transforming the internet of things (IoT) with innovative digital building services

Internet of things (IoT) technology can transform and optimise the way we live, drive, work, manufacture products, or receive healthcare. It can also help to reduce energy consumption and lower carbon emissions. With over 41 billion IoT devices expected to be in use by 2025, the internet of things is a vital part of the digital transformation and a key technology for Europe's digital autonomy.

Founded in Kraków, Poland, Kontakt Micro-Location (known as Kontakt.io) is an IoT company that uses Bluetooth technology to revolutionise indoor location systems. "For years, other companies were offering expensive and complex monolithic solutions," says Philipp von Gilsa, Kontakt.io's chief executive. "We make smart IoT devices, cloud solutions and powerful software able to transform buildings into sustainable indoor environments."

### Creating interactions between people, objects and buildings

Kontakt.io uses artificial intelligence, sensors and cloud technologies, extending into a building's Wi-Fi to create a new metadata layer for smart buildings.

With Kontakt.io's location-aware applications, a nurse can identify the closest available and sanitised medical equipment and help offices to manage their use of space and energy more efficiently.

"Our products help optimise a building's power consumption," says Łukasz Szelejewski, Kontakt.io's chief technology officer. "Understanding how the buildings are actually utilised builds the data foundation that helps minimise a building's heating, ventilation and air conditioning consumption, reducing energy costs by as much as 35%."

The European Investment Bank is backing Kontakt.io with €12 million, signed in February 2022, through its European Guarantee Fund, a facility designed to help European businesses deal with the economic impact of the COVID-19 pandemic. Many of its beneficiaries have been young tech firms that may otherwise have had to turn to the United States or China for financing.

### IoT products made in Lithuania

Another IoT company backed by the European Investment Bank, Teltonika IoT Group, makes innovative wireless networks and equipment, such as vehicle trackers, GPS and modems.

"We started as a very small company in Lithuania in 1998 with a lot of hardship ahead," says Arvydas Paukštys, the founder and president of Teltonika IoT Group. "Now, we sell our unique, made-in-Lithuania IoT products in more than 160 countries."

The European Investment Bank signed a €50 million deal to support Teltonika in May 2022, backed by a guarantee from the EU budget under the European Fund for Strategic Investments.

# DRUGS TO KILL CANCER

## A Polish company develops novel drugs to fight blood cancer and solid tumours with targeted therapies

Acute myeloid leukaemia is a severe form of blood cancer. Known as AML, it is relatively rare, with about 20 000 new cases per year in Europe and an equal number in the United States. Yet it is highly aggressive, and for adult patients it has the lowest survival rate of all blood cancers.

Novel drugs developed by Ryvu Therapeutics, a Polish biotechnology company, could give new hope to patients suffering from AML and other life-threatening cancers.

"Our body is a very powerful tool," says Krzysztof Brzozka, Ryvu's chief scientific officer. "We have all had cancerous cells in our body, but we barely even noticed them because our immune system eliminated those tumour cells. On rare occasions though, the misbehaving cells are so aggressive or immune-suppressive that we see the tumours, and we see them spread as cancer disease."

### Small molecules with big potential

The European Investment Bank is providing Ryvu with **€22 million of venture debt financing** to support the company's research and clinical trials.

Ryvu has built the capacity to quickly identify and optimise molecules with different mechanisms of action tailored to different cancer types and treatment approaches. It currently has two drug candidates in clinical trials: SEL24 and RVU120, kinase inhibitors that block cell processes driving cancer growth.

Both drug candidates are being tested for the treatment of blood cancer. RVU120 is also being tested against solid tumours, such as breast or prostate cancer. These drug candidates come as capsules and can be taken at home — a big advantage for patients typically burdened with frequent hospital visits, blood cell transfusions, recurrent infections, pain and fatigue.

### EU funds for cutting-edge research in Poland

The European Investment Bank's venture debt financing is backed by the European Fund for Strategic Investments (EFSI). "We have been impressed by their pipeline data so far," says Cristina Niculescu, a senior life sciences specialist at the European Investment Bank. "Their strategy seems very promising."

Yet, biotech projects are relatively high-risk due to the uncertainty of clinical trial results. "Without the EFSI guarantee, we would not be able to finance this project," says Anna Stodolkiewicz, an investment officer at the European Investment Bank.

Since 2015, the EIB has invested around €1 billion in research projects to treat cancer, which kills 10 million people worldwide each year. "A lot of projects may fail, and we may lose money which could have been used to build a new highway," Niculescu says. "But if one of them makes it, it will change the lives of millions of people."

# THE FUTURE IS NON-BINARY

## A Finnish company goes beyond zeroes and ones to build quantum computers that speed up scientific breakthroughs, improving everyone's lives

The words "quantum computer" likely bring to mind Hollywood sci-fi, where this technology is used to bend time and power futuristic cities. But quantum computers are real. Experts believe they could change the world, create futuristic technologies, and make science-fiction dreams reality.

Finnish company IQM Quantum Computers is participating in this early dawn of the quantum computing age. "We are Europe's first quantum-dedicated fabrication facility," says Juha Vartiainen, co-founder and chief operating officer at IQM. "Our quantum processors and computers could revolutionise many sectors, from drug and vaccine development to cybersecurity, and bring important innovation in climate tech areas."

Quantum computing is seen as the next big thing in tech, with experts projecting the market to hit $770 million by 2025. That is why the European Investment Bank is supporting IQM with a €35 million loan, signed in February 2022, through its European Guarantee Fund.

### What are quantum computers?

In 1981, Richard Feynman, a visionary physicist, suggested that a quantum computer had the potential to carry out simulations of physical systems that a classic computer could not possibly do. Unfortunately, nobody knew then how to build such a computer.

Seventeen years later, Isaac L. Chuang, Neil Gershenfeld and Mark Kubinec would prove that this is feasible by creating the first two-qubit quantum computer. This breakthrough would pave the way for a full-size quantum computer, a quest that is still ongoing.

