



# Searching for green alchemy

## Creating a new EU investment platform to improve access to finance in the circular bioeconomy

Report of a market consultation conference organised by the European Investment Bank and the European Commission



*"We're at the beginning of a green rush where entirely new value chains are being created."*

**John Bell**, European Commission

### The public feedback: What's needed to make the EU bioeconomy fund a success

At a conference on 6 December 2017 in Brussels, European Commission and European Investment Bank officials received market views on ways a new investment vehicle they are planning could coax private capital into the bioeconomy. Expected to be launched towards the end of 2018, the fund which will include €100 million in EU funding with money drawn from its current research programme, Horizon 2020, will generate new money for what officials call the 'circular bioeconomy' (see definition in box on the next page).

These are some of the key suggestions that participants in the conference raised, to make the fund a success:

1. Explain clearly to investors what the fund is trying to achieve, and in what areas
2. The fund should strive to reward the most innovative projects currently stuck in the pre-commercial stages
3. The fund should be open to as wide a range of investors as possible, from companies to wealthy individuals
4. A mechanism that sees EU money take first loss in an investment would likely attract the widest number of investors
5. The fund should offer improved investment-decision timelines than currently exist for companies seeking funds.
6. To complement the fund, the EU should continue gathering and publishing data on funding gaps in the bioeconomy

**A PROSPEROUS BIOECONOMY** is vital for Europe's future – but how to pay for its development? The European Commission, advised by the European Investment Bank, is initiating a new public-private fund during 2018 to help answer that question.

The fund, with €100 million in EU support, will aim to finance innovative bioeconomy projects (focussing in priority, but not exclusively, on innovative circular bioeconomy projects); these include efforts to use or recycle land or aquatic biomass to generate new bio-based materials, chemicals or processes. This "circular bioeconomy investment platform" (its formal name), will be run by an independent manager, to be selected through an open call during 2018. It could benefit many sectors, such as bio-based industries, the agri-food chain and aquatic resources. It can contribute to the EU's broader agenda to promote the circular economy. It can give added momentum to a revolution that, thanks to climate change, low commodity prices and changing consumer tastes, could support millions of jobs and replace petroleum and harsher industrial processes.

The push for an EU fund follows a study by the European Investment Bank, published in June 2017 ([http://www.eib.org/attachments/pj/access\\_to\\_finance\\_study\\_on\\_bioeconomy\\_en.pdf](http://www.eib.org/attachments/pj/access_to_finance_study_on_bioeconomy_en.pdf)), which found that, while there is public money, mainly grants, available in Europe for bioeconomy projects, it remains difficult to attract funding for demonstration projects and projects entering industrial-scale phases.

This new investment vehicle is appearing at a time when bio-based markets have reached a crossroads. Just a few years ago there was hardly any money going into the bioeconomy; now investment in the sector has grown enough that the first funds are emerging. Technological advances are shifting the landscape, but still need further time and investment to be fully proven. Regulatory, technological and market risks, as well as investor hesitancy and low oil prices, have combined to prevent the EU bioeconomy from yet reaching its full potential.

## New Value Chains



Source: European Commission

The fund, which will draw money from the EU's current research programme, Horizon 2020, signals a marked shift in priorities for the EU, said John Bell, director of the Bioeconomy Directorate at the European Commission's Directorate-General for Research and Innovation. "Take this fund as a market signal: the bioeconomy is happening, it's taking root, and we want Europe to be a leader. We're ready to let the innovators loose," he said.

The bioeconomy, the thinking goes, is an underutilised economic resource; but it could also be one of the antidotes to climate change. EU officials say the field has the potential to reduce reliance on fossil fuels and reduce plastics pollution, among other things. By EC estimates, if you add up all of the bioeconomy-related sectors from food onward, it amounts to annual turnover of around €2.2 trillion in Europe and already offers employment to around 9 per cent of the total EU workforce. "Sustainability is becoming the motor of the new economy," said Bell. "We're at the beginning of a green rush where entirely new value chains are being created."

