

Creating sustainable jobs for Europe

Enabling Innovation

Creating a Bioeconomy



The European Bioeconomy



Currently

Market Value
€2 Trillion

Employment
22 Million

The opportunity

Create jobs

Maintain
competitiveness

Meeting the challenge

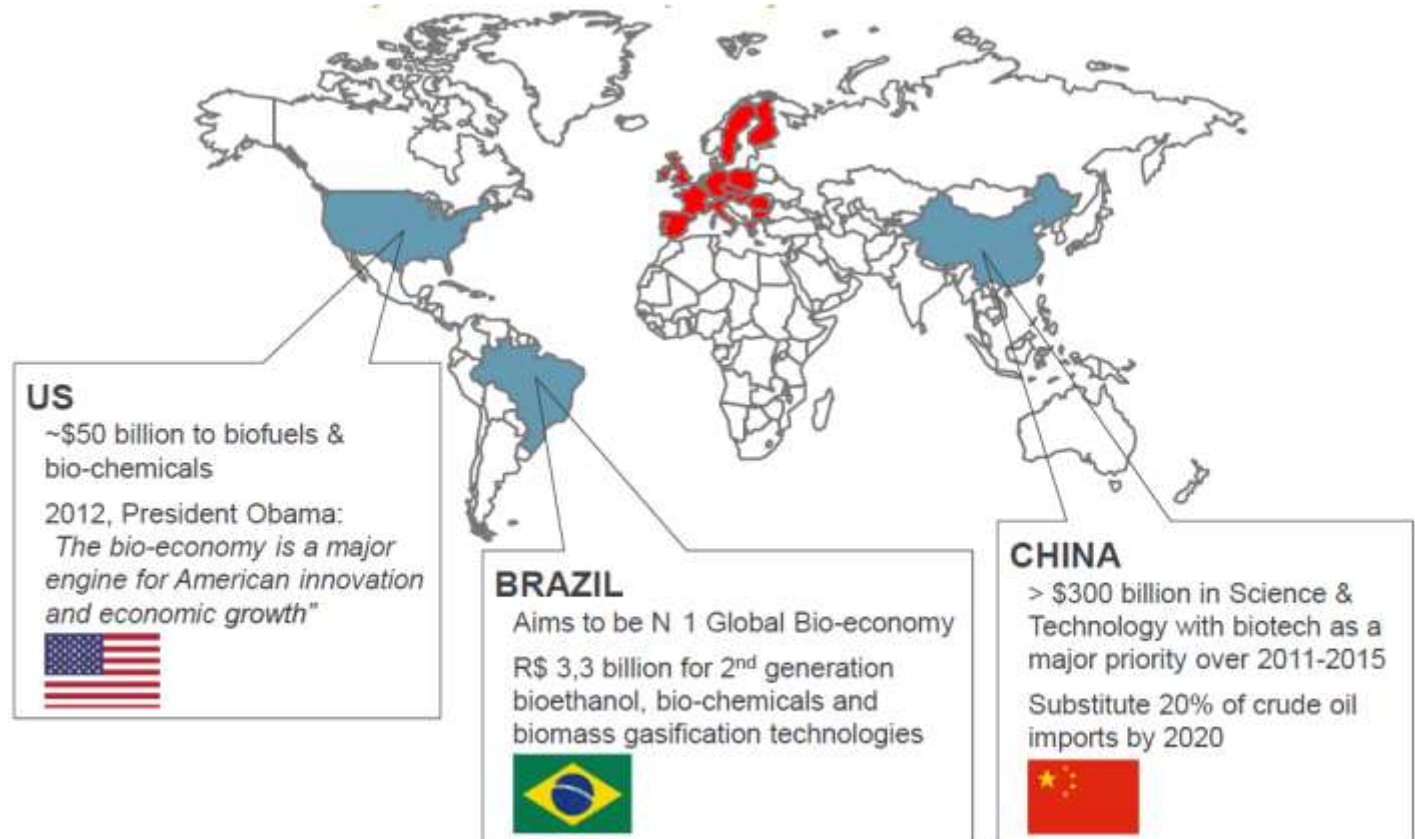
CLIMATE
CHANGE

POPULATION
GROWTH

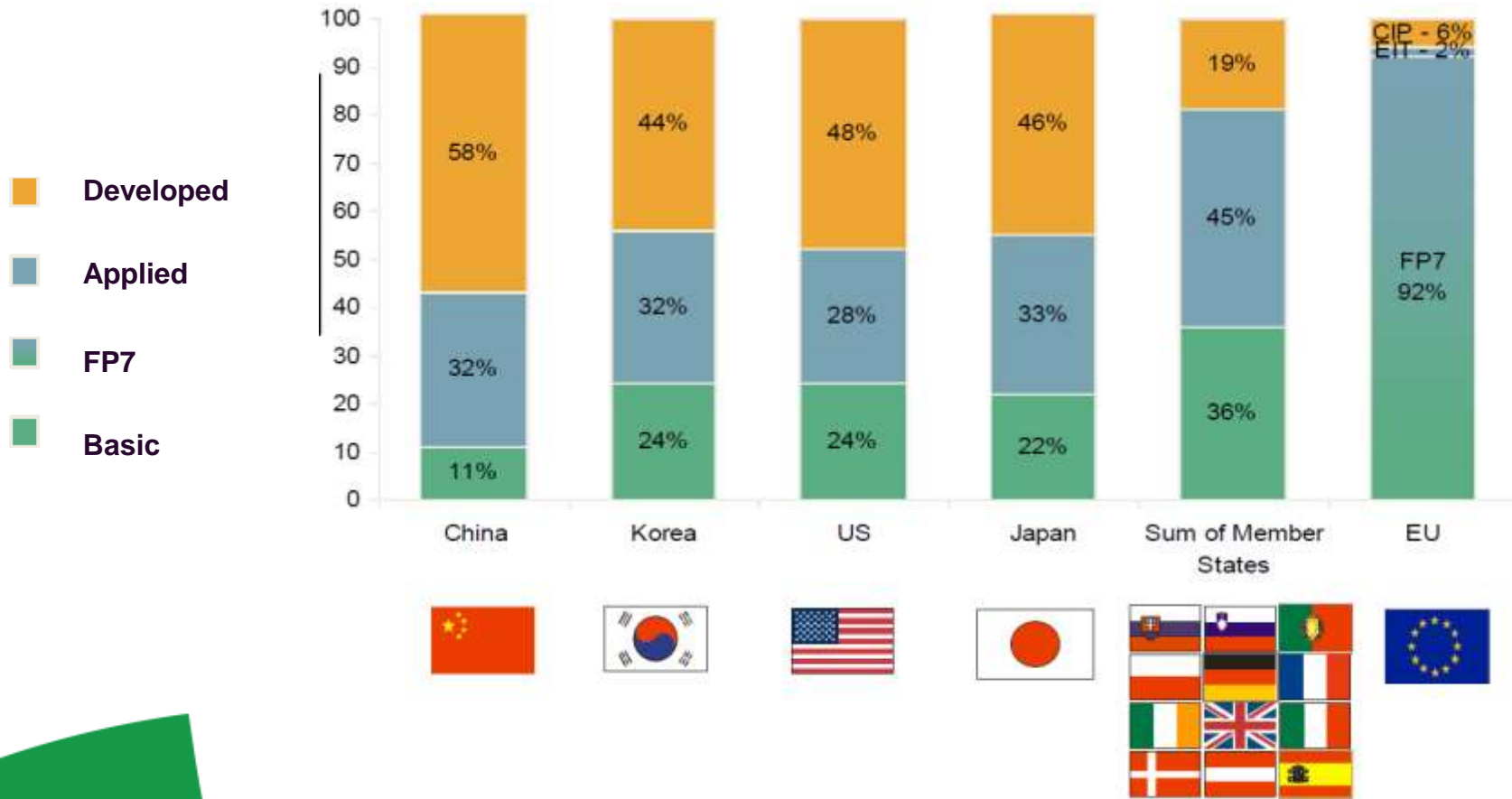
PRESSURE ON
BIODIVERSITY

EXPLOITATION
OF NATURAL
RESOURCES

Global competition



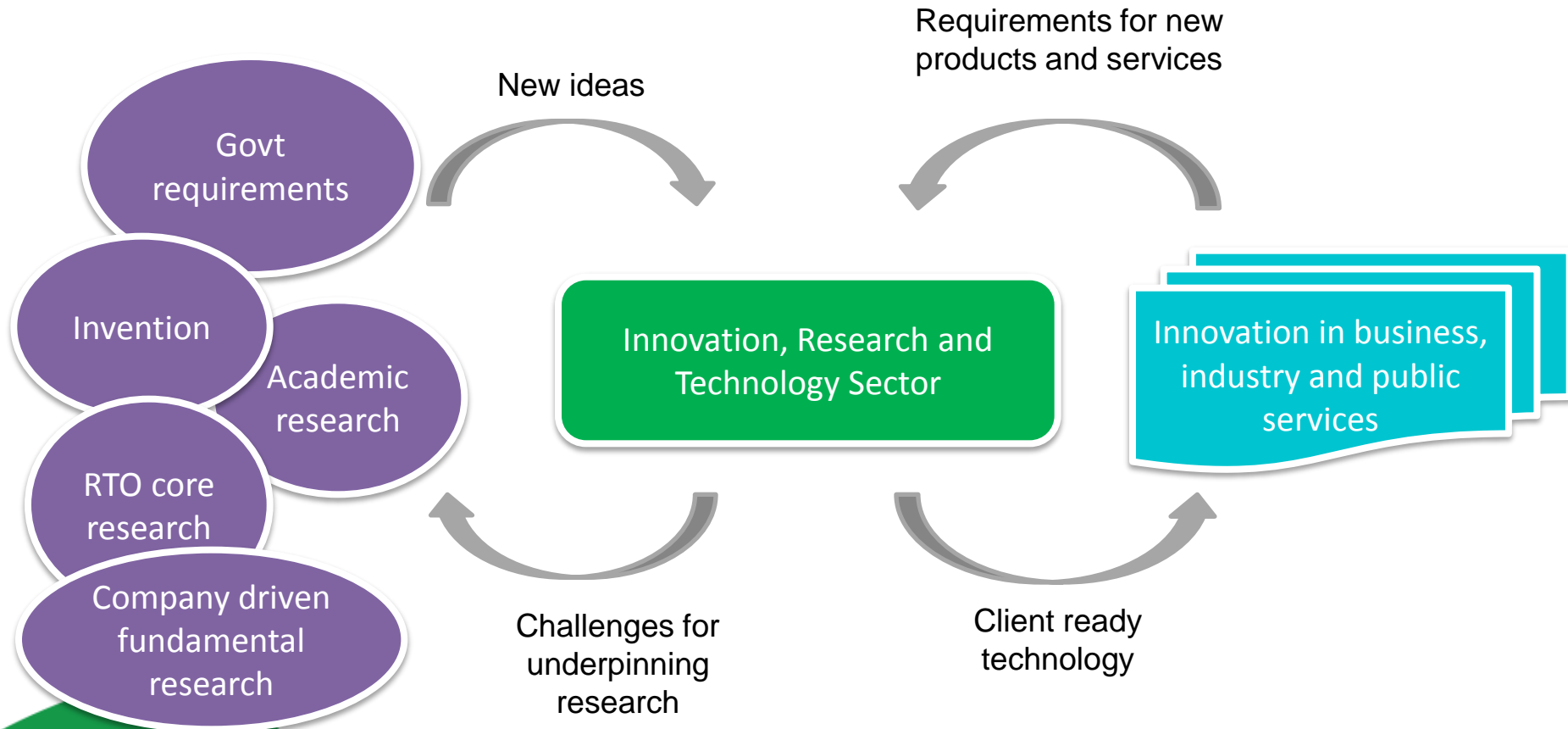
Research focus



Source: [Novozymes](#)

Key Science and Engineering Indicators, National Scientific Board, 2010 Digest, NSF, <http://cordis.europa.eu/erawatch>, OECD "Research & Development Statistics"

Technology amplification



Adapted from Economic Impact of Innovation Technology and Research Sector, Oxford Economics. <http://www.airto.co.uk>

Barriers to innovation



- Resistance to investment due to uncertainty (as opposed to risk which can be priced into markets) around the returns to innovation and the long timescales it takes to realise profits.
- Positive externalities are not factored into firms' R&D investment decisions, meaning that investment is lower without public support, and generally happens in a more closed manner.
- **Natural monopoly effects mean that facilities that a range of technical innovation relies on can be too large and expensive for firms to access. This particularly affects SMEs, but when combined with other market failures (like uncertainty) it can also affect larger firms.**
- Coordination failures mean effective links are not made between firms, academia and/or government without a **neutral convenor** and/or a **hub** to connect and coordinate activity.