A standard computer processes digital bits of zeroes and ones. Quantum computers use quantum bits or qubits that store a zero, a one, both zero and one, or an infinite number of values in between. That enormously increases its capacity for calculation.

For example, a future quantum computer could crack any of today's common security systems in seconds. The best supercomputers today would require millions of years to do the same task.

Quantum computers will mainly do the same tasks as our current computers — just much faster. But there are many other possible uses of this new technology.

"By using quantum computers, we could simulate chemical reactions, facilitating drug design and production of different materials," says Vartiainen. "From finance to energy, medicine to material sciences, logistics to advanced industries, quantum computing speeds up discoveries and breakthroughs to improve the lives of everyone."

> **"Our quantum processors and computers could revolutionise many sectors, from drug and vaccine development to cybersecurity, and bring important innovation in climate tech areas."**
>
> **Juha Vartiainen, co-founder and chief operating officer of IQM Quantum Computers**

## Venture debt is a solace for quantum

Europe has a strong tradition of quantum research, with many world-leading centres located here. But China and the United States are starting to lead the quantum race.

The EU bank's European Guarantee Fund aims to boost Europe's competitiveness by supporting companies hit by the COVID-19 economic downturn. Many of these companies are tech firms that lack capital to fall back on, even though they need to scale up their business. That's particularly important in technology sectors where European companies might otherwise have to look to the United States or China for alternative financing.

"The Fund enables us to offer long-term venture debt solutions and address the unique funding needs of fast-growing innovative companies in sectors crucial for Europe's future," says Cristian Antoci, a venture debt and equity officer at the European Investment Bank.

With the European Investment Bank's support, IQM can continue to pioneer quantum research in Europe and worldwide. "The financing will be used to further develop and expand our European operations," says Pia-Johanna Lemmetty, head of finance at IQM. "It will also help us continue the development of our product and the expansion of our team of extremely talented experts."

## Finding quantum solutions to modern problems

IQM wants to use its innovation to tackle the climate crisis.

"Quantum computing could be integral to finding resolutions to climate issues," says Vartiainen. "This could mean developing more efficient batteries to replace the combustion engine, improving weather modelling technologies, or optimising the energy grid to lower $CO_2$ emissions of city traffic flows."

The company is also helping create the next-generation European quantum ecosystem.

In December 2021, the company opened a dedicated fabrication facility in Espoo, Finland. This new facility will create high-tech jobs and inspire more research globally by collaborating with international research centres and universities.

# THE PURPOSE BEHIND IT ALL

## From satellites to electric vehicle chargers and farming that's food for the soil, impact investment pioneer Ananda backs companies that are good for society and the environment

Florian Erber's career was already a success. An electrical engineer, he had worked in venture capital in California and Munich. He had sold his own startup to a big international corporation. But he wondered how to explain this career to his four-year-old daughter. "What was missing," he says, "was the purpose behind it all."

That's when he got into the then-nascent field of impact investing. "I decided I would be able to tell her that I'm making sure the environment gets better. That's what I would tell my child — that's what I would tell myself."

The investment fund Erber set up in 2009 with Johannes Weber grew from the realisation that they "didn't want to create businesses that didn't truly matter" and is now a cornerstone of the increasingly broad impact investment sphere. In May, Ananda Impact Ventures closed its fourth investment fund at €108 million, including its third investment from the European Investment Fund.

"The funds we invest in are measuring their impact," says Maximilian Heyde, investment manager at the European Investment Fund, a subsidiary of the European Investment Bank. "They're geared to solving societal or environmental problems, while at the same time generating financial returns for investors."

The European Investment Fund, in particular, is key to impact investing. "The EIF started to build the impact investment market very early," says Erber. "It made our second fund really happen."

### Impact investment secures innovations for Europe

Impact investments also contribute to Europe's global competitiveness by financing innovations that might otherwise have been forced to look to the United States or Asia for funding, with implications for the continent's **security of supply**. "Often European venture funds are too small to support the later growth stages and companies rely on bigger funds from the United States or China coming in," says the EIF's Heyde. "One of our strategic objectives is to provide additional capital to help venture funds write larger cheques for scaling companies whose technologies have a positive impact on the climate or the environment."

**Since 2008, the European Investment Fund has invested €1.4 billion in impact investment funds, more than half of it over the last three years. This activity is expected to increase significantly over the coming years as the EIF is committed to making at least 25% of its annual investment related to the climate and environment.**

With EU backing for startups, US and Asian venture capital firms don't have it all their own way. One of Ananda's investments, EcoG, started out five years ago in Detroit. But a year later, managers decided to build up the company in Munich. "Electric vehicle charging infrastructure is one market where Europe is ahead by a factor of two or three," says Jörg Heuer, EcoG's founder and chief executive. "Europe struggled

> **"Europe struggled in the past with digitalisation. Now we have a market where we are leading the United States. It's important to keep that leading position, so that we can succeed all around the world."**
>
> **Jörg Heuer, founder and chief executive of EcoG**

in the past with digitalisation. Now we have a market where we are leading the United States. It's important to keep that leading position, so that we can succeed all around the world."

### An android for electric vehicle charging

Heuer describes EcoG's product as "an android for charging infrastructure." The company's smart charging stations enable consumers to charge their cars when electricity is at its cheapest due to high availability of renewable energy. That's important, because the expected increase in electric vehicles is likely to strain Europe's electricity capacity.

EcoG provides a double boost to the fight against climate change: first, by cutting "range anxiety" and making it more attractive to buy an electric vehicle; and second, by making the energy the new cars consume greener. "If we still build electric vehicle chargers like toasters, there's no flexibility to change over time," Heuer says. "Over the lifetime of a smartphone, the user can innovate by installing new functionalities on the phone. We have the same vision for electric vehicle chargers."