In the bioeconomy, resources are conserved, and waste is limited. Projects are extremely varied: shrimp shells find second lives as sustainable types of plastic, and sugarcane waste as new lubricants. Families in Sicily recycle their frying pan fat into fuel, and farmers in East Anglia, England, grow daffodils for drugs use, and lavender for cosmetics. But success is scattershot, and a fresh funding pump is welcomed, said Dirk Carrez, executive director of the Bio-based Industries Consortium, part of an EU public-private partnership, the Bio-based Industries Joint Technology Initiative. "This is still seen today as a risky business," he said. "So, you need grants, loans and guarantees to keep investments here in Europe."

More funding would allow bio-based companies to grow in Europe without being acquired by larger, overseas businesses, said Alain Reocreux, special adviser to France's OLMIX Group, which makes new bio-products out of clays and algae.

"I think there is a real risk of foreign companies taking raw materials and know-how," he said. "To stop this from happening, we need long-term financing."

## The policy conclusions

The aim of the public conference was to get knowledgeable feedback on what needs to be done to make the new fund a success. Here, we summarise some of the main points raised.

### 1. Make a sharp investment pitch

**Recommendation: Explain clearly to investors what the fund is trying to achieve, and in what areas**

The bioeconomy lacks a seasoned investment pitch. What is the sector, exactly? Is it food, aquaculture, biofuels, chemicals, recycling, all of the above? What is its investment track record? Investors see plenty of potential in the area, but their number depends on what segment they know and what experience they already have.

## What is this fund about?

The "circular bioeconomy" is about the application of the concept of circular economy – in a circular economy, the value of products, materials and resources is maintained as long as possible, and the generation of waste minimised - to biological resources, products and materials.

The fund will aim at providing access to finance to innovative bioeconomy projects and will focus in priority, but not exclusively, on innovative circular bioeconomy projects.

The fund may include, amongst others, projects that use terrestrial or aquatic biomass (including waste, residues, discards and by-products from the agricultural, agro-food, forestry and aquatic sectors) for innovative bio-based products or processes, or to valorise it for other innovative purposes (amongst which food, feed, fertilisers or soil improvers).

Projects focussing exclusively or mainly on renewable energy generation (fuels, heat or power) will not be in scope.

\*. The bioeconomy encompasses the production of renewable biological resources [terrestrial or aquatic] and the conversion of these resources and waste streams into value added products, such as food, feed, bio-based products (where bio-based products are products that are wholly or partly derived from materials of biological origin, excluding materials embedded in geological formations and/or fossilised) and bioenergy.

Up to pilot phase TRL 1-5	First funding gap	Demonstration plant phase TRL 6-7	Second funding gap	Full scale factory phase TRL 8-9 (incl. FOAK/ Flagship & Industrial-scale)
Type of funding sources: <ul style="list-style-type: none"> <li>Grants/subsidies</li> <li>Own funds</li> </ul>	For BBI and BE projects moving from pilot to demonstration.	Type of funding sources: <ul style="list-style-type: none"> <li>Equity</li> <li>Debt</li> <li>Grants</li> </ul>	Both BBI and BE, but particularly BBI projects, moving from demonstration to flagship/FOAK and industrial-scale.	Type of funding sources: <ul style="list-style-type: none"> <li>Equity</li> <li>Senior debt</li> </ul>
Types of providers: <ul style="list-style-type: none"> <li>Grants/subsidies: <ul style="list-style-type: none"> <li>EC programmes, H2020,</li> <li>National programmes: ERDF, regional grants, others (e.g. national R&amp;D agency).</li> </ul> </li> <li>Own funds: <ul style="list-style-type: none"> <li>Technology providers and partners,</li> <li>Family offices: mentioned by one project.</li> </ul> </li> </ul>	Funding gap related to: <ul style="list-style-type: none"> <li>Perceived high level of technology risk and lack of interest of private FMPs to invest;</li> <li>Complicated procedures to access public funding.</li> </ul>	Type of providers: <ul style="list-style-type: none"> <li>Equity: <ul style="list-style-type: none"> <li>Own funds from project promoters;</li> <li>Industrial/specialist investors.</li> </ul> </li> <li>Debt by public institutions: Bpifrance, KFW, EIB, NIB.</li> <li>Grants/ subsidies: <ul style="list-style-type: none"> <li>EC programmes: BBI JU;</li> <li>National programmes; ERDF, regional grants.</li> </ul> </li> </ul>	Funding gap related to: <ul style="list-style-type: none"> <li>Unfavourable market/demand and regulatory conditions;</li> <li>Perceived high level of risk of BBI and BE projects;</li> <li>Lack of dedicated public funding for commercialisation.</li> </ul>	Type of providers: <ul style="list-style-type: none"> <li>Equity: <ul style="list-style-type: none"> <li>Own funds from project promoters (for the first plant)</li> <li>Industrial/specialist investors.</li> </ul> </li> <li>Debt: <ul style="list-style-type: none"> <li>By public institutions: Bpifrance, KFW, EIB, NIB;</li> <li>By private banks.</li> </ul> </li> </ul>

