RENEWABLE FUELS AND BIOENERGY FOR A LOW-CARBON EUROPE – ACCELERATING THE IMPLEMENTATION OF THE SET-PLAN ACTION 8

Support programmes to project developers in the area of bionergy and renewable fuels

Live stage @EUBCE2023

7° June 2023

Paola Mazzucchelli

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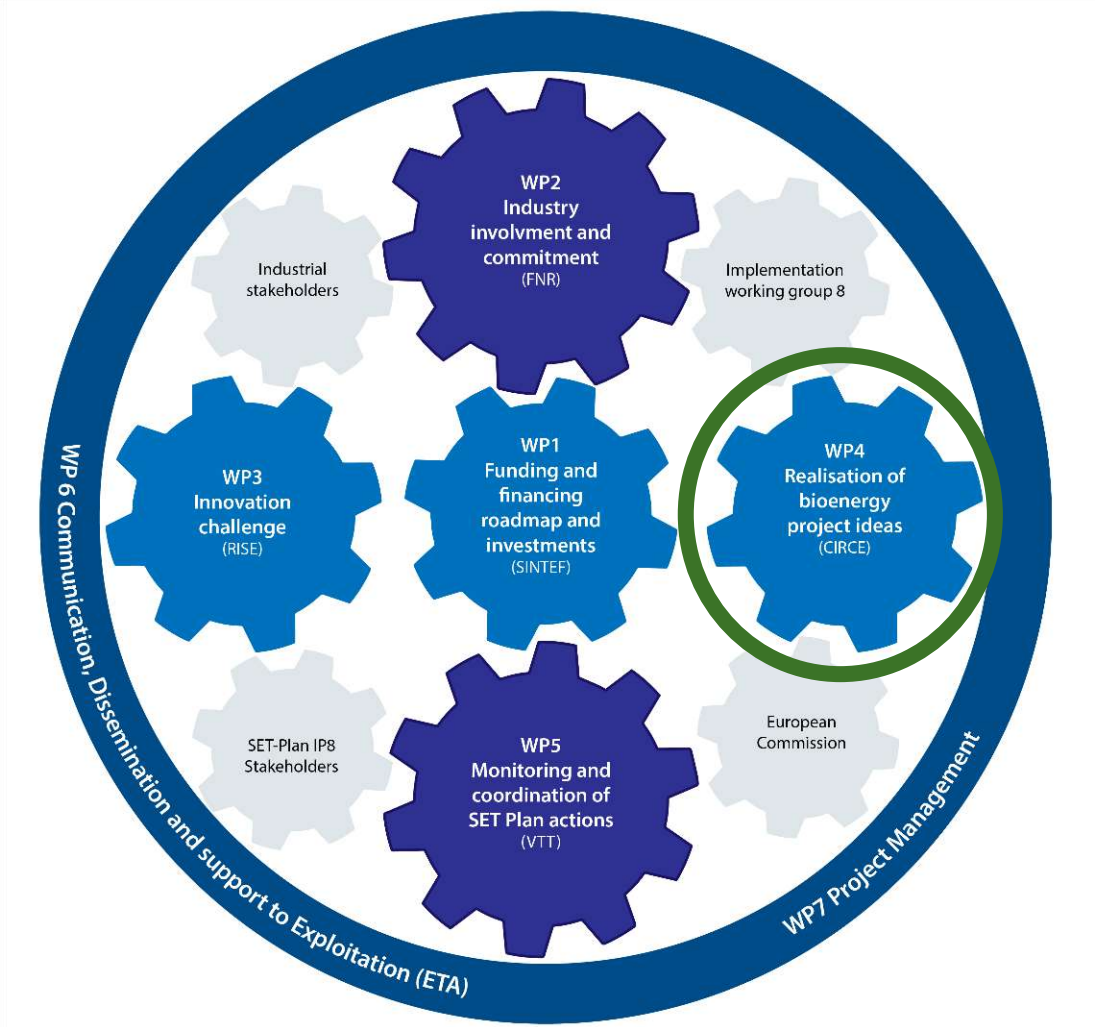
circe
RESEARCH CENTRE
FOR ENERGY RESOURCES
AND CONSUMPTION

SET4BIO

SET4BIO

To support project developments in the area of bioenergy and renewable fuels

SET4BIO


WP2
Industry involvment and commitment
(FNR)
Industrial stakeholders
Implementation working group 8
WP3
Innovation challenge
(RISE)
WP1
Funding and financing roadmap and investments
(SINTEF)
WP4
Realisation of bioenergy project ideas
(CIRCE)
SET-Plan IP8 Stakeholders
WP5
Monitoring and coordination of SET Plan actions
(VTT)
European Commission
WP 6 Communication, Dissemination and support to Exploitation (ETA)
WP7 Project Management

What is needed

- Both technical, financial and regulatory supports are requested.
- Financial:
  - Support of different technologies (technology-neutrality) all along project lifecycle and supply chain.
  - Balance between targeted support (e.g. SMEs, and spin-offs) and bottom-up approach.
  - Support to identify suitable financial instruments. Access to finance.
- Regulatory:
  - Supportive regulatory framework.
  - Careful to State Aid Rules (GBER).
- Technical: less requested, but market knowledge.

What is missing?

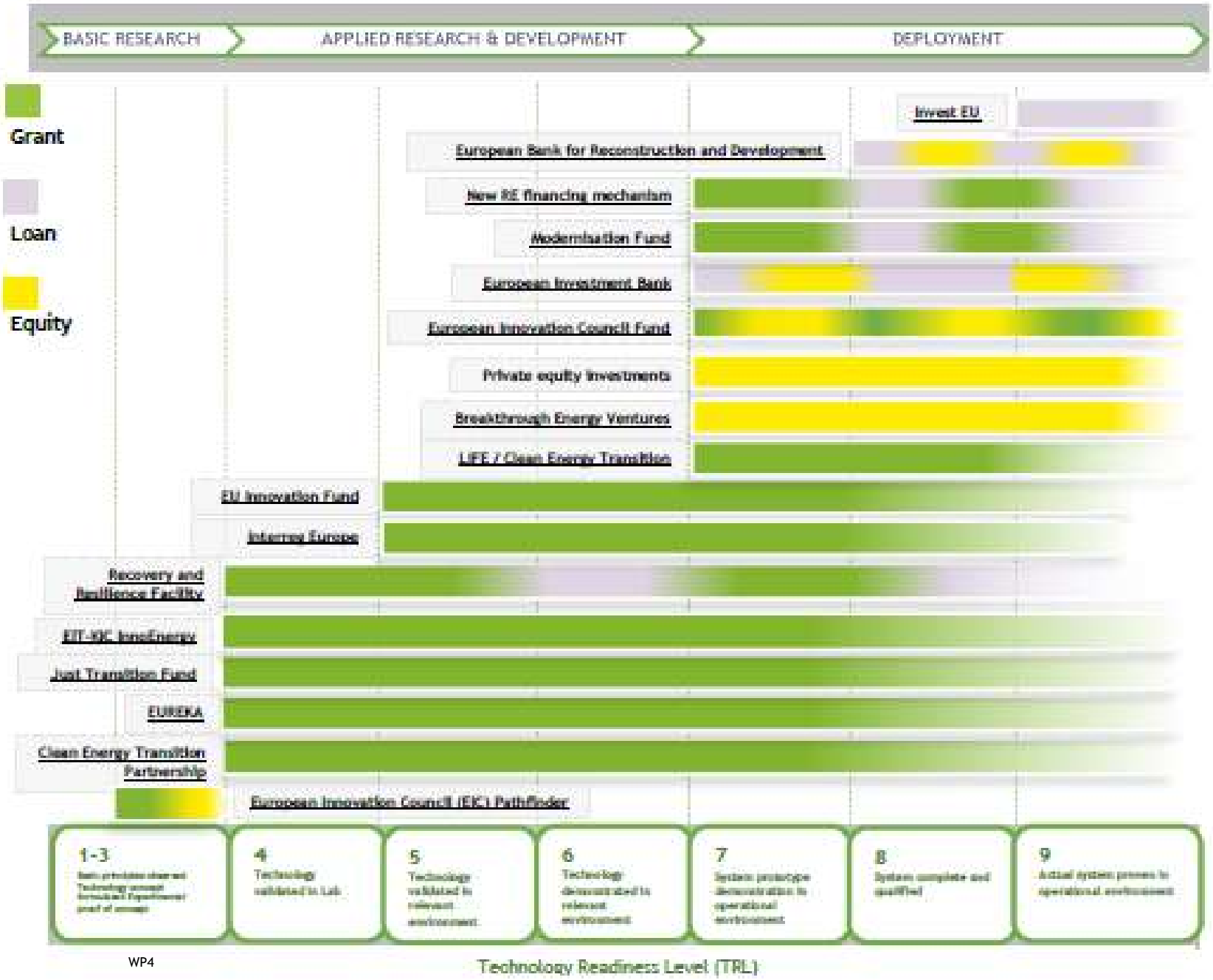
- Tailor-made funding programmes (e.g. to support large projects scale up): what is role for public funds? Rather focus on attracting private funds.
- Current support programmes must be improved by incorporating supports dedicated to specific fuels, e.g sustainable aviation fuels.
- Market validation.
- Business model development.
- Example of US initiative: to support defined industries and tax reductions in general 30%, 40% if investments is done in low income areas and additional 10% if done in minority regions such as reservations.

What is your experience?

Do you agree?

What is needed?

What is missing?


BASIC RESEARCH
APPLIED RESEARCH & DEVELOPMENT
DEPLOYMENT
Grant
Loan
Equity
Invest EU
European Bank for Reconstruction and Development
New RE financing mechanism
Modernisation Fund
European Investment Bank
European Innovation Council Fund
Private equity investments
Breakthrough Energy Ventures
LIFE / Clean Energy Transition
EU Innovation Fund
Interreg Europe
Recovery and Resilience Facility
EIT-KIC InnoEnergy
Just Transition Fund
EUREKA
Clean Energy Transition Partnership
European Innovation Council (EIC) Pathfinder
1-3
4
Technology validated in Lab
5
6
7
8
9
Technology Readiness Level (TRL)

https://www.etipbioenergy.eu/set4bio

Outputs and resources (etipbioenergy.eu)

Project Partners

www.set4bio.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 884524

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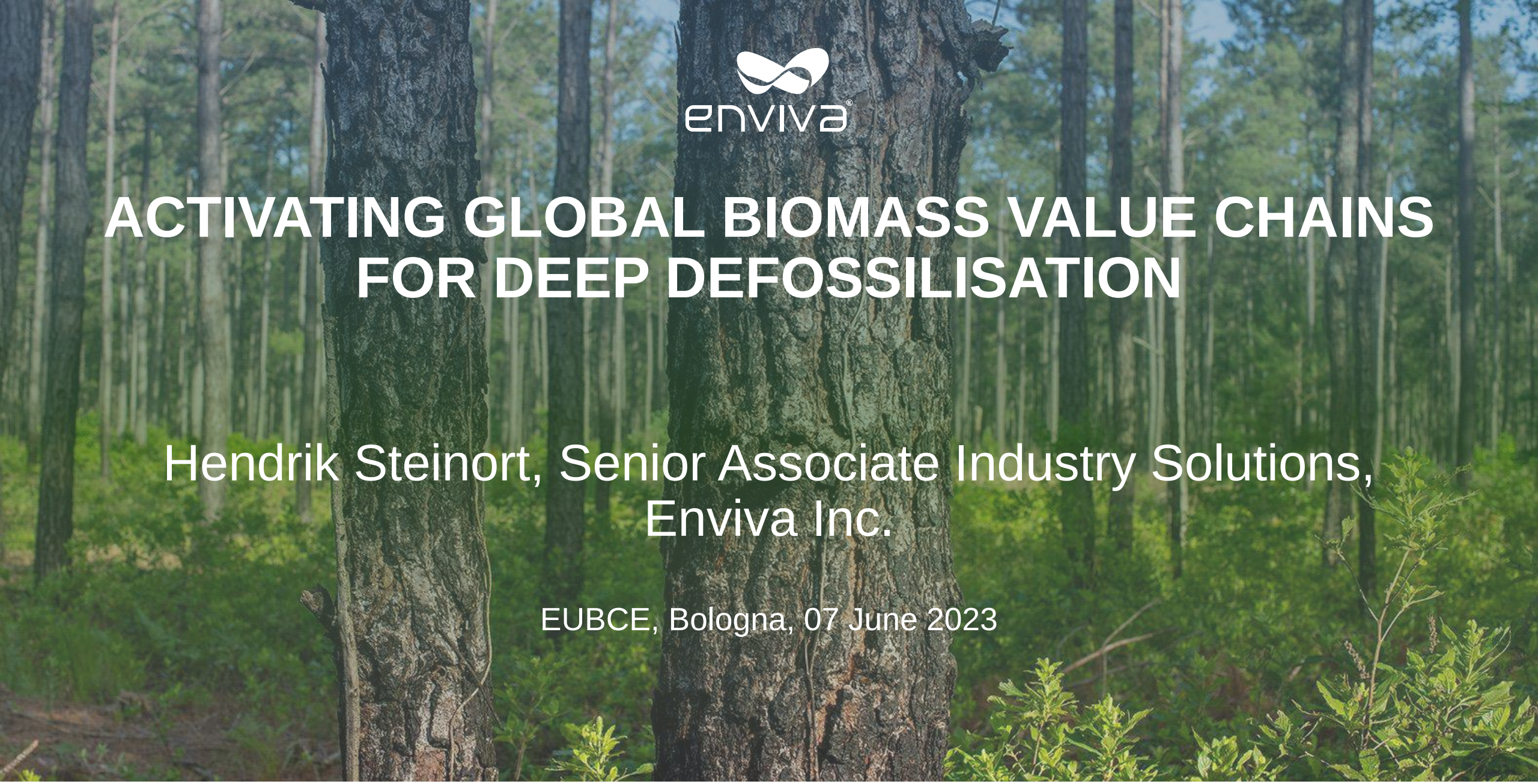
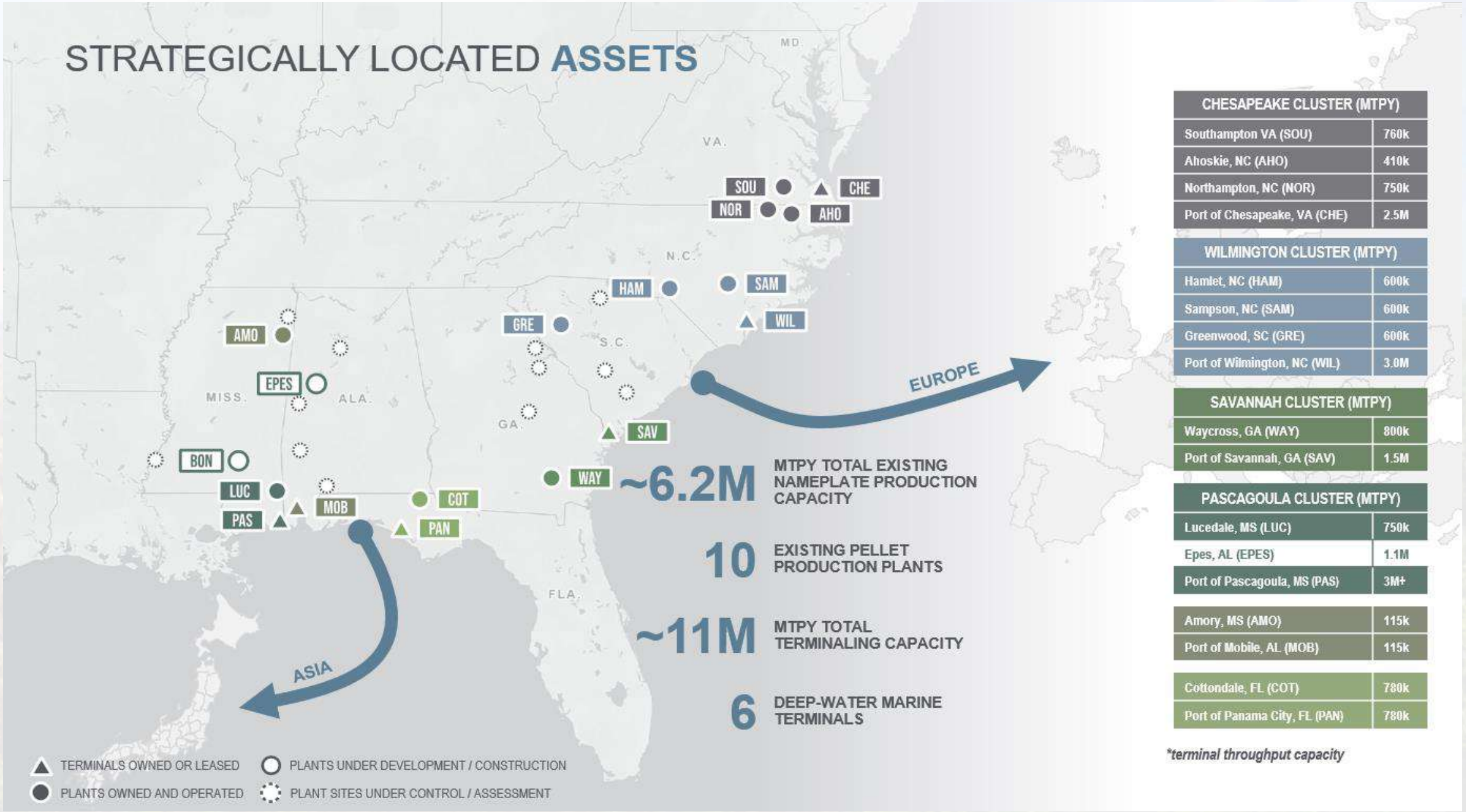