### Impact investment grows up

The success of companies like EcoG is gratifying to Florian Erber who has seen the impact investment market grow along with his daughter, Natalie, who is now 18.

"When I started in impact, most of my peers from the venture capital industry asked me, 'That's very nice, but can you live off it? How will you make money?'" he says. "Now they call us, because they know mainstream venture capital firms need to adapt. They have to take impact more seriously."

Like young Natalie Erber, impact investing is reaching maturity and the prospects are good.

# CELLS TO CURE INCONTINENCE

## An Austrian biotech company is developing cell therapies that could help millions suffering from incontinence to live an active life again

Imagine you rush to the bathroom but you don't make it in time. A scary idea, but unfortunately a reality for many people. In Europe alone, about 20 million adults suffer from faecal incontinence. Urinary incontinence is even more common.

Innovacell, an Austrian biotech company, is developing cell therapies that have the potential to solve this problem. The therapy injects a patient's own muscle precursor cells into the person's damaged and/or weakened sphincter muscle, helping it regenerate and regain its proper function.

To speed up the final phase of clinical trials, Innovacell received a €15 million venture loan from the European Investment Bank in December 2021. The money will help the company stay ahead of the competition after development slowed during the COVID-19 pandemic.

"There is one US company that works on this kind of therapy. They are at a minimum five years behind us in development," says Ekkehart Steinhuber, the company's chief executive. "The loan was material in that it helped assure investors that we had sufficient funds for the foreseeable future."

### Incontinence cure improves quality of life

Incontinence is more prevalent among the elderly. It is the second most common reason why people are placed in nursing homes. However, younger people suffer as well. Women, for example, can suffer trauma to the sphincter during childbirth.

So far, there is "not really much people can do to contain the leak," says Valeria Iansante, a life sciences specialist at the European Investment Bank. Existing treatments range from dietary change and physiotherapy to medication, electrical stimulation and various forms of surgery. Some of them are massively invasive and often don't have a lasting effect.

### One-time injection for a long-term cure

Innovacell has chosen a different approach. The company takes muscle tissue the size of a cherry pit from the patient's chest muscle, isolates stem cells from the tissue and develops them into muscle precursor cells, which are then reinjected into the patient's sphincter, where they help the muscle regenerate and regain its function.

The company uses patented technology to implant the cells with a very small needle. The procedure, which is guided by ultrasound, is minimally invasive and very precise. And it potentially provides a permanent cure: "We have data from patients treated eight years ago," says Chief Executive Steinhuber, who has been with the company since 2009. "The effect lasts."

> **"The loan was material in that it helped assure investors that we had sufficient funds for the foreseeable future."**
>
> **Ekkehart Steinhuber, chief executive of Innovacell**

## EU help on the run to approval

Innovacell has three product candidates to treat different kinds of faecal and urinary incontinence. Its leading candidate ICEF15, which treats "urge faecal incontinence", has entered phase III, the last phase of clinical trials before regulatory approval. At this stage, the company needs to invest huge funds. "Such a study costs tens of millions of euros," Steinhuber says.

Raising money at this stage and in this sector is not easy in Europe. That leads many companies to seek financing in the United States or Asia, often resulting in an exodus of science from Europe.

"There is a lack of interest by European investors for cell therapies," says Cyril Teixeira Da Silva, an investment officer at the European Investment Bank who helped to structure the loan to Innovacell. "But we would like to keep this innovation in Europe."

As the EU bank, the EIB was able to offer Innovacell venture funding backed by the European Guarantee Fund. The fund was set up to help companies hit by the pandemic. "It is still a risky investment," Teixeira Da Silva says. "Without the guarantee, it would not have been financeable yet. We would at least have had to wait for positive results in phase III."

## Japan holds promise for regenerative medicine

Innovacell sees a big opportunity in Japan, whose older population makes it a dynamic market for incontinence treatments. The company is doing phase III trials there as well to get its product approved. Japan is attractive because the potential of regenerative therapies is recognised. That makes it easier for companies developing these research-intensive treatments to charge higher prices.

By financing Innovacell, which started in 2000 as a spin-off of the Medical University of Innsbruck, the Bank is enabling the company to export its science globally, benefiting people in the European Union and beyond.

"They can be considered the future of regenerative medicine," says the EIB's Iansante. "There is a high medical need and the benefits for patients could be so large. This is why we are bringing EU funds to this company."

# GLOBAL CONNECTIONS

**"Regional cooperation between the European Union and its neighbours is more important than ever. The European Investment Bank is like a bridge, connecting people and places with sustainable projects that build a better life for current and future generations."**

**Souad Farsi,** head of EIB office in Amman, Jordan

# GLOBAL CONNECTIONS

Facing a range of global crises, the European Investment Bank has reshaped the way it operates outside the European Union to respond to global challenges with ever greater impact. Our development arm, EIB Global, launched in 2022, turns the European Union's goals on sustainability, development, climate action and digitalisation into real projects and products. Every project carried out by EIB Global answers a vital economic need — and it promotes the values of freedom, human dignity and the rule of law in a world that is less stable than we used to believe.

EIB Global is designed to foster strong, focused partnerships both within and through Team Europe and with our partners around the world.

# HARMONISING MICROFINANCE

## EU technical assistance helped Palestinian microfinance institution Faten unlock $8 million for small firms

Shua'a Yassin wants nothing more than to offer better, quicker and wider-ranging specialised testing to the patients who come to his laboratory in the West Bank city of Ramallah. A medical laboratory technician specialising in haematology, Yassin left his job at the Palestinian Ministry of Health in 2014 to found Lab Tech.

"We started as a routine lab, conducting simple routine tests — not a specialised lab," he says. "Then we grew and started specialising in haematology and molecular testing." His lab now employs nine women and men.

To expand the lab's services, Yassin needed more sophisticated equipment. He was able to purchase it with the help of loans from Palestine for Credit and Development — Faten, a Ramallah-based microfinance institution, which received the second part of a $10 million loan from the European Investment Bank in 2022.