Source: European Commission

“One of the things that the (EIB) study has shown is that the bioeconomy is not a very well-known area,” said Shiva Dustdar, head of Innovation Finance Advisory at the EIB.

To attract a wide array of external investors, the terms of the new fund need to be clearly defined, participants said: The objectives, targeted returns, type of investors and type of projects. Of course, this need for focus and clarity is true for any fund, in any sector. But there are special challenges in this case, due to lingering uncertainty over what people mean by such phrases as “circular economy”, “blue economy” and “bioeconomy” itself. Failure to properly label the projects that stand to benefit from the new fund will make it harder to court investors.

## 2. Hunt the ‘coolest’ ideas

**Recommendation: The fund should strive to reward the most innovative projects currently stuck in the pre-commercial gap**

The fund should grow a well-diversified portfolio that drives towards innovative and high risk/reward projects, investors said. An ambitious attempt would be to target first-of-a-kind bio-plants, which are “too risky for banks”, said Josko Bobanovic, a partner dedicated to renewable chemistry and industrial biotech investments at venture capital firm Sofinnova Partners. “We should say: ‘We’re doing this because we want to change the world, so let’s be audacious. Either go big or go home,’” he said.

Participants suggested that, given the existence of other EU schemes targeting early stage projects, most impact could be realised by targeting the later stage, demonstration and commercial-scale projects. Implementing new bio techniques at commercial scale remains a significant challenge, especially for finance. Said Willem-Jan Meijer, financial director with Synvina, a joint venture between chemical giants BASF and Avantium: “If I speak to a bank to raise €150 million, say, they want to see your offtake agreements”, contracts normally negotiated prior to building a new facility such as a bio-refinery in order to secure a market for its future output. “It’s very difficult to deliver these agreements,” he added.

Always, connecting market demand with finance supply is a big challenge in this sector – more than the technology itself.

Christian Kemp-Griffin said the company he runs, CelluComp, which produces paints and coatings from carrots and sugar beets, had finished a demonstration of its technology; but now it needs to raise around €30 million to sell its goods on the market. “It’s a big funding gap,” he said. “And we’ve talked to everyone from VC to governments to banks.”

## 3. Invite many different types of investors

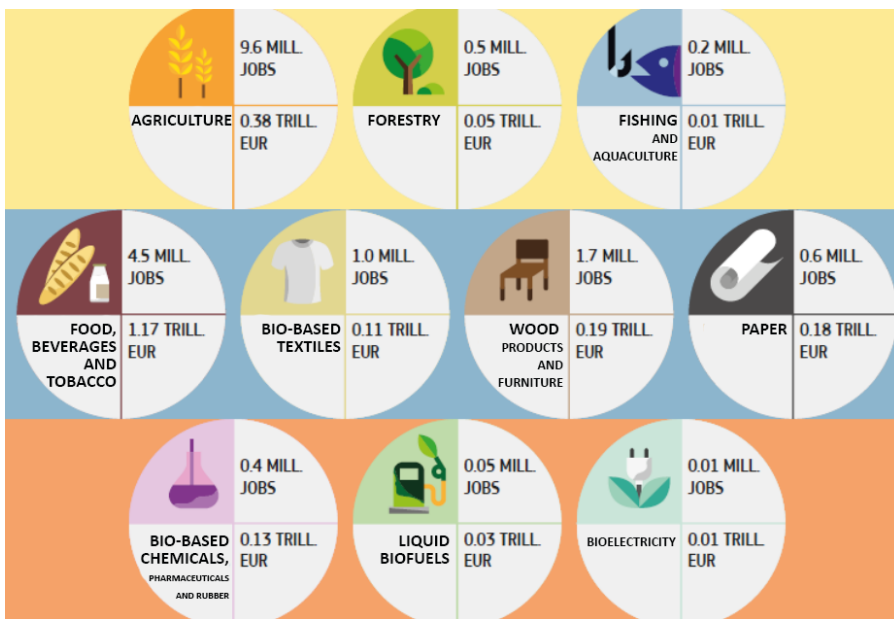
**Recommendation: The fund should be open to as wide a range of investors as possible, from companies to wealthy individuals**