ACTIVATING GLOBAL BIOMASS VALUE CHAINS FOR DEEP DEFOSSILISATION

Hendrik Steinort, Senior Associate Industry Solutions,
Enviva Inc.

EUBCE, Bologna, 07 June 2023

ENVIVA AT A GLANCE



CHESAPEAKE CLUSTER (MTPY)	
Southampton VA (SOU)	760k
Ahoskie, NC (AHO)	410k
Northampton, NC (NOR)	750k
Port of Chesapeake, VA (CHE)	2.5M

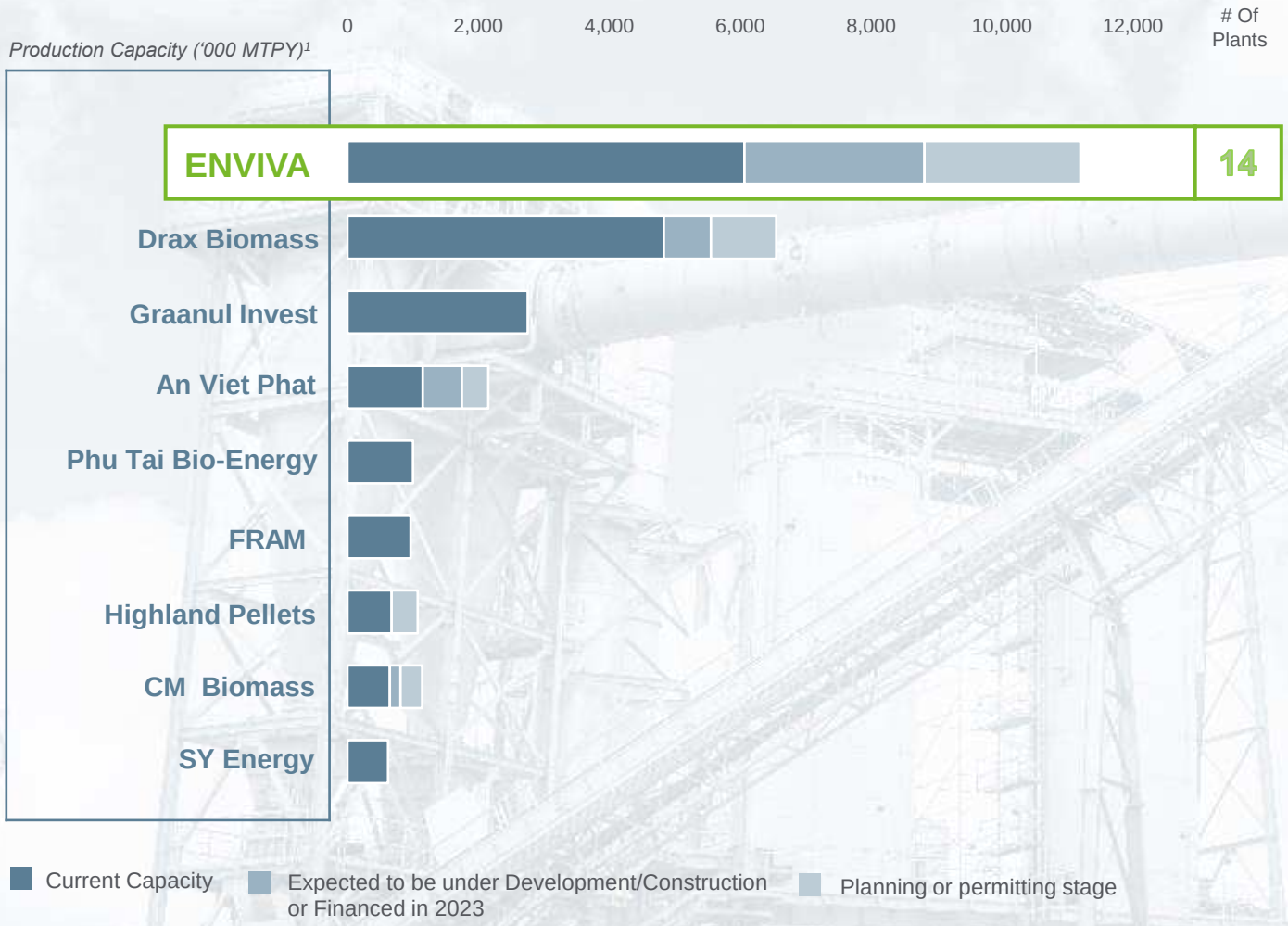
WILMINGTON CLUSTER (MTPY)	
Hamlet, NC (HAM)	600k
Sampson, NC (SAM)	600k
Greenwood, SC (GRE)	600k
Port of Wilmington, NC (WIL)	3.0M

SAVANNAH CLUSTER (MTPY)	
Waycross, GA (WAY)	800k
Port of Savannah, GA (SAV)	1.5M

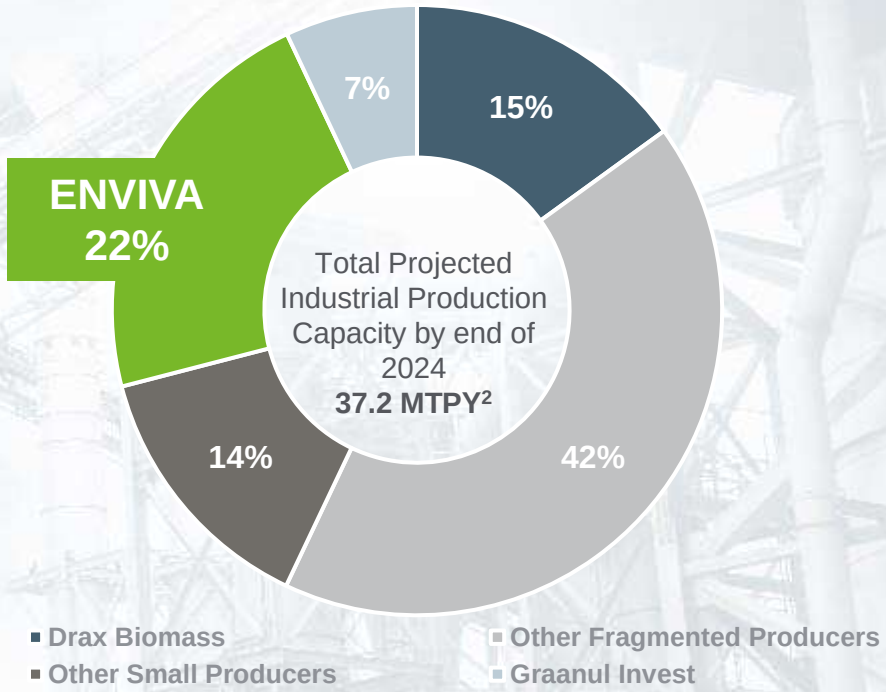
PASCAGOULA CLUSTER (MTPY)	
Lucedale, MS (LUC)	750k
Epes, AL (EPES)	1.1M
Port of Pascagoula, MS (PAS)	3M+
Amory, MS (AMO)	115k
Port of Mobile, AL (MOB)	115k
Cottondale, FL (COT)	780k
Port of Panama City, FL (PAN)	780k

*terminal throughput capacity

GLOBAL SCALE PROVIDES DURABLE COMPETITIVE ADVANTAGES



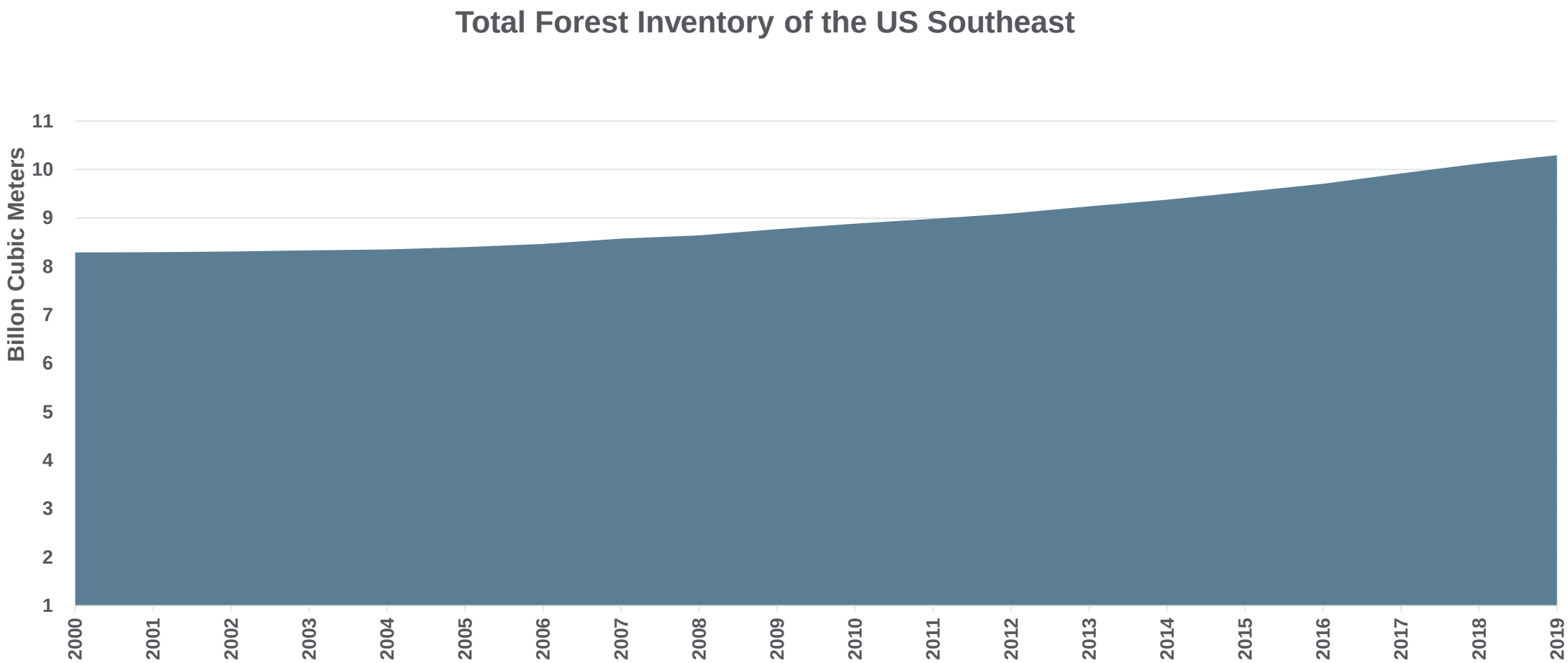
Global Industrial Wood Pellet Capacity by End of 2024[2]