Faten was established in 1999. Now the largest microfinance institution in the West Bank and Gaza, Faten's outstanding portfolio is nearly $157 million with 26 400 active beneficiaries, according to Hamza Ghannam, manager of the institution's credit department.

### Harmonising covenants

In 2019, the European Investment Bank signed a $10 million loan agreement with Faten. The first disbursement of $2 million was made in 2020. Due to a combination of difficult circumstances, Faten struggled to fulfil the conditions of the loan. That led to a delay in the disbursement of the remaining $8 million.

A significant hurdle was that Faten had nearly 50 different financial covenants with 17 different lenders, including the European Investment Bank. It was hard for the microfinance institution to keep track of its multitude of loan conditions.

To overcome this and to help ensure that the European Investment Bank could disburse the remaining $8 million, the EU bank offered to help Faten through the Technical Assistance Programme for Financial Inclusion in the Southern Neighbourhood. The programme is financed under the Risk Capital Facility for the Southern Neighbourhood, which was created by the European Investment Bank and the European Commission to promote financial inclusion in the region.

"The technical assistance programme covers a range of countries — Morocco, Tunisia, Jordan, Algeria, Egypt, Lebanon and Palestine*," says Emma-Jayne Paul, a microfinance technical assistance expert at EIB Global, the European Investment Bank arm that handles projects outside the European Union.

"It was initially intended to be a three-year programme, but thanks to its success, it will be extended for a further two years until the end of January 2025," she says.

> **"Now we are looking for devices that are not found in our community, like next-generation sequencing, and more special instruments that work on human DNA."**
>
> **Shua'a Yassin, founder of Lab Tech**

### Simplifying myriad agreements

Faten was happy to accept the assistance. The microfinance institute had to respect many different sets of loan conditions, or covenants, from 17 different lenders. It was complicated, because sometimes the covenants were very similar to each other, with only slight differences.

Faten reviewed all the covenants and winnowed them down to six. They then entered into long and complex negotiations with each of the lenders to see if they could accept the new covenants.

### Crisis-proof conditions

The political situation in the West Bank and Gaza is complicated, and crises are frequent. "We don't control our borders, like the border between Jordan and Palestine, or the sea borders, or borders with other countries around us, like Lebanon and Syria," Ghannam says. "This makes it difficult for export and import between us and other countries."

So when the covenants were being renegotiated, it was also important that lenders understood the instability inherent in Faten's business.

All the lenders eventually made compromises, and all 17 ended up adopting the same six covenants. Once the initiative was completed, the EIB was able to release the $8 million. Since the disbursement in July, Faten has added three new lenders, which also agreed to the same six covenants.

The Bank's technical assistance team hopes it might be possible to replicate the initiative at other microfinance institutions in crisis-hit economies.

### Lab Tech looks to the future

With the loans Lab Tech received from Faten, Shua'a Yassin was able to buy a variety of specialised lab machines to conduct hormonal and molecular tests. He used the latest $30 000 to buy real-time PCR testing equipment in February.

"Now we are looking for devices that are not found in our community, like next-generation sequencing, and more special instruments that work on human DNA," he says. "We are looking to find funding for that."

* This designation shall not be construed as recognition of a State of Palestine and is without prejudice to the individual positions of the Member States on this issue.

# ELECTRIFYING OPPORTUNITIES FOR WOMEN

## Brazilian power company Neoenergia opens an electrician school for women to promote social inclusion

Érica Carvalho de Oliveira comes from a family of electricians. Today, she's on her way to becoming the first female electrician in her family, thanks to a new social programme created by Brazilian energy company Neoenergia.

"I'm very proud of participating in a project that breaks gender barriers," Oliveira says. "It's about getting out of your comfort zone and showing that both men and women can work any job."

Neoenergia is one of the largest electricity suppliers in Brazil with operations in 18 states.

The company created the School of Electricians in Bahia in 2013 to improve lives for people in disadvantaged communities. Neoenergia harnesses education and training to improve inclusion, helping women but also assisting people from less educated or poorer communities find better jobs.

In 2019, the school created classes specifically for women to end the idea that being an electrician is a man's job.

"This project was created and developed as a way to help the people in the poorest communities to enter the job market and be able to have the minimal conditions of living, which include paying for their rent and food," says Régia Barbosa, who runs organisational development in Neoenergia. "It's about creating opportunities for better living, but also to show that job sectors usually associated with men also offer opportunities for women."

By 2021, the company had hired over 1 600 people who had completed the training at the School of Electricians. Today, nearly 300 women have become certified electricians thanks to the programme.

### Finding a gender balance

In March 2022, the European Investment Bank signed a €200 million loan with Neoenergia to support more renewable energy projects in Brazil. The investment will also help the company improve gender equality and be more active socially.

Joana Sarmento Coelho, a loan officer at the European Investment Bank who worked on the project, says Neoenergia's electrician training programme sets a good example for other companies looking to expand inclusion.

"This project from Neoenergia is something they can be very proud of," Sarmento says. "It shows that no matter the country or its social and economic status, where there's a will, there's a way. And this is definitely the way to a more gender equal and prosperous future."

# SOLAR POWER FOR RURAL AFRICA

## A scaled-up off-grid model transforms access to solar power in rural Africa

Around 600 million people lack access to electricity in sub-Saharan Africa, despite some progress in recent years, and the strong growth of the continent's off-grid solar sector during the last decade.

In Benin, only 40% of the population has access to electricity, with a significant disparity between urban (70%) and rural areas (18%), resulting in about 5 million people without access to electricity. Only 10% of households are currently using off-grid solar products.

"More than 1 million households don't have access to modern and sustainable energy in Benin alone," says Hendrik Engelmann-Pilger, a senior economist in the European Investment Bank's Energy Transition Programmes division. "These households rely mostly on kerosene lanterns, candles, flashlights and generators for lighting and mobile phone charging. These solutions are expensive, polluting and often inefficient."