Source: Review of the Catapult network, www.catapult.org.uk

The cost of scale up



Awareness and opportunity



Biorefining & Bioenergy

AN ENTERPRISE IRELAND
& IDA IRELAND INITIATIVE



NNFCC

The Bioeconomy Consultants

CLIB
2021
CLUSTER
INDUSTRIELLE
BIOTECHNOLOGIE



Bio Base Europe
Training Center



Bio Base Europe
Pilot Plant



Enabling access



Innovation coupons

To **assess** the **scale-up** of an innovative biobased idea at **Bio Base Europe Pilot Plant**

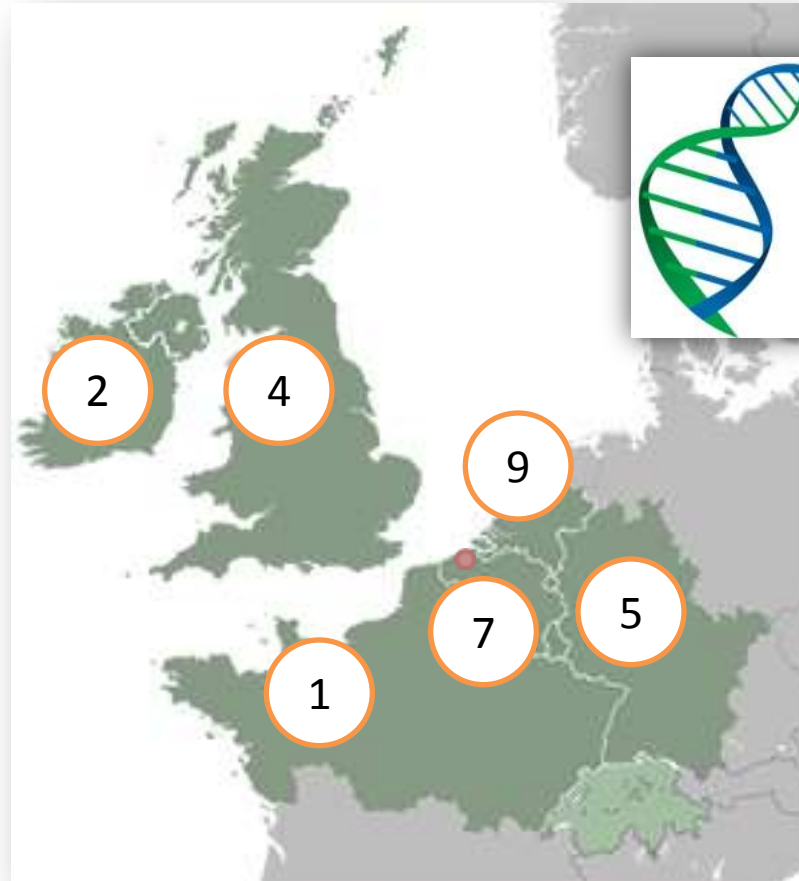
Initially worth **€10.000** attracting start ups and micro companies looking to test concepts to enable further funding.

Increased to **€30.000** attracting a wider range of SMEs moving beyond concept to process testing.