Enviva is the world's largest supplier of utility-grade wood pellets in a highly fragmented industry with numerous small, single-plant operators and is frequently the sole-source supplier for its customers

See Supplemental Information for endnotes

SINCE 2000 FOREST INVENTORY IN THE U.S. SOUTHEAST HAS **INCREASED BY 24%**



TRIPLE-LOCKED SUSTAINABILITY

European Union – RED II & III

- Legal harvesting
- Forest regeneration
- Nature protection areas untouched
- Considers soil quality and biodiversity
- **Maintains/ improves long-term product capacity of the forest**

US Federal and State Law

- Endangered Species Act
- Clean Water Act
- Best Management practices ensure sustainable management
- Some of **strictest standards in the world**

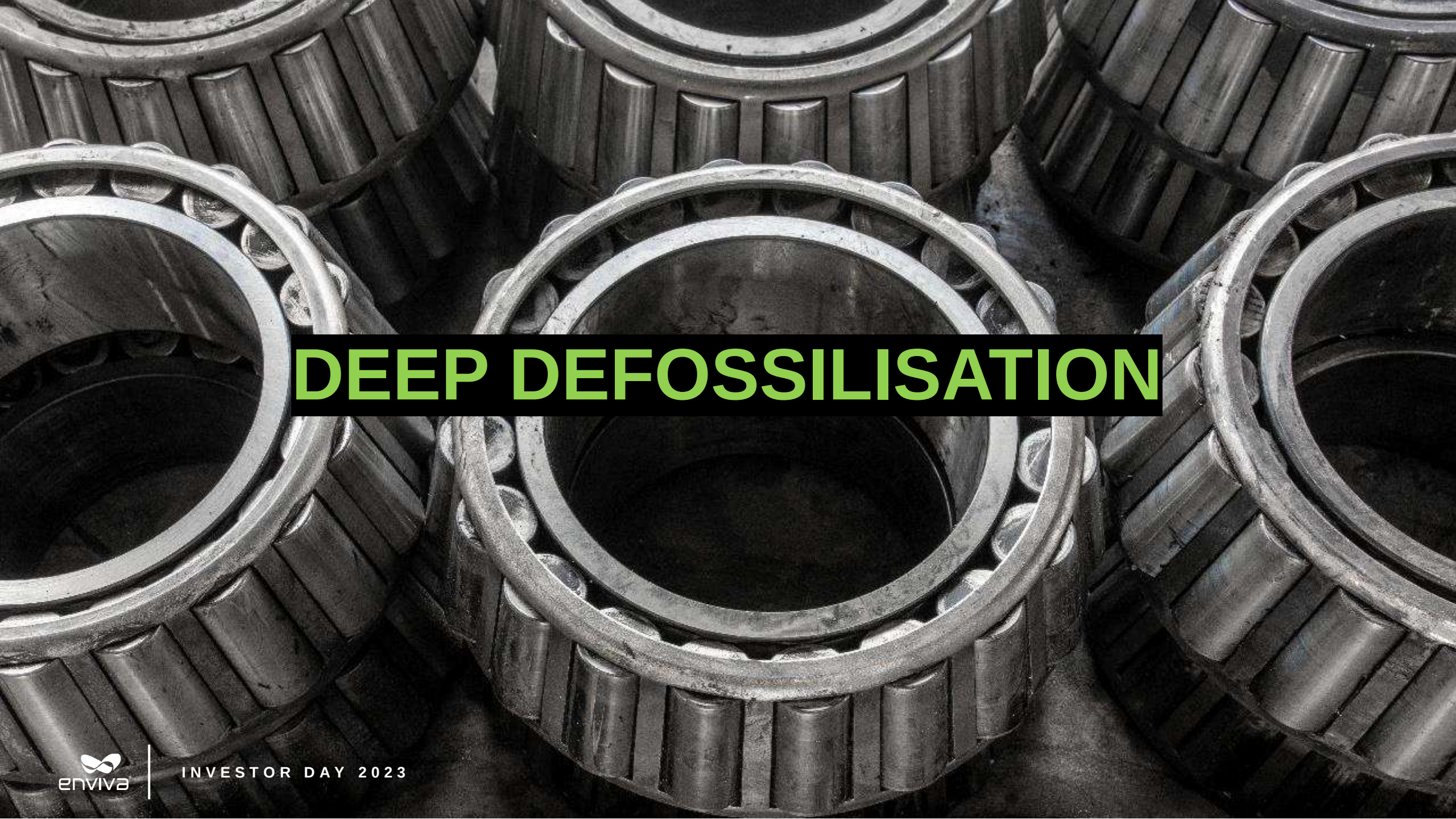
Third-party certification

Compliance through **independent**, risk-based forestry certifications from **internationally-recognized schemes.** Audited annually.

SUSTAINABLE FORESTRY INITIATIVE SFI-01203

FSC www.fsc.org FSC® C110565

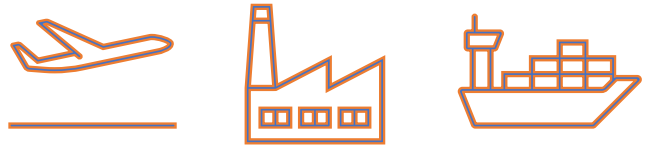
PEFC PEFC/29-31-238


DEEP DEFOSSILISATION

FROM HEAT & POWER TO HEAVY INDUSTRY & TRANSPORT

DEFOSSILISING POWER & HEAT

Scalable renewable source of dispatchable power and heat today.



DEFOSSILISING HARD-TO-ABATE SECTORS

Scalable renewable solution for industry, shipping and aviation

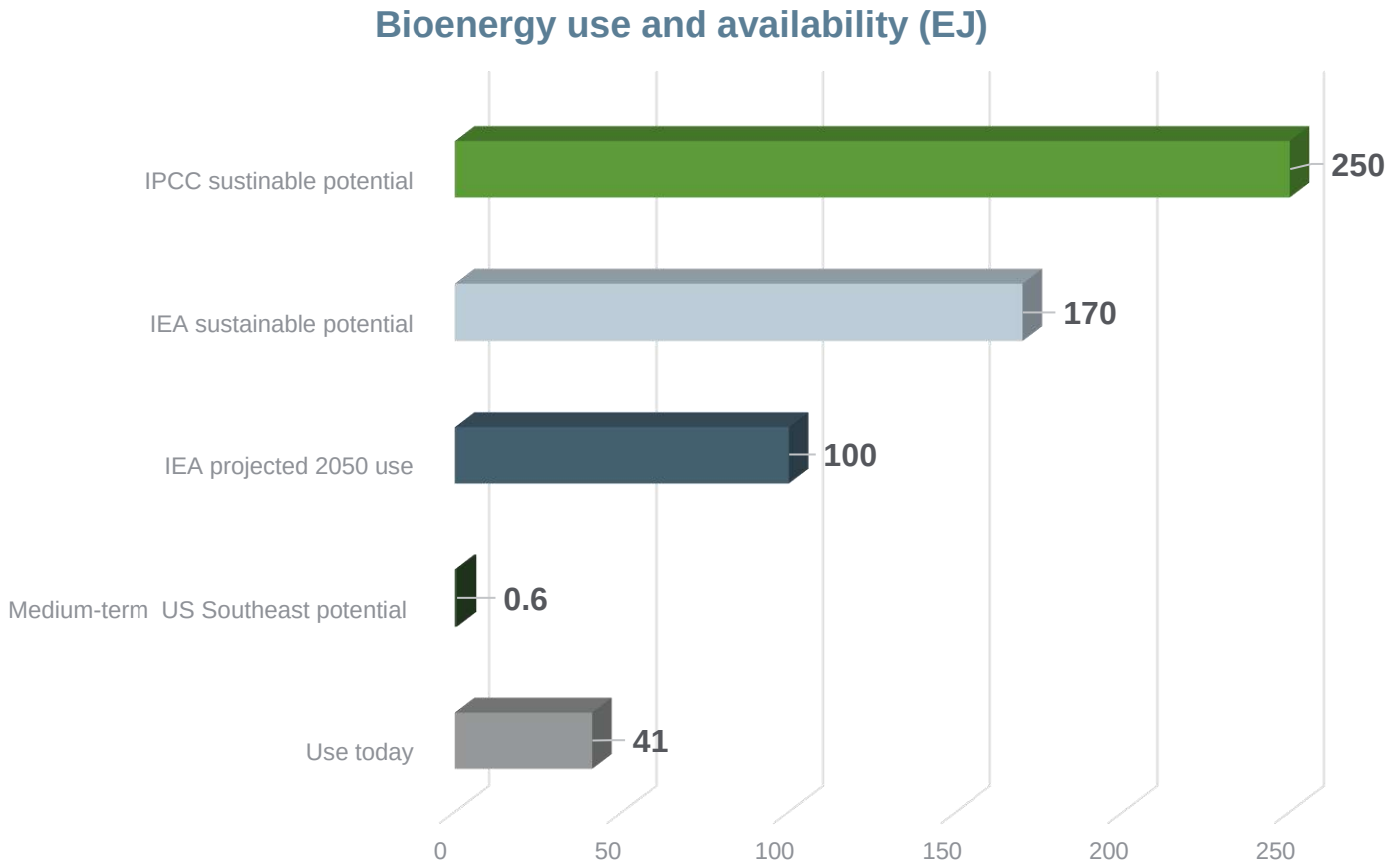
Today's power and heat supply chains are the foundation for tomorrow's industrial bioeconomy

BIOMASS – LIMITED BUT NOT SCARCE

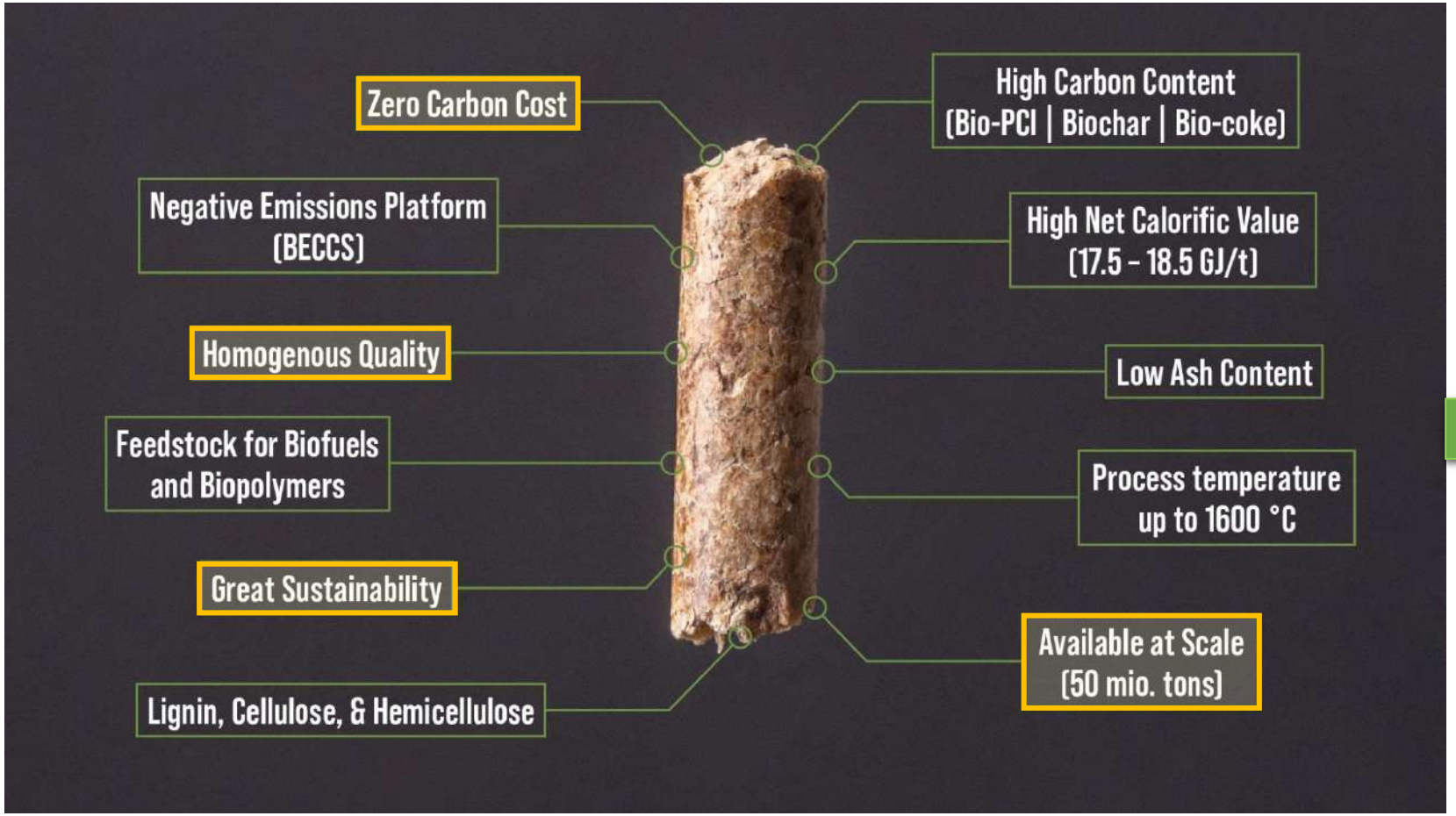
US Southeast production can **grow sustainably to capture up to** 350 million dry tonnes/a for the bioeconomy in the medium term