Clean and sustainable energy sources like solar devices and solar home systems for off-grid households have high up-front costs that present a challenge to low- and medium-income households. ENGIE Energy Access, the leading pay-as-you-go and mini-grids provider in Africa, is offering a solution.

### Clean, affordable electricity

With pay-as-you-go, customers can make small payments to unlock the system for a day or week of usage at a time, until they have paid the full price and the systems are permanently unlocked. People in Benin will be able to repay the cost of the equipment over years at less than 20 cents a day.

The European Investment Bank signed a loan of €10 million to ENGIE Energy Access Benin to support the deployment of 107 000 high-quality solar home systems in Benin. This will open up access to clean energy for an estimated 643 000 people in the West African country.

The new Benin deal follows the EIB's previous support for ENGIE to deploy off-grid solar power in Uganda.

"Our partnership with the European Investment Bank in Benin will provide ultra-affordable pay-as-you-go systems to people in villages across the country, giving access to clean solar energy and financial empowerment," says Gilian-Alexandre Huart, ENGIE Energy Access chief executive.

# COMFORT IS A RUNNING TAP

## As climate change worsens Senegal's water crisis, new infrastructure offers relief for more than a million people across the country

Marie Sall woke up before dawn hoping to fill a barrel while the water was running, so that her household of seven could drink and wash all day. But the taps have been empty for weeks in the Pikine district of Saint-Louis, a town in northern Senegal.

"This is not life," she says, as she shares among her five children a bottle of water generously offered by her neighbour. Sall has no choice but to spend the rest of the day fetching water, just so that her family can survive.

Fresh hope takes the shape of a €64.5 million European Investment Bank loan coupled with a €5.55 million European Union grant to the Republic of Senegal. The financing will bring drinking water to Sall's family, all the residents of Saint-Louis, and two towns in Senegal's centre and south, Kaolack and Kolda.

"Water is life. I'm proud to be part of a project which has helped vulnerable communities in Senegal. We stood side by side with our African partners and responded to the COVID-19 challenging times," says François-Xavier Parant, the senior European Investment Bank loan officer who worked on this operation.

The EU bank began working in Senegal in 1966 and today it is one of its strongest partners. This loan will help Senegal guarantee water for all, as a population boom and severe droughts intensify pressure on scarce water resources.

### Water to small cities in Senegal

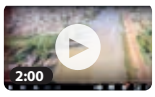
With its 230 000 inhabitants, Saint-Louis is nestled between the Senegal River and the Atlantic. This strategic location allowed the town to flourish in the past, but it has also made it vulnerable to climate change.

"All this suffering will be over with the new treatment plant," says Abdou Diouf, director of the works on the ground on behalf of the Société Nationale des Eaux du Sénégal, the national water company.

At the end of the project, Saint-Louis will enjoy a new drinking water treatment plant, reservoir units for storage and an expanded distribution network.

Kolda and Kaolack will also benefit from similar works. These are strengthening the water network and improving the quality of drinking water for the 634 000 people living in the three towns. Aligned with the African Sustainable Cities Initiative, this project is vital. If there's no water in smaller cities, people will be displaced as they look for a better way of life.

"Investing in secondary towns is important to help meet the growing demand for water and reduce disparities," says Emmanuel Chaponniere, the European Investment Bank's senior engineer on the project. Previous loans to the water company in Senegal focused on the capital Dakar.




Previous loans to the water company in Senegal focused on the capital Dakar

> **"All this suffering will be over with the new treatment plant."**
>
> **Abdou Diouf, director of the works on the ground on behalf of the Société Nationale des Eaux du Sénégal**

## More support for greater impact

People like Ouleymatou Diakhaté rely on bottle vendors to survive. But those who cannot afford bottled water drink dirty water from the tanks. This adds to existing health problems from airborne and waterborne diseases.

The €5.55 million European Union grant, mobilised by the European Investment Bank as part of Team Europe, will help Senegal's water company accelerate its 35 000 subsidised drinking water connections for 350 000 beneficiaries across the country. "I'm so happy we were able to multiply the impact of the project," says Chaponniere.

The EU bank's loan and the European Union grant are benefiting women, in particular, as collecting water is a task that falls largely to women and girls, stealing their time to learn and to earn an income.

## The comfort of being accompanied by a solid partner

The European Investment Bank's team approved the three-town project remotely and quickly during the COVID-19 pandemic. By October, €13.5 million had already been disbursed.

"We were able to fast-track appraisal as we leveraged on this long-term and close relationship. We knew how the water company worked, and they knew us well too," says Parant. "This project is our fifth with Société Nationale des Eaux du Sénégal since 1995."

Under the pandemic emergency measures, the European Investment Bank exceptionally financed almost 90% of the project costs, compared with its standard maximum of 50%. **The Bank's additional funding helped the Senegalese government free up €34 million to use for the economic recovery from the COVID-19 crisis.**

"We've had the comfort of being accompanied by a solid partner," says Diouf.

# THESE SEEDS WORK

## New rice varieties are cutting carbon emissions and helping farmers

Changing monsoon patterns in India are wreaking havoc with one of the country's most important agricultural commodities: rice. While central and southern India have seen excess rain in recent months with flooding in the southern states of Kerala, Karnataka and Madhya Pradesh, states in the east and northeast of the country, such as Uttar Pradesh, Bihar and Odisha, have seen high temperatures and too little rain. As a result, India's Ministry of Agriculture expects this season's rice harvest to fall by around 6.77 million tonnes to 104.99 million.

New seeds and improved growing techniques developed by Hyderabad-based SeedWorks, however, are making a difference. "Many crops in India have been decimated by heatwaves this year," says Sundar Raja Vadlamani, supply chain president at SeedWorks. "Our company engineers characteristics that make plants more resilient to extreme heat and provide much greater yields."