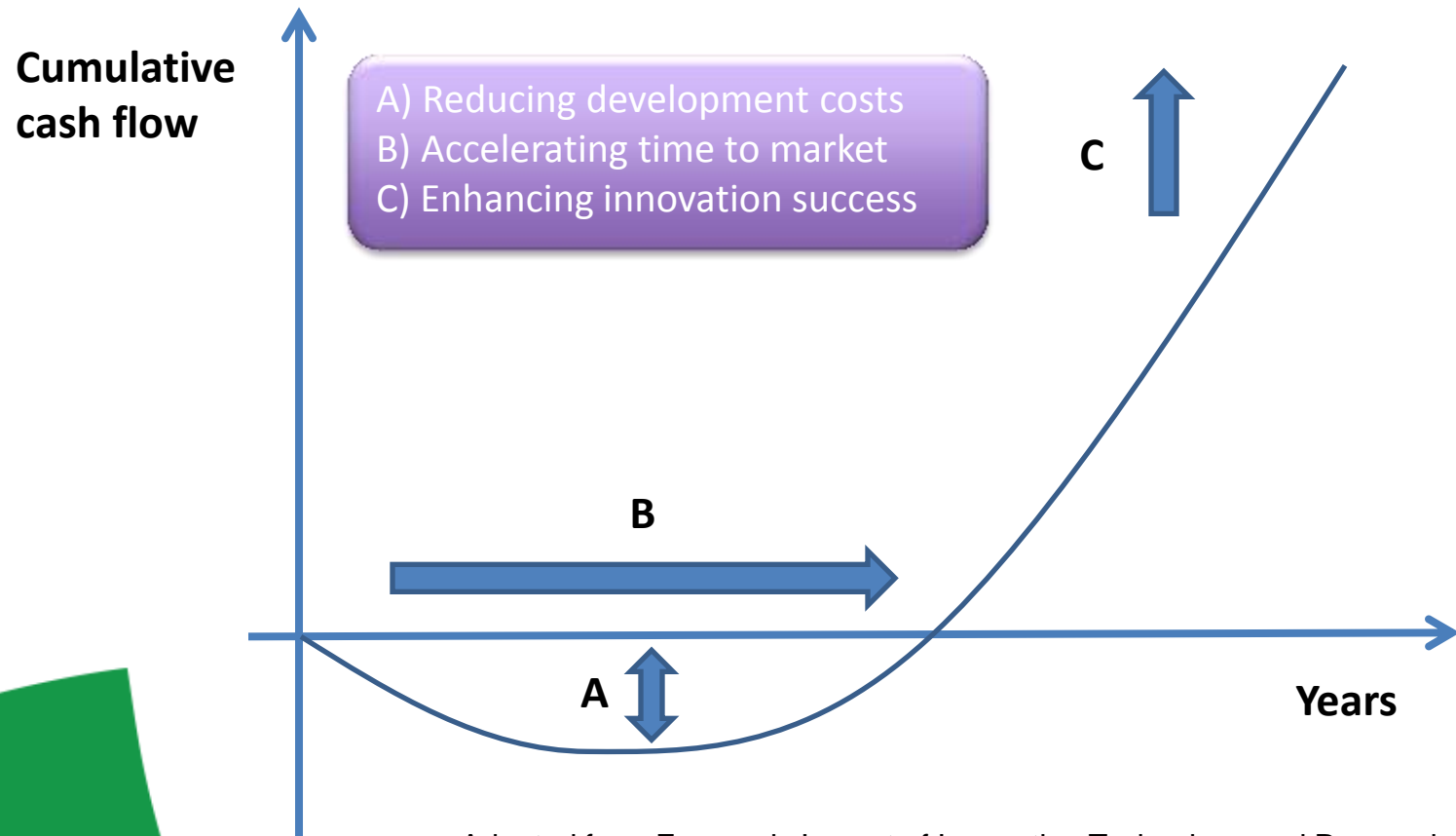
Enabling access

31
coupons
issued

27
companies
supported



How open access pilot plants enable innovation



Adapted from Economic Impact of Innovation Technology and Research Sector, Oxford Economics. http://www.airto.co.uk/docs/airto_oxford_economics_2014.pdf

Impact



*“Gaining access to the facilities and expertise of Bio Base Europe Pilot Plant will **significantly speed up the development of our internal product pipeline.**”*



*“The Innovation Coupon was an **important support and incentive to evaluate the expertise of Bio Base Europe Pilot Plant** for the **large scale production of agrobodies**, as required for our research and product development.”*

Long term impact



Of the initial 15 companies supported, all confirm new jobs will be created in the future, approximately between 200 and 300.

Four of the companies already have concrete business plans to build production lines or plants, for a total investment of €28-34 million.



Sustaining facilities and competences



Core funding from the public sector appears to be most in need at start-up for infrastructure and capacity building.

BUT also required to support:

- strategic high-risk research of medium to long-term duration;
- competence development;
- and the acquisition and maintenance of large-scale facilities and specialist equipment.

EARTO 2007 “Research and Technology Organisations in the Evolving European Research Area: A status reporting with policy recommendations”
http://www.earto.eu/fileadmin/content/03_Publications/RTOs_and_the_Evolving_European_Research_Area_WhitePaperFinal.pdf

Thank you for listening



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The bio-based economy because

SOME THINGS ARE BEST LEFT UNDERGROUND



MOLES



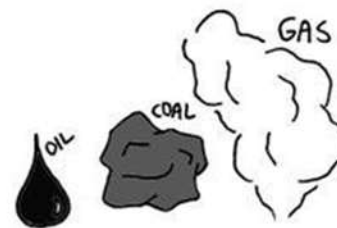
LAVA



UNEXPLODED
ORDNANCE



CORPSES



FOSSIL FUELS

@CARTOONRALPH