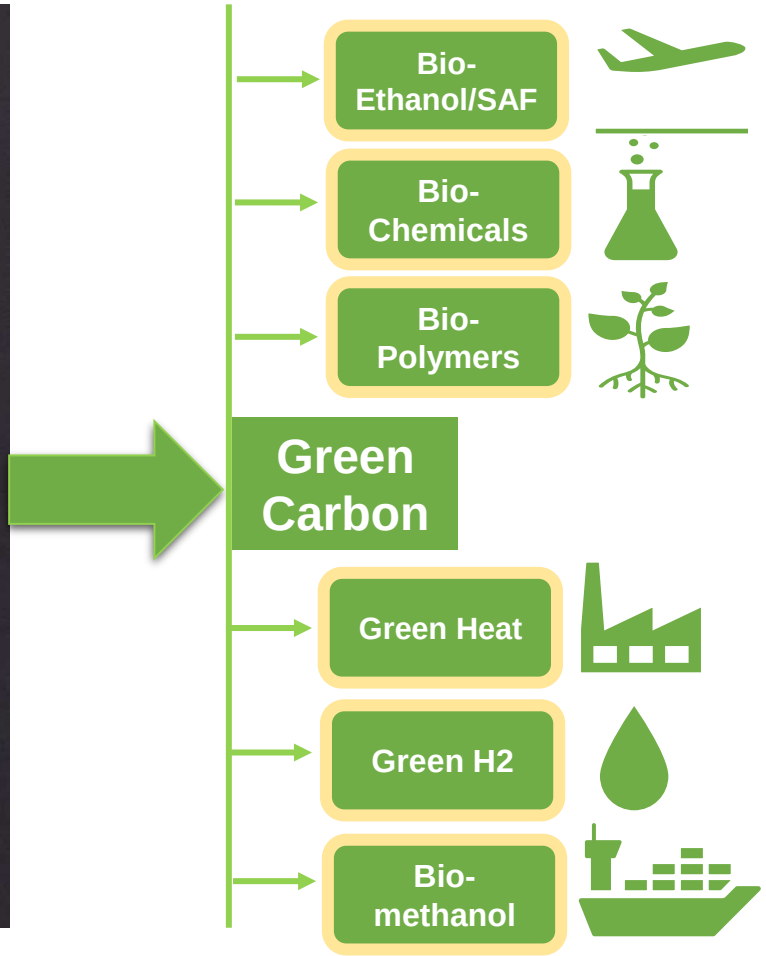
IEA projects 100EJ of bioenergy by 2050 – only 58% of sustainable potential

Demand in median **IPCC** 2050 scenario is **three and half times** today's use, just under sustainable potentials



VERSATILE BENEFITS OF WOODY BIOMASS





WHERE IS THE FUTURE **DEMAND FOR BIOMASS?**

LIME & CEMENT

TRANSPORT FUELS & SAF

STEEL & METALS

BIOPLASTICS

Factoring in the cost of carbon abatement, biomass is the **cheapest option.**


INVESTMENT SECURITY
enviva

Investment variables to be considered

	**Investor Security 1**	**Government to Government** – strategic partnerships – how about considering Biogenic C as a industry transition resource? **B2B** – Credential companies can de-risk investment into non-existing or emerging value chains	Emerging industry trends need to be considered geopolitically and legally
	**Investor Security 2**	Cost plus with Balance sheet partner Fixed price and credit support with Developer/project finance	Pricing and financing
	**Location**	Supplying locally potentially saves on logistics Supplying regionally/ internationally reduces dependency	Pursue in parallel Co-invest/integrate

Investment variables to be considered

 **Feedstock spec**	Narrow spec can reduce cost for bio-refinery Wider spec de-risks when bio-refiner is not operating	Have plan-B to re-work material
 **Technology**	Novel technology can offer improved (paper) returns Tested technology can increase leverage	Small for new Big for tested
 **Pricing and financing**	Pricing based on bio-refinery output can improve prices and reduce financing costs for bio-refiner Pricing based on feedstock costs lowers risk	Balance sheet partner for input based Project finance and/or pass through to output off-take pricing

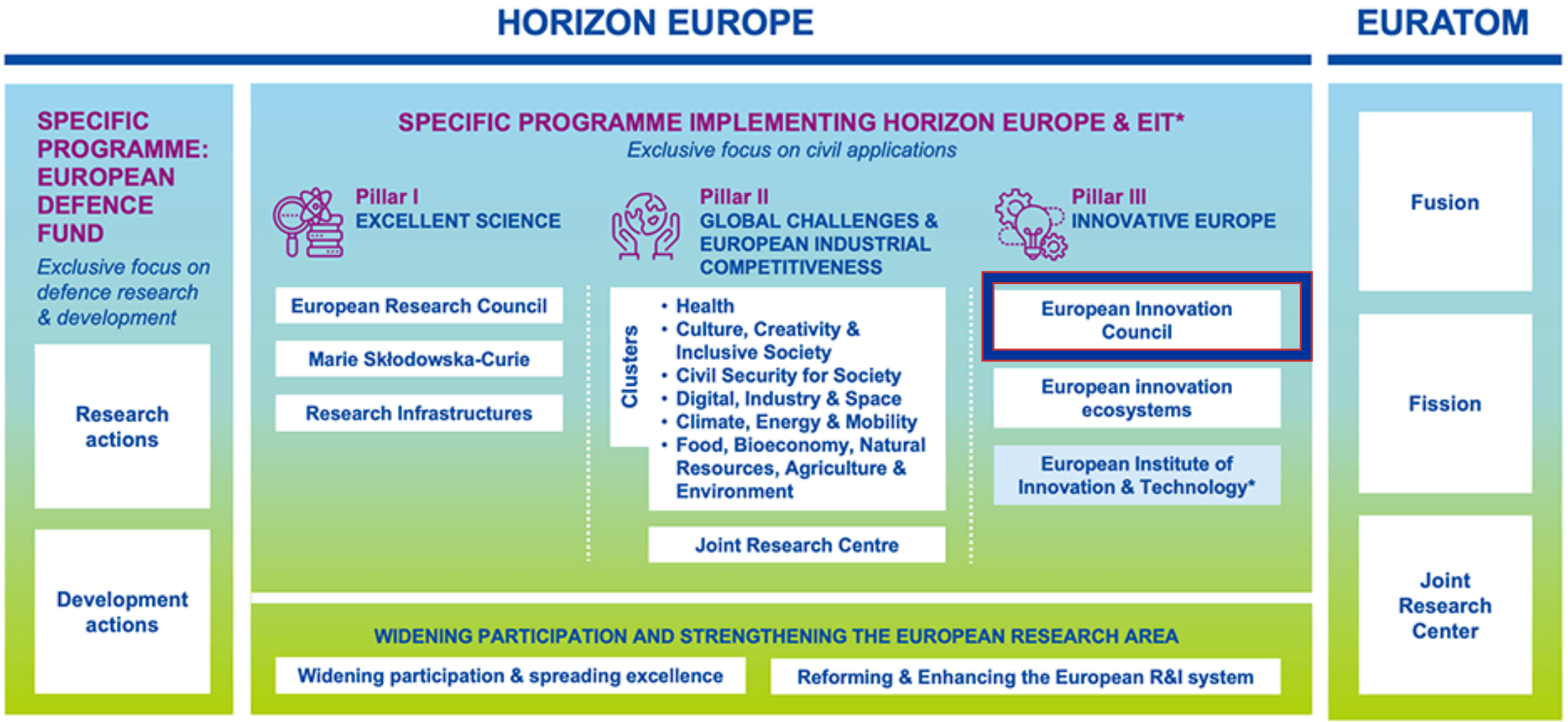
European Innovation Council

Backing visionary entrepreneurs

European Biomass Conference
Marco Pantaleo
Programme manager
energy systems and green technologies
7th June 2023

Horizon Europe Structure

European Innovation Council



* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme

EIC main instruments and characteristics

European Innovation Council

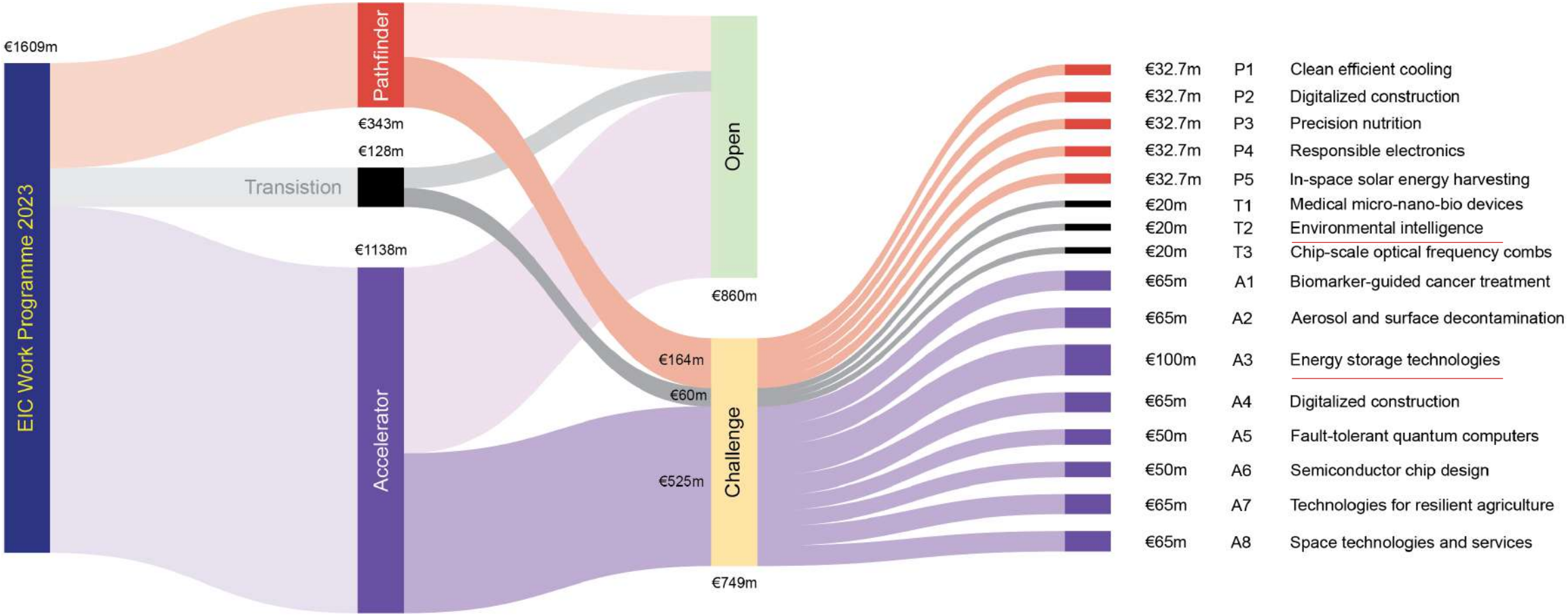
Pathfinder
- **Early stage research** on breakthrough technologies
- Grants up to €3/4 million
- Successor of FET (Open & Proactive)

Transition
- **Technology maturation** from proof of concept to validation
- **Business & market readiness**
- Grants up to €2.5 million

Accelerator
- **Development & scale up** of deep-tech/ disruptive innovations by startups/ SMEs
- Blended finance (grants up to €2.5 million; equity investment up to €15 million)
- Successor of SME instrument

- Focus on **breakthrough, market-creating, deep-tech innovations**
- Steered by **EIC Board** of leading innovators (entrepreneurs, investors, researchers, ecosystem)
- **Business Acceleration Services** (coaches/ mentors, corporates, investors, ecosystem)
- **Pro-active management by EIC Programme Managers**
- **Follow up funding for results from Horizon** (ERC, EIT, collaborative) & national programmes

In 2023 EIC allocates ~€1.6bn to Open and Challenge calls by its Pathfinder, Transition, Accelerator programs



European Innovation Council

EIC main calls in 2023 – overview

European Innovation Council

Accelerator	Open	11 January 2023 closed 32 selected companies	Budget open ~€613m (~grant/equity)
	Open & Challenges	Cut-off dates 22 March 2023 (closed), **7 June 2023, 4 October 2023** Interview weeks (tentative) May 22 – June 2, September 11 – 22, November 27 – December 8	Budget challenges ~€525m (~grant/equity)
Pathfinder	Open	7 March 2023	~€179.50m
	Challenges	18 October 2023	~€163.50m
Transition	Open	12 April 2023	~€67.86m
	Challenges	27 September 2023	~€60.5m

5

PM Roles: policy and implementation

European Innovation Council

Strategic intelligence, selection of candidate challenges, chair evaluation (pathfinder) and portfolio implementation

Clustering projects in thematic portfolios, enhance cross-sectorial contaminations and serendipity

Scientific knowledge + networking + entrepreneurial vision: research into innovation

Scientific intelligence and Proactive Management

Outreach to R&I stakeholders, synergies with EU programmes and engagement with innovation ecosystem community

The EIC Programme Managers

https://eic.ec.europa.eu/eic-communities/eic-programme-managers_en

European Innovation Council

Carina Faber

Renewable energy conversion and alternative resource exploitation

Samira Nik

Quantum tech and electronics

Isabel Obieta

Responsible electronics

Antonio Marco Pantaleo

Energy systems and green technologies

Francesco Matteucci

Advanced materials for energy and environmental sustainability

Stella Tkatchova

Space systems and technologies

Iordanis Arzimanoglou

Health and biotechnology

Enric Claverol-Tinturé

Medical technologies and medical devices

Ivan Stefanic

Food chain technologies, novel & sustainable food

Franc Mouwen

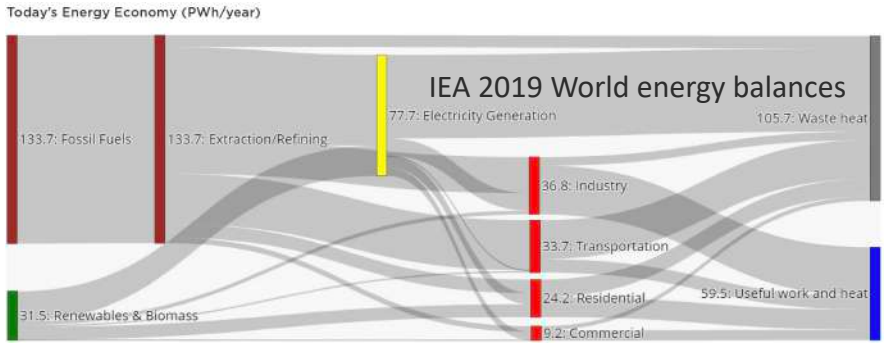
Architecture engineering construction technologies