Damaged by drought, floods, salinity and extreme temperatures, rice production is a victim of climate change. But it's also a major contributor, accounting for about 2.5% of all human-induced greenhouse gas emissions, on a par with the global aviation industry. The staple crop's hefty impact on the climate comes mainly from the way it is traditionally grown. Its flooded fields, called paddies, create ideal conditions for bacteria that emit methane, a potent greenhouse gas.

Rice varieties developed by SeedWorks require less water, an increasingly scarce resource in India where as many as 600 million people face high to extreme water stress. Combined with new techniques, which it trains farmers to use, the result is a more sustainable crop with a lower climate impact.

The company estimates it has helped save about 14 billion litres of water so far, by combining its less thirsty rice varieties with a number of water conservation initiatives, including the use of water meters and rainwater harvesting, as well as by training farmers on how to optimise their water consumption.

SeedWorks is also testing a new planting method for rice, involving a machine it has developed to seed rice directly in the fields, rather than growing them in nurseries first — an innovation it says should save a lot of water.

### Private equity and sustainable rice

SeedWorks has research and development facilities in Singapore and is expanding in the Philippines. The company's development plans are backed by a climate and environmental sustainability-focused private equity firm called GEF Capital Partners, with offices in India, Latin America and the United States. EIB Global, the international development arm of the European Investment Bank, committed $40 million in 2022 to GEF's latest fund, after having invested over $25 million in an earlier fund in 2018.

"GEF was one of the early pioneers of climate impact investing," says Raj Pai, managing partner for South Asia at GEF. "We've been looking at different themes from renewable energy, to water and food security in India, South East Asia and Latin America since the early 1990s."

> **"The impacts of climate change tend to hit vulnerable groups like low-income families and women particularly hard. Anything you can do to help solve the climate problem tends to have a positive impact on these groups too."**
>
> **Raj Pai, managing partner for South Asia at GEF**

Today, GEF monitors its impact on the UN Sustainable Development Goals — as well as its financial returns — and only invests in companies whose activities are aligned with the Paris Agreement on Climate Change. This means that all its investments are consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

The private equity group has also signed up to the 2X Challenge initiative for its new fund. The Challenge seeks to mobilise $15 billion to support businesses that provide women in emerging economies with access to leadership opportunities, quality employment, and products and services that enhance their economic participation and inclusion.

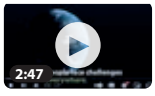
"The impacts of climate change tend to hit vulnerable groups like low-income families and women particularly hard," says Pai. "Anything you can do to help solve the climate problem tends to have a positive impact on these groups too."

### Impact of the EU bank

For funds like GEF, the European Investment Bank draws in other investors that might otherwise not have gone into the sector.

"The European Investment Bank's participation in funds like GEF attracts other investors and catalyses private sector investment in areas where it's desperately needed, like climate action and environmental sustainability," says Sissi Frank Perez, an investment officer in the private equity team at EIB Global.

"Private equity can also play a unique and important role in emerging markets, not just as a source of capital," she says, "but as a source of expertise to help companies develop, institutionalise, and adopt best practices in terms of environmental, social and governance matters."




EIB Global

# HOSPITALS IN UNCHARTED WATERS

**Runa Khan believes that everyone should have access to healthcare. Her organisation, Friendship, brings medicines, vaccines and education to remote areas of Bangladesh**

During a trip to rural Bangladesh to promote an educational project, Runa Khan saw families with no medical care or medicine. She decided to make a difference for the whole community.

"You do not start by trying to impact the whole world," says Khan. "You start by focusing on individuals, understanding what they need, and helping them with love."

Khan has been trying to change society for the better all her life. One of her most satisfying social projects began when French sailor Yves Marre arrived in Bangladesh in 1994 with a retired river barge to donate for a charitable cause. This boat would end up helping millions of people get better healthcare and be the first step in the foundation of Friendship, a social purpose organisation with over 4 000 employees and five branches around the world.

The European Investment Bank signed a €250 million loan to back Bangladesh's procurement of vaccines and countrywide immunisation against COVID-19. Today, with this support and aid, millions of Bangladeshis have been vaccinated and have received better healthcare through Friendship.

"By cooperating with Friendship, we can boost our impact on the ground and achieve sustainable and inclusive development," says Katrin Bock, a European Investment Bank loan officer responsible for investment in Bangladesh. "We see our partnership as a blueprint for investments in the health sector and COVID-19-related projects."

### Living with floods in Bangladesh

Bangladesh is a land of rivers, with nearly 75% of the country below sea level. The country's geography has made it prone to frequent and severe floods.

The 4 million people living in the shifting islands of the Brahmaputra River, known as "chars", are especially vulnerable. Every time the river floods, the char islands fall apart and vanish, forcing people to leave everything behind and move to new land. The problem is getting worse with climate change. "I have met people who have changed home more than 40 times in a lifetime," Khan says.

With its two floating hospitals and another on land, Friendship provides healthcare to the chars and the coastal belt of Bangladesh. This means free-of-charge surgeries, medicines and medical check-ups, as well as paediatric, gynaecological, dental and eye care.

To ensure that nobody is left unaided, Friendship also set up a system of mobile satellite and static clinics, supported by trained health workers from local communities. "If you don't have a boat, it is very difficult to access care," Khan says. "Our healthcare system came from the needs of the community."

> **"You do not start by trying to impact the whole world. You start by focusing on the individuals, understanding what they need, and helping them with love."**
>
> **Runa Khan, founder of Friendship**

### Bridging the last mile to vaccines

Bangladesh is nearly the size of Greece, but it has 16 times its population. When COVID-19 hit, vaccination was the only way to maintain normal life without the looming threat of deadly disease.

Friendship played a major role in bringing vaccines to those in hard-to-reach places. The organisation ran awareness campaigns to promote vaccination and supported its rollout in remote areas, such as the registration of patients and assistance in their transportation to vaccination centres.