Participants called for the fund to be as open as possible, with an opportunity for companies, university endowments, pension funds, rich individuals and banks to contribute. Insurance firms may have a unique understanding of the bioeconomy, for instance, explained Sofinnova’s Bobanovic. “They are very attuned to climate risk because it hits their pocket straight away,” he said.

The many diverse private investors would put their money alongside that of member states and other public investors, in a large public-private pot. By pooling private resources together, and partially backing them up with a public contribution which would serve as “first loss” mechanism, the investment platform can diversify risk and therefore attract still more private capital to riskier projects.

*“We’re doing this because we want to change the world, so let’s be audacious. Either go big or go home.”*

**Josko Bobanovic, Sofinnova**



Source: European Commission

#### 4. Entice investors with attractive terms

**Recommendation: A mechanism that sees EU money take first loss in an investment could attract the widest number of investors**

When a public body puts money into a fund first – as the Commission plans to do - this is generally seen as an inducement for the private sector to follow with its own cash; but the specific terms matter.

Several participants said the fund’s activities could include supporting new equity investments, lending or loan guarantees - but with a built-in “first-loss” mechanism; under this, in the event of default or failure of the individual projects, the public money would be tapped first.

Any guarantees could be provided to financial intermediaries, which are expected to increase their lending to viable businesses that would otherwise experience difficulties in obtaining loans. The bottom line: Use the public money to reduce the perceived risk for private investors.

“A risk-sharing guarantee mechanism is the main thing that can work in this field,” said Leonie Schreve, global head of sustainable finance at ING Bank.

*“The EIB has a very [important] role in accelerating the education process around the bioeconomy.”*

**Leonie Schreve, ING Bank**

#### 5. Get cash to good projects quicker

**Recommendation: The fund should offer improved investment-decision timelines than currently exist for fund-seeking companies**

Producers in bio-based markets want to see quicker investment decisions. According to the June 2017 EIB study, “project promoters report complicated and lengthy application procedures for public funding”. Licensing procedures eat up precious time, too. Any new EU fund should not overlook the importance of speedy decisions, said CelluComp’s Kemp-Griffin.

“We need accelerated schedules. You can get into a discussion with someone about financing and still be having that discussion a year later,” he said.

The obvious risk of keeping bio-based producers waiting too long for finance is that they take their product to a different market, such as the US.

#### 6. Provide careful and detailed risk assessment

**Recommendation: To complement the fund, the EU should continue gathering and publishing data on funding gaps in the bioeconomy**

Investing in the bioeconomy may no longer be considered a nutty idea, but a lack of knowledge in the space is still keeping many institutional investors on the sidelines. While the EIB has identified some clear funding gaps in the bioeconomy, more data will help investors decide if projects are ‘investable’ or not. Low return and a small track record of investment within the bioeconomy make it difficult to assess the risks being taken. The complexity and novelty of many bio-based products is the main reason investors do not always come running with money.

It is a tough field to penetrate for investors, said ING’s Schreve. “When I look at proposals, I find they are often too small, too risky, or not made out correctly. For these reasons, I would say the EIB has a very [important] role in accelerating the education process around the bioeconomy,” she said.

For more information about the funding environment for bio-based industries and the blue economy, download the EIB report at: [http://www.eib.org/attachments/pj/access\\_to\\_finance\\_study\\_on\\_bioeconomy\\_en.pdf](http://www.eib.org/attachments/pj/access_to_finance_study_on_bioeconomy_en.pdf)

For further information on the fund, or to offer your own views to the EIB, email [innovfinadvisory@eib.org](mailto:innovfinadvisory@eib.org).