R&I priorities for the energy transition

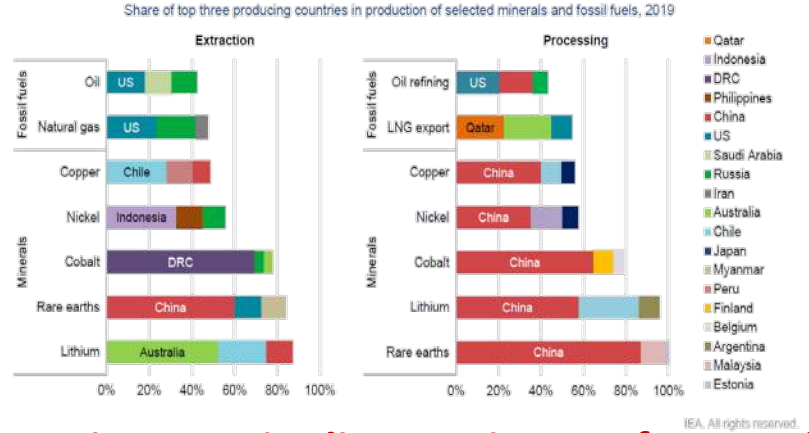
European Innovation Council

1.Final use of energy (renewable valleys, energy saving and efficiency, digital transition)
2.Circularity and security (reuse and recycle, critical materials, domestic resources)
3.Systems integration (sectors coupling, industrial symbiosis, reconversion infrastructures)
4.Broader views (food-water-energy, biodiversity-climate change)

Circular Economy Action Plan
The European Green Deal



64% of primary energy is lost

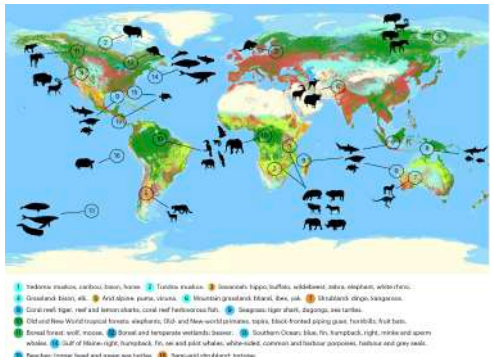


EU: 75% to 100% reliant on import for metals

- Fit for 55%
- RepowerEU, RefuelEU
- Green deal industrial plan
- Net zero industry act
- Critical raw materials act
- Electricity market design

UN environment program, 2020

Emissions from materials production
CO2 becomes a resource



Nature Climate Change
Vol 13, April 2023

Nature climate solutions and biodiversity

Key needs for innovation:
speed, simplicity, scale
(Complexity reduction act)

EIC Cleantech challenges

European Innovation Council

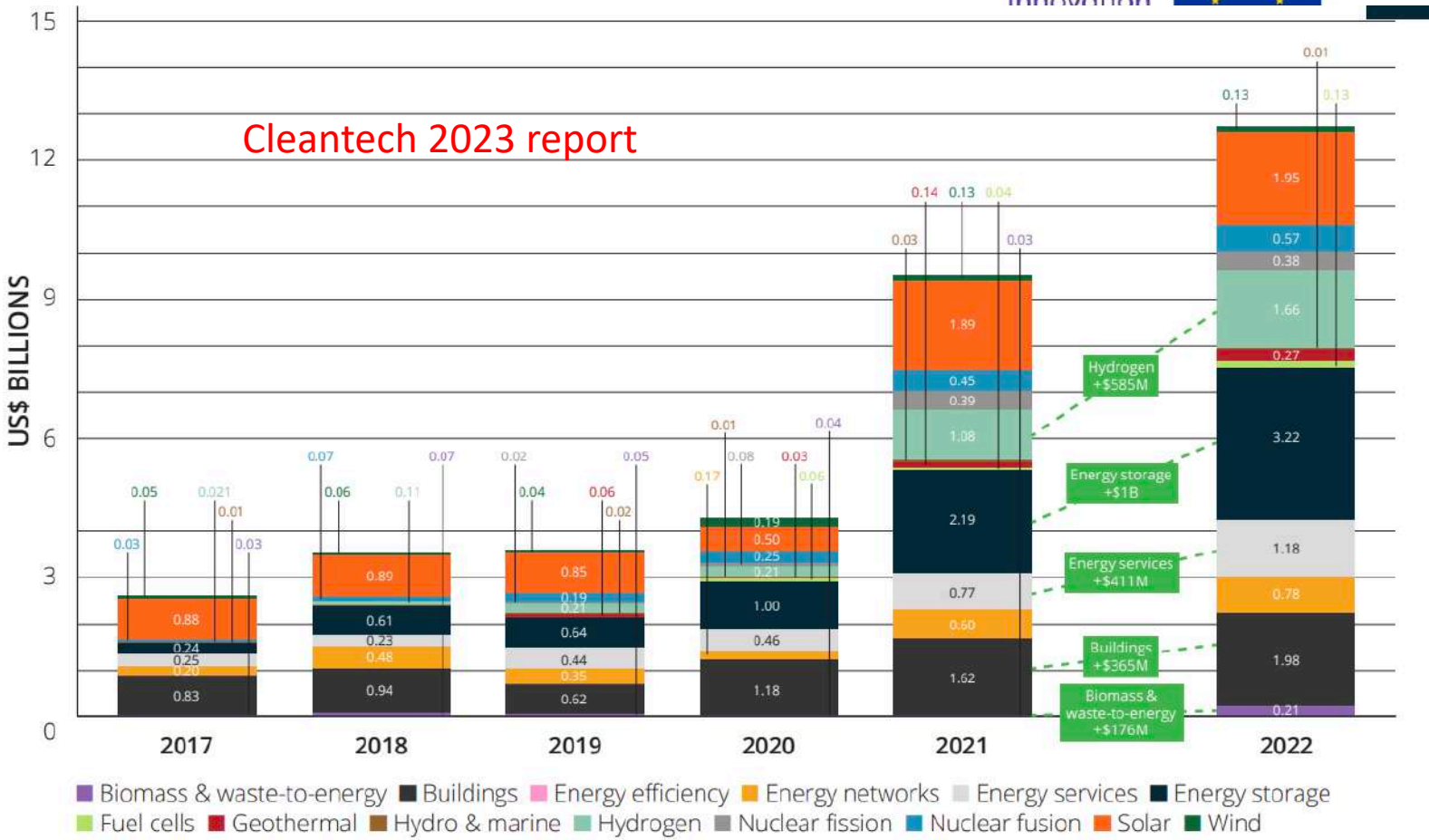
EIC Challenges 2021			
	Pathfinder	**Transition**	**Accelerator**
Cleantech	• Novel routes to green hydrogen production (Portfolio kick off meeting October 2022)	• Energy harvesting and storage technologies	• Green Deal innovations for the economic recovery

EIC Challenges 2022			
	Pathfinder	**Transition**	**Accelerator**
Cleantech	• Carbon dioxide & Nitrogen management and valorisation (final retained list end March 2023) • Mid-long term, systems-integrated energy storage (final retained list end March 2023)	• Process and system integration of clean energy technologies • Green digital devices for the future	• Technologies for 'Fit for 55'

EIC Challenges 2023			
	Pathfinder (32.7mln Euro)	**Transition (20mln Euro)**	**Accelerator (100mln Euro)**
Cleantech	• Clean and efficient cooling (submission deadline 18th October 2023)	• Environmental Intelligence (submission deadline 12th April and 27th September 2023)	• Energy Storage (submission deadline 22nd March, 7th June, 4th October 2023)

Portfolios

- Green hydrogen generation and uses
- Energy storage and systems integration
- CO2 and N management valorization
- Energy harvesting and conversion
- Clean cooling and cold chains
- Energy services and digital solutions



Future research and innovation trends (MNR, georeactors and deep geothermal, sustainable mining/sea mining, materials substitution, solar chemistry, click chemistry..)

H2 and CO2 use for food, feed and materials

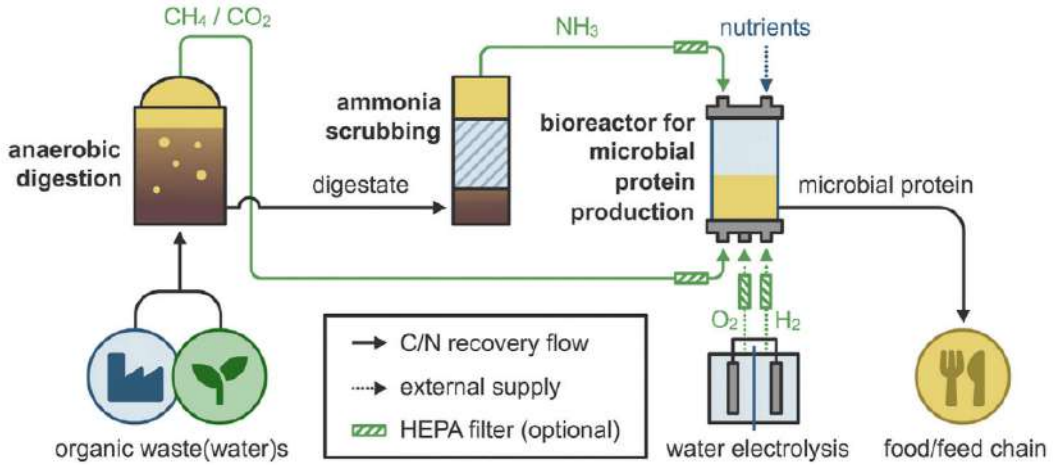
European Innovation Council

Pathfinder challenge on CO2 and N management and valorization.
Portfolio diversification:

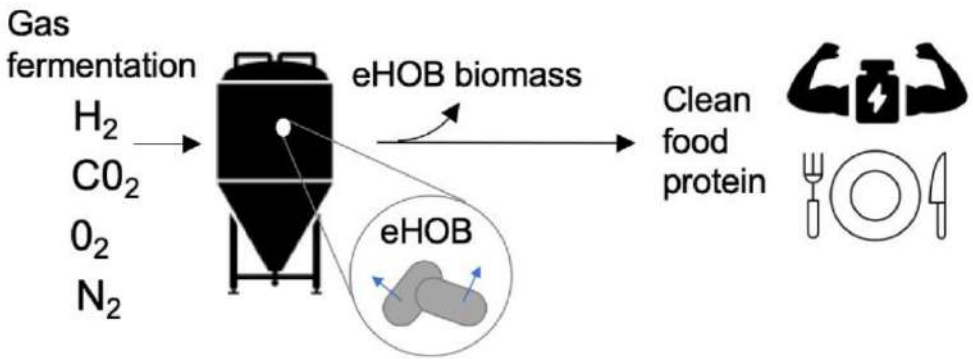
A) Photoelectrochemical, photochemical, chemical
B) Thermal
C) Electrochemical
D) Biological
E) Hybrid (two equally important technologies)

Priority to final use for:

Food, feed, materials, chemicals, energy carriers



H2 and CO2 for food



Microbial Protein Through CoCultivation of Methane and Hydrogen Oxidizing Bacteria. Front. Bioeng. Biotechnol. 9:733753. doi: 10.3389/fbioe.2021.733753

Follow-up on CO2/N-compound call

European Innovation Council

Challenge guide: strategic intelligence

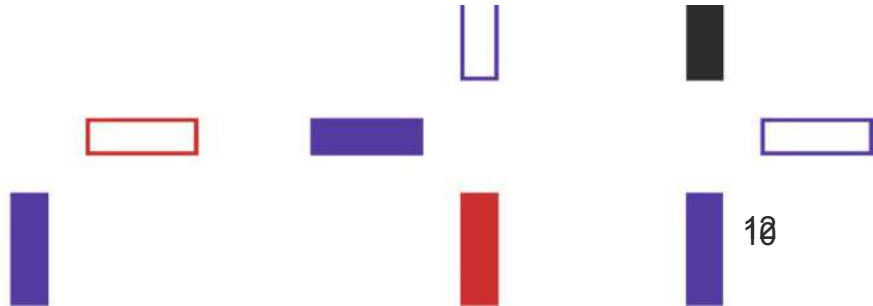
100 proposals received – 63 above the threshold – 25 above 4.5 final score

CO2 – N compounds system integrated solutions with many breakthrough innovations

CO2 – N compounds potential applications in sustainable fertilizers, food feedstock, chemical feedstock

How is it possible to not waste such a HUGE scientific/innovation potential ?