At the beginning of June 2021, less than 4% of Bangladesh's population had received two doses. Today, with Friendship's help, Bangladesh has fully vaccinated more than 70% of its population.

### Empowering communities

Bangladesh is at the frontline of the fight against climate change. In 2022, the country saw record flooding that killed more than 100 people and disrupted the lives of 7 million others. But the impact is expected to worsen significantly in the coming decade.

Around the world, people need to see immediate crises in the context of the bigger challenge of climate change, says Khan. "While we work to protect our communities and our countries against COVID-19, we need to also think about how we can strengthen them to deal with future crises," she says.

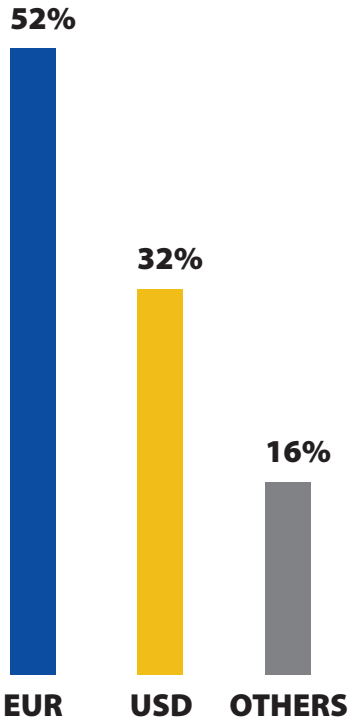
That is why Friendship's action goes far beyond healthcare. The social purpose organisation works on climate action and adaptation to the effects of climate change, cultural preservation, economic development, inclusive citizenship, and education. The organisation, for example, provides medical training and secondary and primary education to thousands of people in the chars, among them women and migrants.

"There is no one-size-fits-all solution, there are steps. Money is a tool, technology is another tool," Khan says. "If you educate one village, you can change the island."

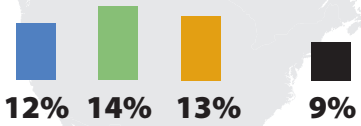
# WHERE THE MONEY COMES FROM

**The European Investment Bank, the world's largest multilateral borrower and lender, raised €44.3 billion on the international capital markets in 2022, with €19.9 billion of that in green bonds or sustainability bonds. The Bank's issuance reaches investors that might not typically invest in Europe but then contribute indirectly to European projects by investing in EIB bonds.**

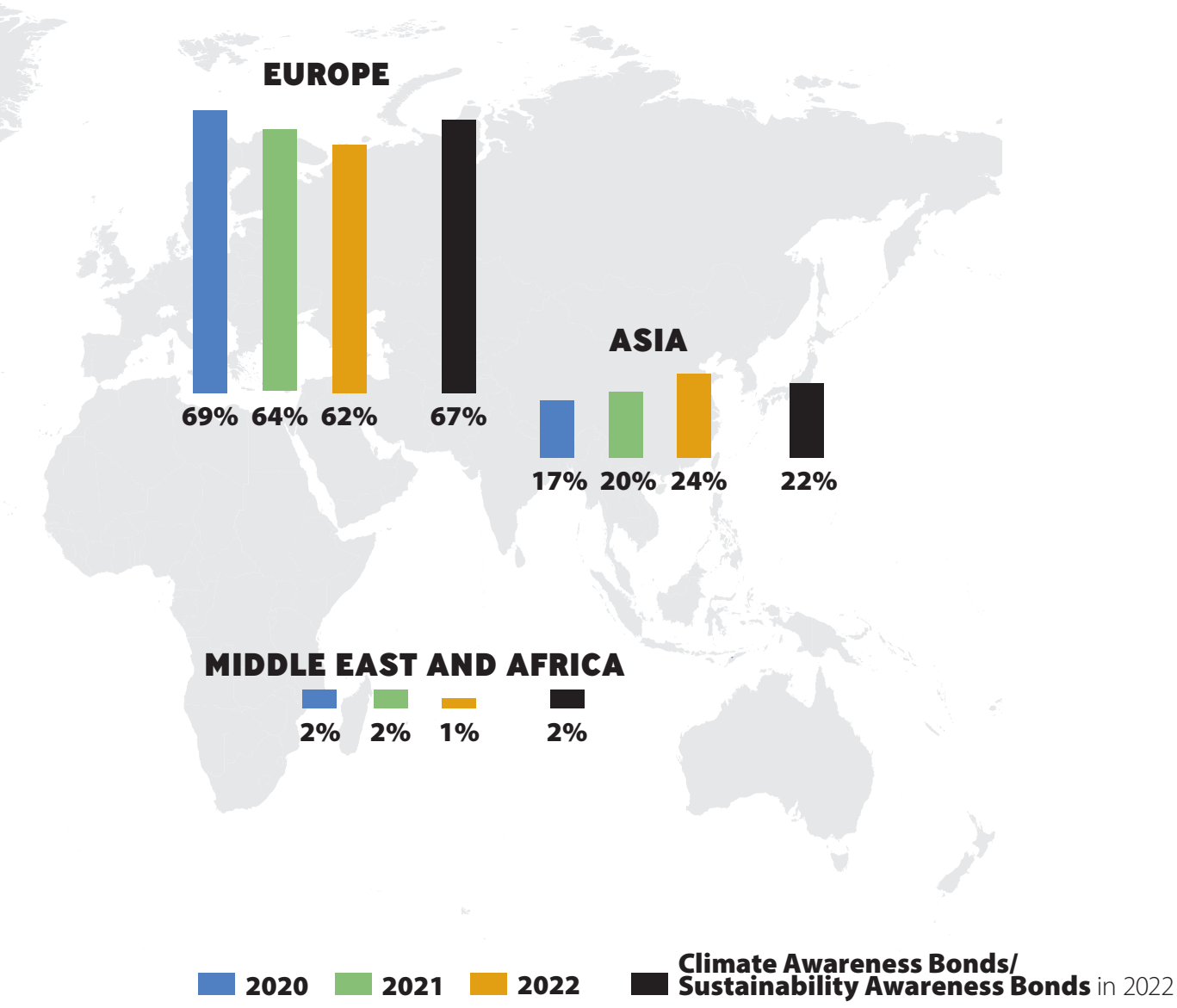
## ISSUANCE BY CURRENCY




## AMERICAS



**The Bank issued bonds in 17 currencies**, with the majority raised in the core currencies of euros and US dollars. Diversified sources and tenors give flexibility to the Bank's funding strategy. The multi-currency approach also enables the EIB to access some local currencies for disbursements.



# GROUP OPERATIONAL PLAN 2023–2025 HIGHLIGHTS

- **More help for Ukraine and a focus on EU autonomy after Russian invasion**
- **Transition from fossil fuels and support for regions that depend on coal and oil**
- **Riskier green and digital investments**
- **More development worldwide through EIB Global**
- **New priorities for advisory assistance, innovation and technology**
- **Increased loans to small companies in climate action and sustainability**

The military aggression against Ukraine leads us to accelerate climate action and projects that strengthen Europe's independence. One part of this new push is the REPowerEU programme to make Europe independent from Russian oil and gas. We will fully support this European Commission energy independence programme.

The EIB Group will increase financing for the just transition to green economies by helping more regions that depend heavily on coal and oil. A just transition means that we will help communities that suffer the most to find new, green industries, and we will provide more training for people to change careers.

One of the European Investment Fund's key goals from 2023 to 2025 will be to increase climate action and environmental sustainability. This will include technical knowledge training for small companies and support for business angels, venture capital and private equity funds. The EIF's loan guarantees to other lending institutions will provide funds to help a large range of startup companies and small businesses. As part of REPowerEU, the EIF will provide €3 billion from 2023 to 2027 in equity investment to financial institutions for energy efficiency, renewable energy and green innovation.

Outside Europe, EIB Global will help more regions produce green electricity, provide clean water, build modern sanitation plants, improve healthcare supplies and stop the spread of infectious diseases. We will target increased climate action financing in Asia and Latin America.

We will step up advisory services to offer wider technical assistance that accelerates investments in priority projects. Advisory services will focus on supporting environmentally sustainable projects and the implementation of the Climate Bank Roadmap. This roadmap outlines our climate goals from 2021 to 2025. To meet these climate promises, we must take on more risk and finance more technologically advanced projects, enabling us to increase the impact of our work.

**Read the full Operational Plan for 2023-2025 at www.eib.org/en/publications**

# GOVERNANCE

The EIB is an EU body, accountable to the Member States, and a bank following applicable best banking practice in decision-making, management and controls.

**The Board of Governors** is made up of government ministers from each of the 27 Member States, usually ministers of finance. The governors set out the Bank's credit policy guidelines and once a year approve the annual accounts. They decide on capital increases and the Bank's participation in financing operations outside the European Union. They also appoint the Board of Directors, the Management Committee and the Audit Committee.

**The Board of Directors** takes decisions on loans, borrowing programmes and other financing matters. It meets ten times a year to ensure that the Bank runs in accordance with EU treaties, the Bank's own Statute, and general directives laid down by the Board of Governors. There are 28 directors, one nominated by each Member State and one by the European Commission. There are also 31 alternate directors. To broaden the Board of Directors' professional expertise, six experts may be co-opted to participate in board meetings as non-voting advisers. Decisions are taken by a majority representing at least 50% of the capital subscribed by the Member States and one-third of board members entitled to vote, unless otherwise provided for in the Statute. The board is chaired by the president, in a non-voting capacity.

**The Management Committee** is the Bank's resident decision-making body. It oversees the day-to-day running of the Bank, prepares decisions for the Board of Directors and ensures that these are implemented. It meets once a week. The Management Committee works under the authority of the president and the supervision of the Board of Directors. The other eight members are the EIB's vice-presidents. Members are appointed for a renewable period of up to six years and are responsible solely to the Bank.

The Bank has an independent **Audit Committee** answerable directly to the Board of Governors. It is responsible for the audit of the EIB and the EIB Group's accounts, for annual verification that EIB operations are conducted — and its books kept — in a proper manner, and for verifying that the activities of the Bank conform to best banking practice. The annual report of the Audit Committee for the financial year is submitted to the Board of Governors with the Management Committee response. The Audit Committee is composed of six members appointed for a non-renewable term of six consecutive financial years.

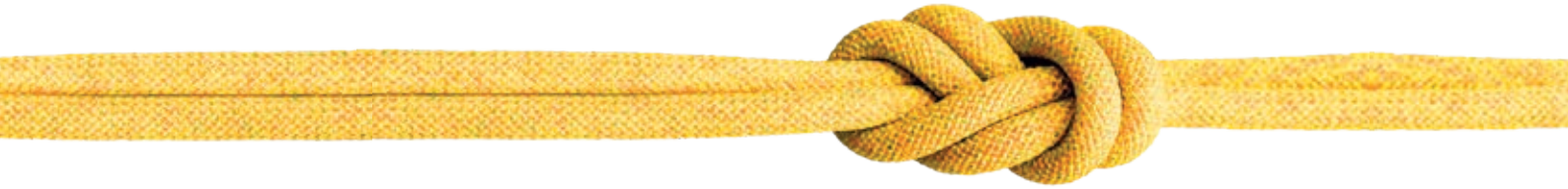
**The European Investment Bank is the EU climate bank.**
**Learn more about our climate work:**
**Climate and environmental sustainability (www.eib.org/climate)**

**The European Investment Bank stands with Ukraine.**
**Find out more:**
**The EIB stands with Ukraine (www.eib.org/standwithUkraine)**

**Our projects make a difference in every sector of the global economy.**
**Dive deeper:**
**All projects - finance and global impact worldwide (www.eib.org/projects/all)**

# SECURE EUROPE

**2022 ACTIVITY REPORT**



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