EIC enabler of new science-based innovation technologies



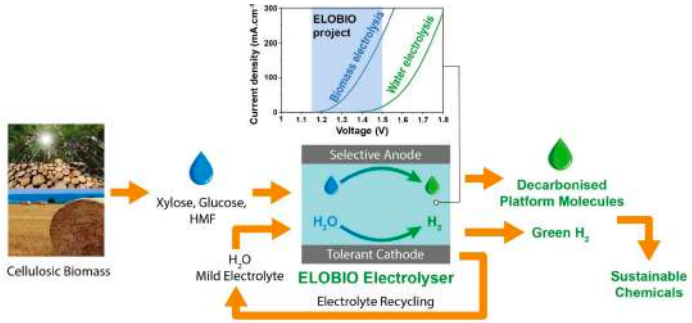
Green H2 generation portfolio: systems integration and biomass feedstock

European Innovation Council

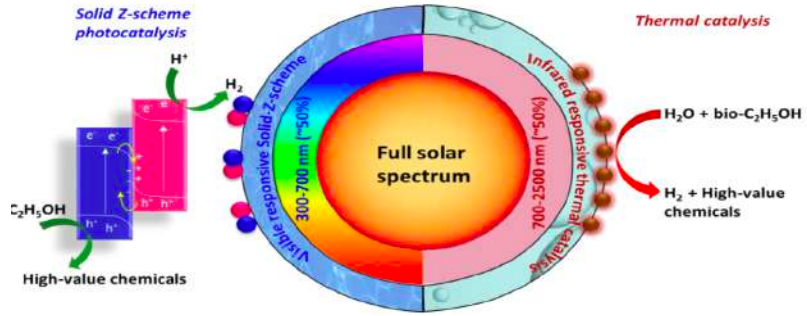
Sustainable local biomass for co-electrolysis or reforming to H2 and chemicals or materials

Portfolio activities on biomass supply, bio-chemicals markets, biorefineries integration, added values

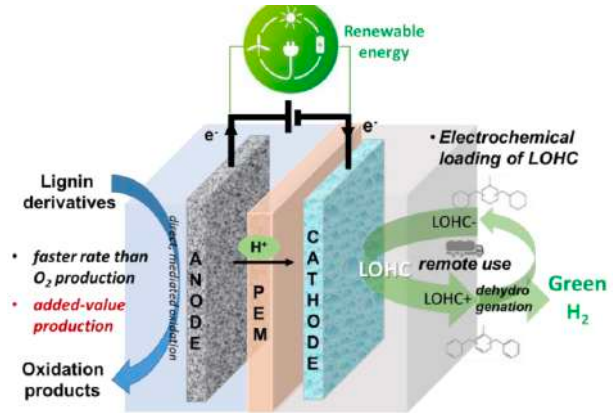
Synergies with CBE JU for biobased materials production



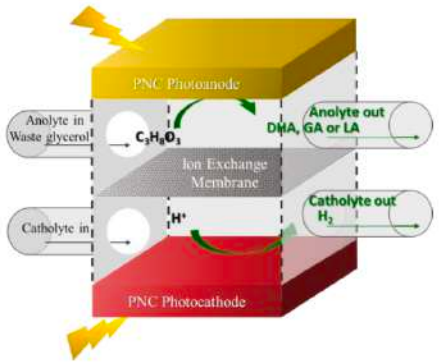
ELOBIO: Cellulose and hemicellulose



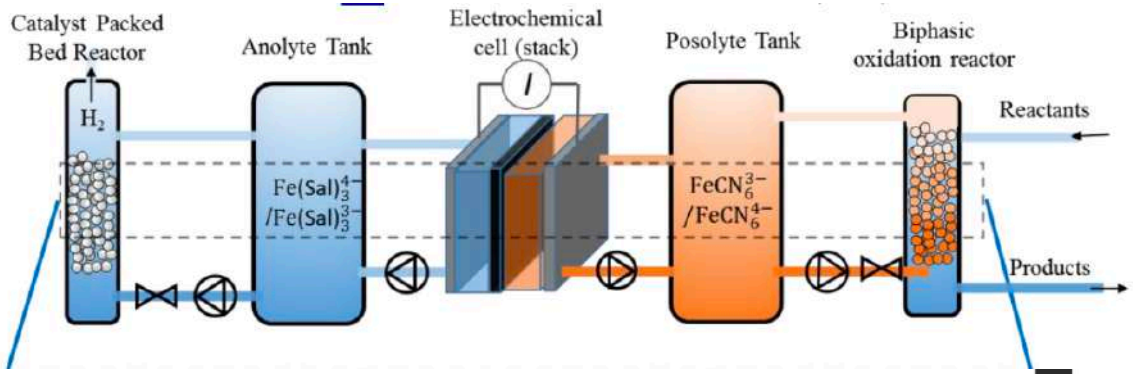
GH2: bioethanol and photoelectrolysis



EPOCH: Lignin to chemicals and LOHC



Ophera: glycerol



Dualflow: redox flow battery and H2 electrolysis with mediated oxidation of cellulose to chemicals

Integration H2 production and storage

Integration of energy storage technologies (mid and long duration)

Green Hydrogen: research and innovation needs

European Innovation Council

- Integration of hydrogen (sector coupling, CO2 capture, water)
- Non critical raw materials for H2 generation
- Final uses of H2: cascade applications (chemicals, materials, SAF)
- Biomass to H2 pathways: biorefineries and biochar
- Long distance transport: the unbearable lightness of H2
- Solar chemistry

Green Hydrogen: pathfinder and transition

European Innovation Council

Hydrogen

Production				Use: Fuel cells	Use: Solar fuel	Use: Other
Photocatalysis	101046836 CATART	101070721* GH2	101071010* OPHERA	665085 DIACAT	732840 A-LEAF	951880 HiPowAR
AEM-EL	964972 SpinCat	101071111* ANEMEL		686585 LIAR	828838 SoFiA	101017709 EPISTORE
PEM-EL	101070976* EPOCH	101069981* MacGhyver			851246 ALICE	
Thermal	665318 HELENIC-REF	101070741* H2STEEL			899576 FuturoLEAF	
Biological	101070788* PhotoSynH2					
Hybrid	101070788* DualFlow					
CH4 Decomposition	952219 112CO2					

Storage	Other
952068 LESGO	9519949 NANOSTACKS

*Project is part

NEWS ARTICLE | 25 November 2022 | European Innovation Council and SMEs Executive Agency

European Innovation Council and SMEs Executive Agency (EISMEA) and Clean Hydrogen Joint Undertaking start collaboration on hydrogen

Pathfinder challenge on green H2 generation

Challenge definition: integration, circularity, raw materials

Portfolio composition: diversification, shared components

Not exhaustive list of accelerator projects

European Innovation Council

EIC Accelerator – Hydrogen Portfolio

Production

Formic Acid Reforming

190141200
DENS X4

CH4 Decomposition

190188862
South Beach

Electroachea

Storage

Solid State

190190812
H2Genx

Liquid Storage

101009244
HYDROSIL

Use

Fuel cells

945810
EHSTACK

823620
BestinclassSOFCs

Power-to-X

970564
IMPOWER2X

GAFT

Combustion Engine

953629
H2Engine

Other

H2 Refueling

968107
MOBHYLE

Biogas Upgrade

101010563
GREENMEN

FC for Drones

859655
UAVEndure II

Regenerative FC/EL

946442
Powerbox

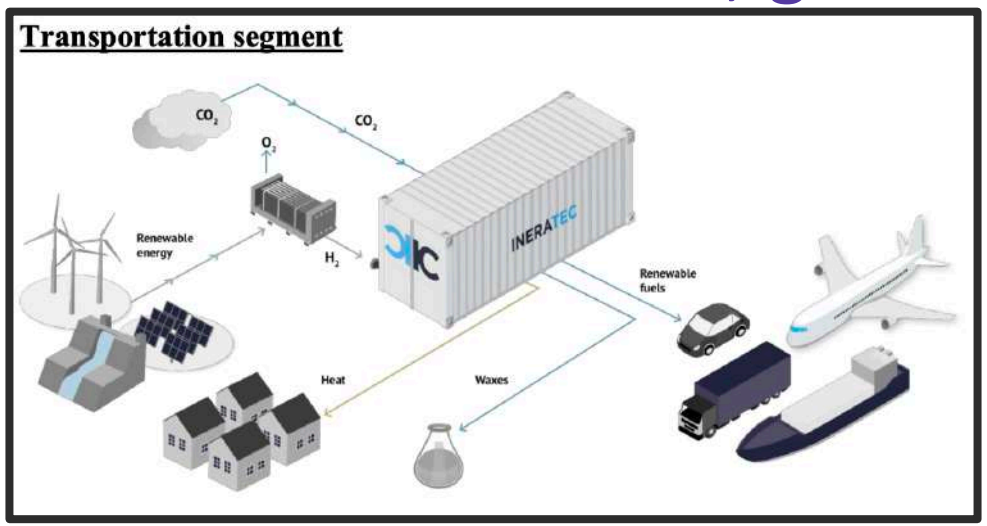
Compression System

880644
FC-eCompressor

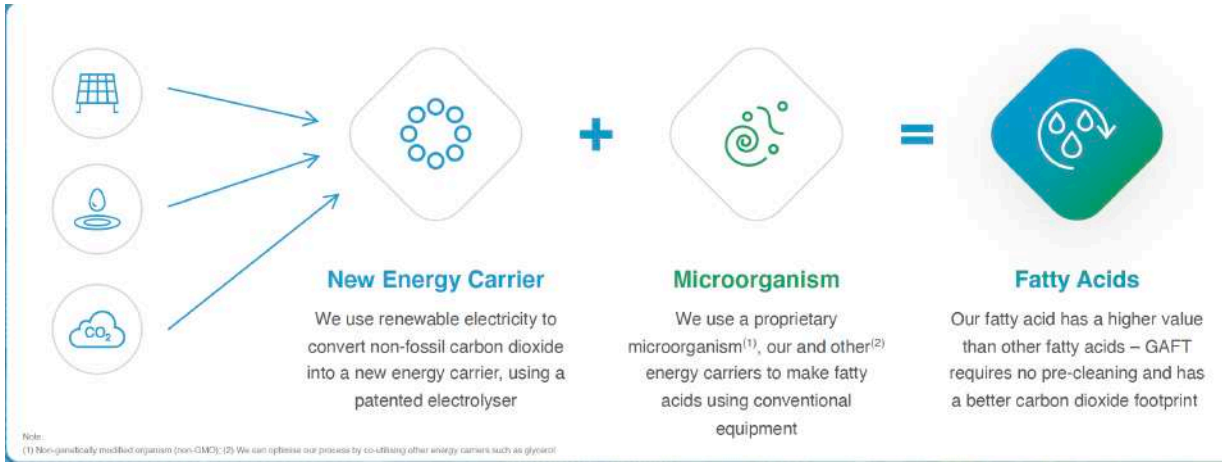
858504
Turbo-FCell

End uses of H2: SAF, green ammonia and sector coupling

European Innovation Council



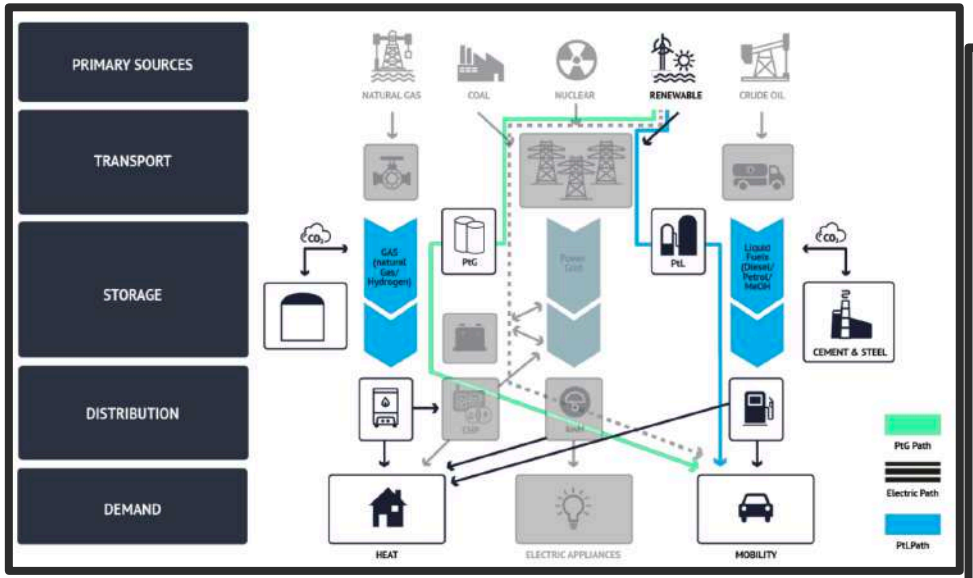
GAFT: CO2 and H2 to fatty acid for SAF: Fermentation vs FT



Ineratech: modular plants near airports

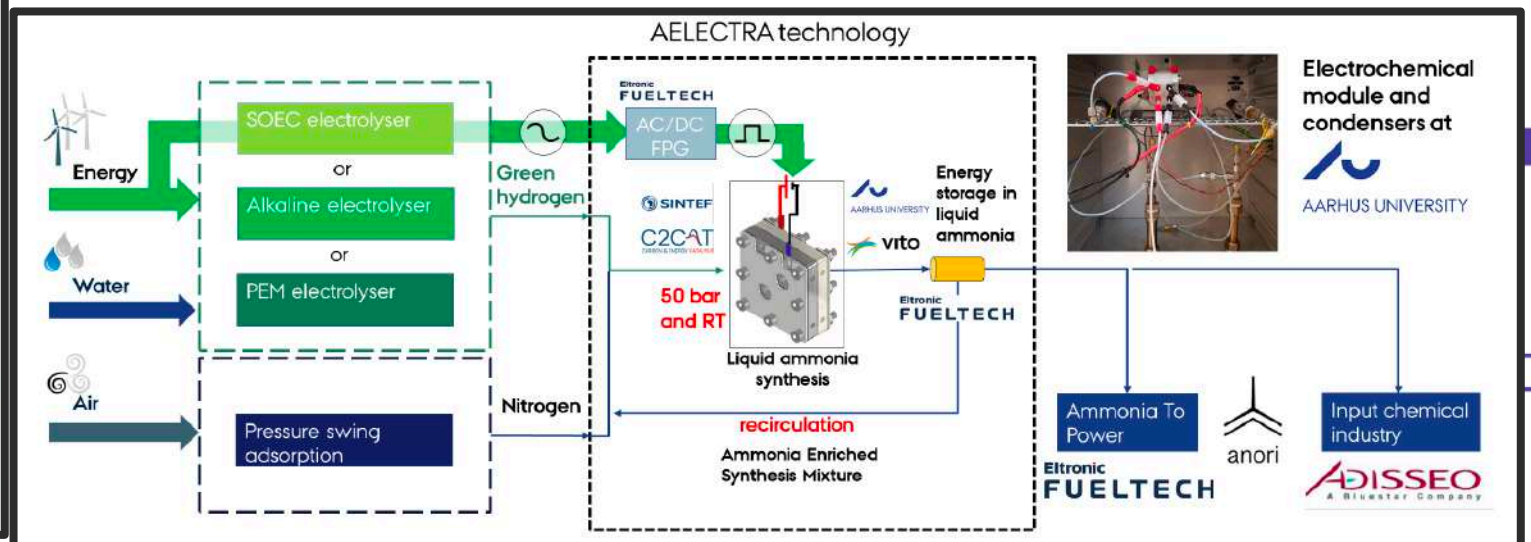
CO2 and electricity/H2 to SAF, RFNBO

INNOVATION FUND synergies



AELECTRA: H2 and N to ammonia

PT challenge 2022: mid long duration systems integrated energy storage

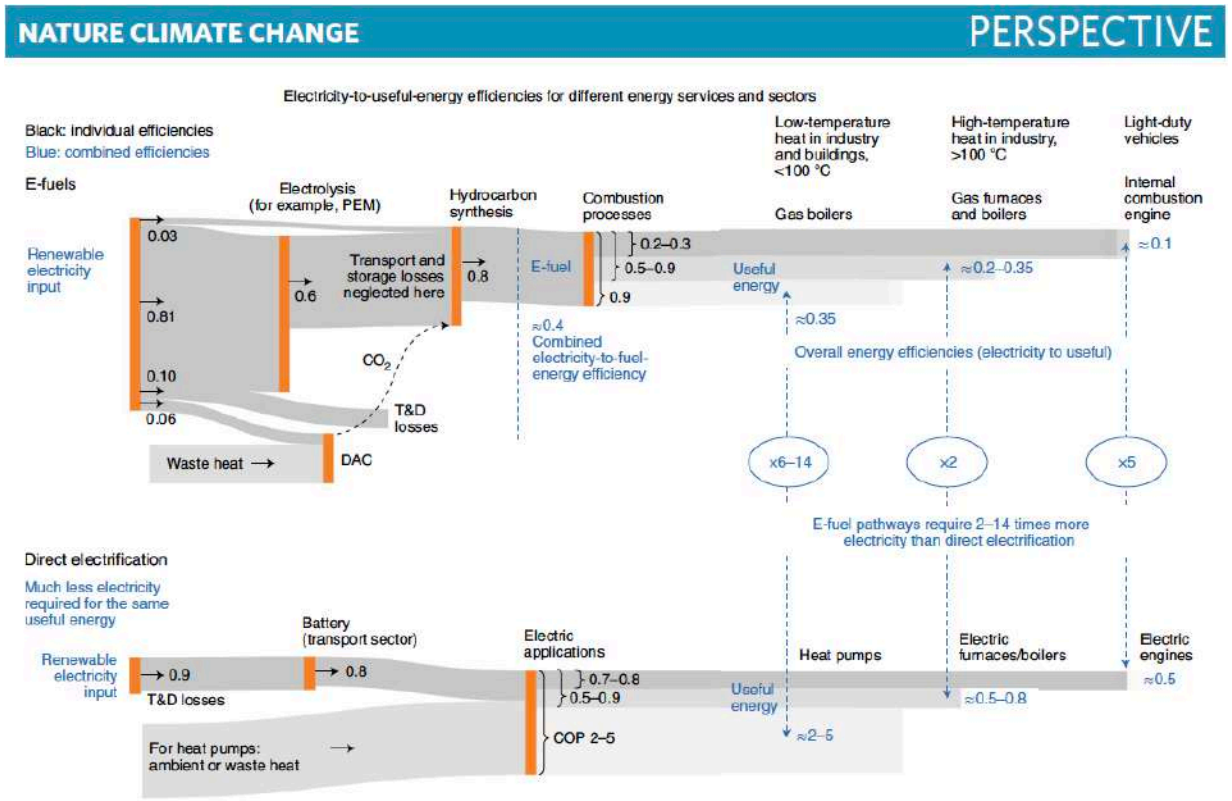


H2 for e-fuels? Which are the best uses?

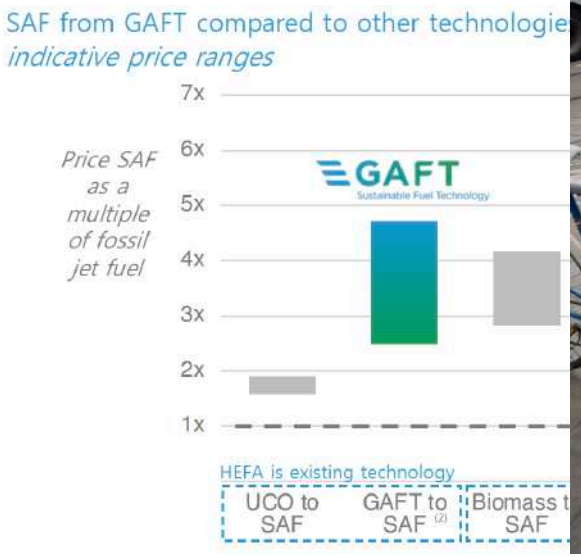
European Innovation Council

Transport H2 (400 Mt/y by 2050?): H2 volumetric density is 25% of jet fuel, 40% of LNG; Liquid H2 at -253°C (LNG at -162°C); Liquefaction of H2 consumes 30-40% energy (10% for LNG

Long distance e-fuels : cheaper to store carbon and transport fossil fuel (with carbon credit)



'***Jobs associated*** *with interna manufacturing will be disapp question is whether they are to China'* M. Liebreich, Bloo



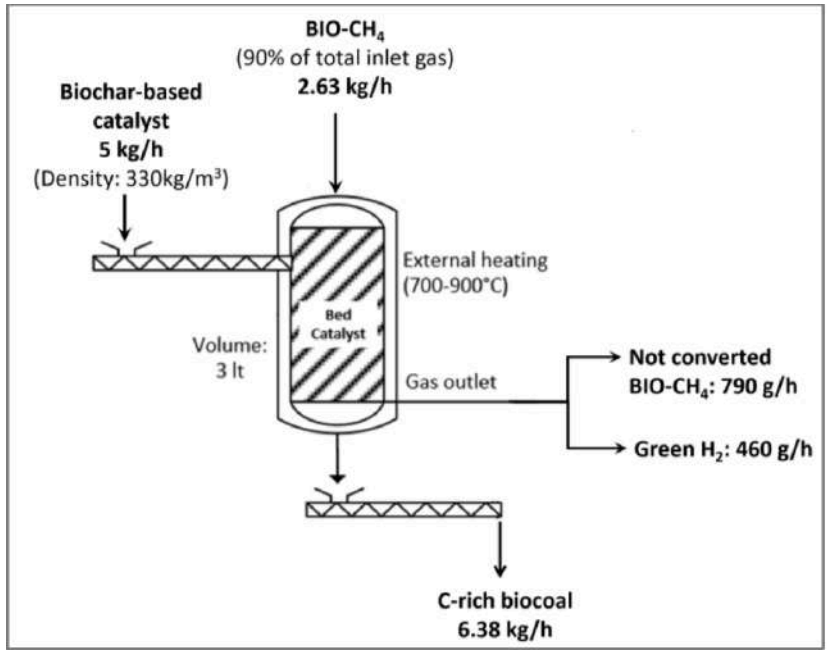
Nature Climate Change I VOL 11 I 384 MaY 2021 I 384–393 www.nature.com/natureclimatechange

*Policies should be guided by '**merit order of end uses**' that prioritizes H2 and e-fuels for sectors inaccessible to direct electrification.*

'***SAF from H2 2-3 times more expensive than from forestry/agricoltural wastes and other biomass***

Biocoal, biochar and innovation deal for ETS offsetting

European Innovation Council



H2Steel: bioCH4 to H2 and biocoal

Integration to steel manufacturing (or biochar) and CO2 capture and valorization

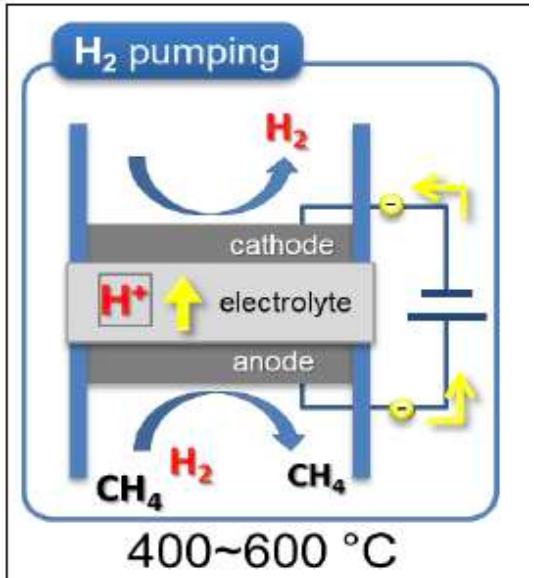
ETS (direct emission reduction)

PT challenge green H2

CarboCulture

biochar and heat

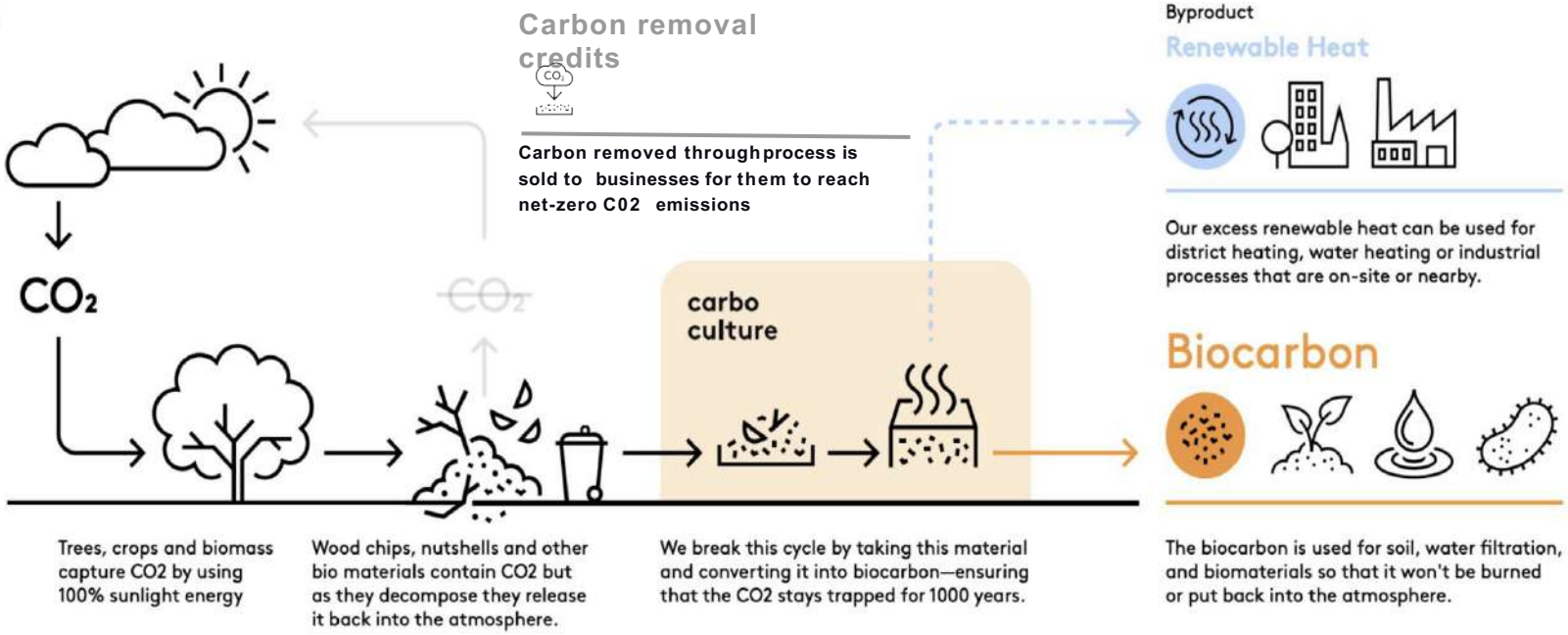
No ETS (indirect emission reduction)



112CO2:

CH4 to H2, biochar

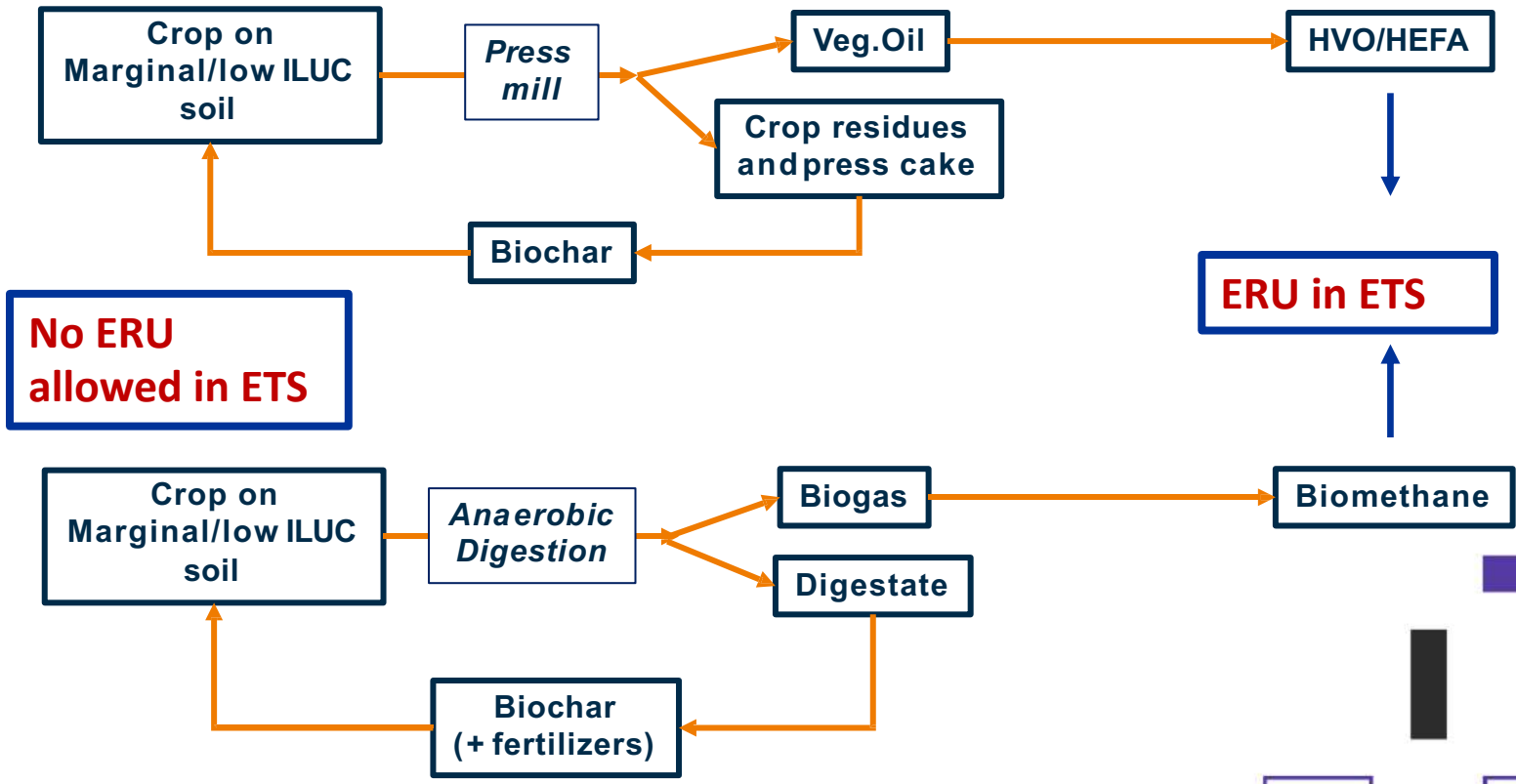
FET proactive



Innovation deal proposed for biochar INTEGRATED to biofuel examples of HVO/HEFA and AnaerobicDigestion:

European Innovation Council

- **Biochar is produced from crops residues (VO) or digestate (Anaerobic Digestion), and returned to soil**
- **On this recovered soil, the crop for sustainable biofuel production is cultivated**
- **The use of biochar into the soil is integrated to the sustainable biofuel production**



Biochar in the ETS chain for Sustainable Fuels

European Innovation Council

Biochar is an **integral component of the biofuel production chain** and **reduce the GHG emissions of the final product**

The **quantification** of the GHG benefit from biochar is **already recognized in the EU RED-II Implementing Act** (e_{sca} component in the GHG biofuel formula)

REDII do not assign a credit or an economic value to the saved t of CO2. It only assess if the fuel is sustainable (i.e. if it is **beyond the GHG threshold set by REDII**, i.e. 65% GHG savings), thus eligible towards RESTargets

The **ETS** system considers only **Direct Emission reductions** achieved in the production process. **REDII-IA** places biochar as a direct emission reduction.

Biochar is part of this production process, as generated from the coproducts (agroresidues) and used to produce the feedstock which is then processed.

Thus, **it should be recognized as eligible according to the current EU ETS scheme**

Biochar vs DAC as CCUS technology

European Innovation Council

- **Biochar** removes CO2 from the atmosphere, as **Direct Air Capture** (DAC).
  - ✓ In the case of Biochar the CO2 removal is performed by the crop/tree
  - ✓ In the case of DACS, it is done through dedicated RES technologies/processes

In the US DACS is already economically well supported by the Country

- Biochar can deliver measurable (evidence-based) CO2 removal at a **much lower cost and with many additional benefits**
- It would be reasonable, not to penalize the EUindustrial and agricultural stakeholder, to include biochar in the ETS (coherently with the support given through EUInnovation Fund and EIC accelerator among the others)

ADDITIONALITY OF BIOCHAR

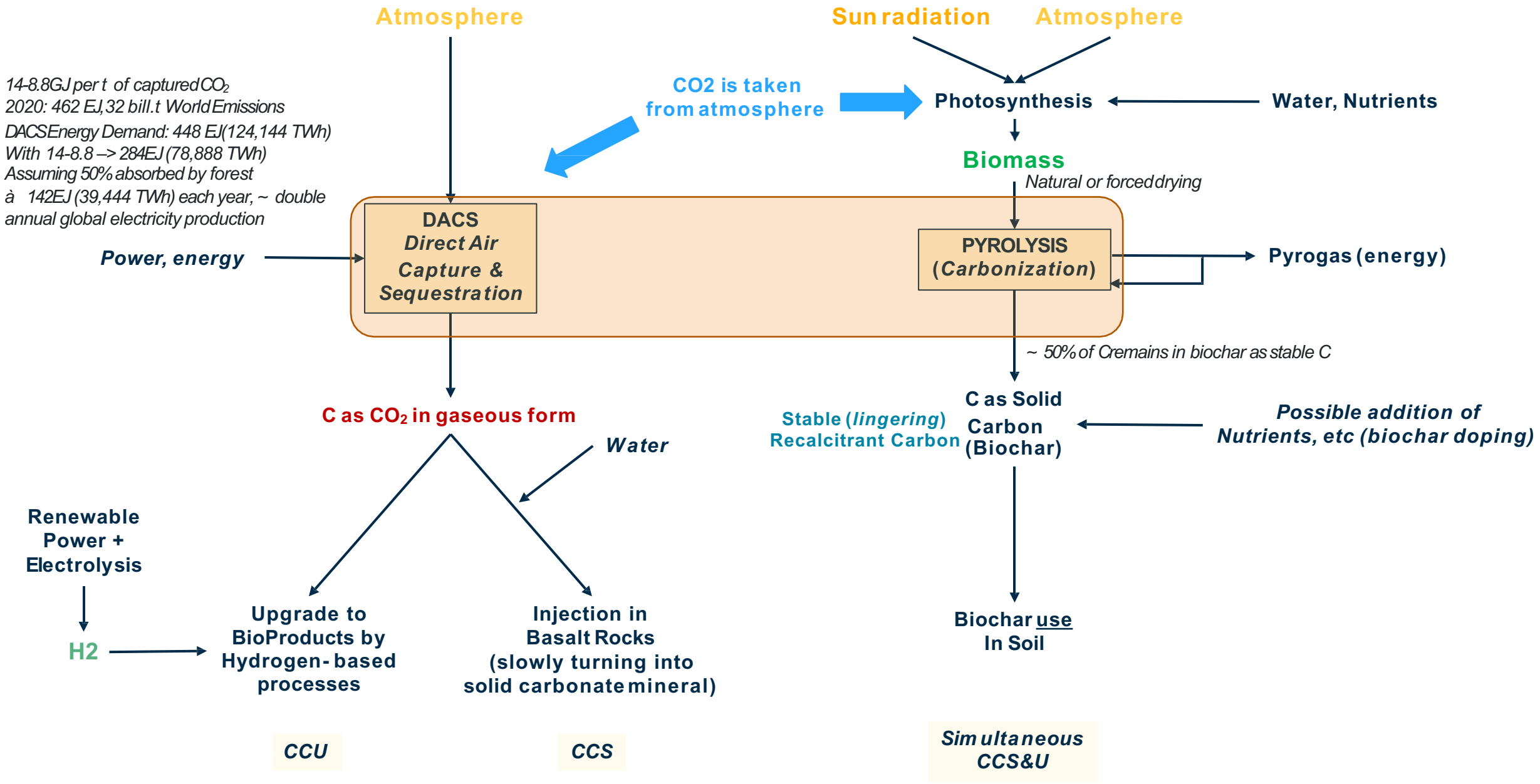
Biomass cultivated by recovering marginal land (climate change mitigation)
Productivity increased by restoring soil and regenerative/sustainable agriculture

If biomass is produced through rotation on marginal land:

food/feed is produced on difficult soils, otherwise unproductive

Reverse ILUC concept

CARBON SEQUESTRATION (AND USE)



Key remarks: scientific and technological challenges

- Circularity by design and non critical / non toxic raw materials (security vs efficiency)
- Technologies and processes integration (storage duration hybridization)
- Real time control and computational tools for smart energy systems
- Sector coupling and industrial decarbonization opportunities (process systems optimization)
- Heating/cooling sector decarbonization (spatial and temporal dimensions)
- Comparative techno-economic analyses to advise policymakers (main EIC portfolio activity)

Key remarks: regulatory and socio-economic drivers for innovation

- Permitting issues (grid Interconnection)
- Social participation and energy communities to enable demand response
- Market mechanisms to reward flexibility
- Carbon markets: broader picture view

European Innovation Council

Thank you!

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EIC Accelerator – Calls

European Innovation Council

Accelerator Challenges

Novel biomarker-based assays to guide personalised cancer treatment	€ 65 million
Aerosol and surface decontamination for pandemic management	€ 65 million
Energy storage	€ 100 million
New European Bauhaus and Architecture, Engineering and Construction digitalisation for decarbonisation	€ 65 million
1) Emerging semiconductor & 2) Quantum technology components	€ 100 million
Novel technologies for resilient agriculture	€ 65 million
Customer-driven, innovative space technologies and services	€ 65 million
Call budget	€ 525 million

EIC Accelerator Open
Overall
€ 613 million

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EIC Accelerator in depth

European Innovation Council

> €1 billion budget for 2023

Is the entity a start-up or a SME seeking to scale up high impact innovation with potential to crate new markets or disrupt the existing ones?

Does it have significant funding needs over a long timeframe?

Does the innovation build on a scientific discovery or technological break-through (‘deep tech’)?

Is the investment too risky for private investor alone?

EIC Accelerator – funding options

European Innovation Council

Blended finance
Grant & investment

If company needs support for development (TRL 5/6 8), deployment and scale-up (TRL 9)

Grant first

If innovation still requires significant work to validate and demonstrate in relevant environments to assess its commercial potential. Milestones are included to enable the investment readiness eligiblity

Grant only

If company can prove that has have sufficient financial means for deployment and scale-up (TRL 9)

Investment only

Provided that the company has previously received a grant and the funding is needed for further scaling up

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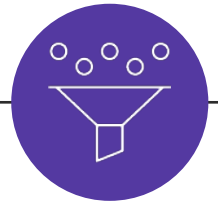
How we build the EIC project pipeline

We have a thorough and detailed company selection process



1.

Thousands of Applicants

- Very competitive (4-5% success rate) out of thousands of applications
- Market criteria - relevance of the problem and solution proposed, disruptiveness of technology, TAM, competitors, team, business model, commercialization strategy, etc.).

2.

Independent Experts review

- Each selected company is reviewed by a diverse team of independent experts
- Experts include VCs, serial entrepreneurs and innovation specialists

3.

Jury Panel

- Each selected company must pass a final jury panel stage, where experts review their business & financial models and go-to market strategies
- Only select the most promising companies

We select only top-quality companies that go through 3 review steps

What is assessed for EIC Accelerator

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Business case (industry standard)

1. Company description
2. The problem/Market Opportunity
3. The innovation: Solution/Product or Services (USP)
4. Market analysis and Competition analysis
5. Marketing and sales plan
6. Team and management
7. Financial Plan (fundraising strategy & cap table)

EIC Specific Information

1. Implementation Plan (work packages, deliverables, milestones for grant & investment component)
2. How EU support takes the company to the next value point
3. Societal, economic, environmental and/or climate impact
4. Others (risks, regulatory challenges etc)

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Overview of the EIC Fund

EIC Fund invests in and supports early-stage companies to scale-up!

A €4 billion Agnostic VC fund, established in June 2020, with a "sweet spot" for Deep Tech

Competitive selection process, including a review by independent experts

EIB - Investment Advisor acting in line with **EIC Investment Guidelines**

Tech due diligence - performed using high quality independent experts

Ticket size between €0.5 to €15 million (current average €5.3 million)

695 companies selected for support (133 investment agreements signed - direct equity investment or convertible loans)

Current multiplier effect for equity investments is 3.14x average of the EIC money

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Financial & Non-financial support

All the EIC Awardees receive both financial & non-financial support

Financial Support

- Financial support includes investing up to €2.5m in grants and €15m in equity

Coaching

- Independent business experts with entrepreneurial and fund-raising backgrounds to provide companies with crucial insights and guidance

Extensive package of Business Acceleration Services

Direct introduction to investors, partners (corporates, procurers etc), participation in overseas trade-fairs to connect with business partners

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Overview of Investments made

European Innovation Council

We strive to create success cases in the EU start-up ecosystem

1. 695 companies selected for support across all EU countries
2. 510 selected for Equity Investment & 185 Grant Only
3. 133 companies financed with Equity or quasi-equity (**€681 million** committed & **€398 million** disbursed to date)

Some examples of companies

modvion

DAZE TECHNOLOGY

Electrochaea

TiHiVE

CO2 BIOCLEAN

KEMOU emission-free technology

AQUABATTERY

AVILOO

HEYDAY INTEGRATED CIRCUITS

evoy

N2 Applied

SKYFORA

TreaTech

C2C NEW CAP

DigiFarm

ROSI return of silicon

woodio

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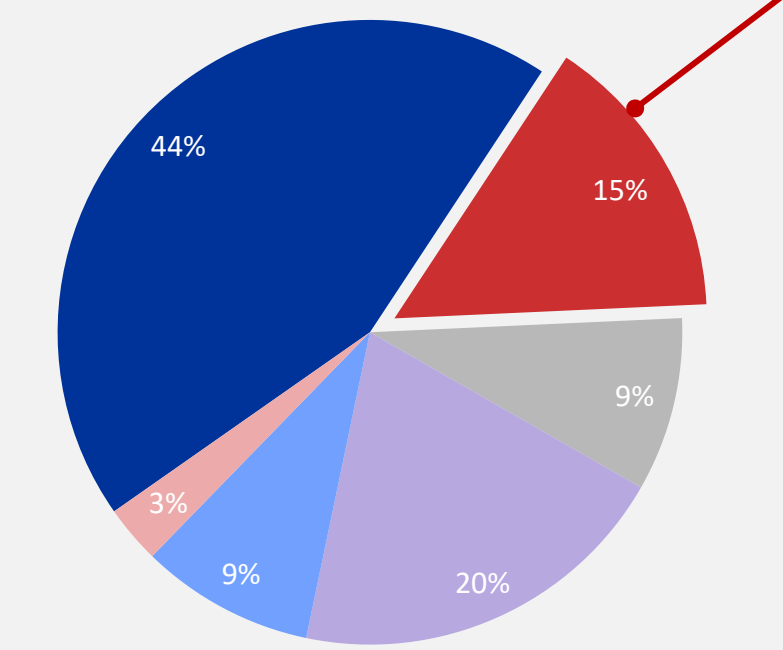
EIC Fund companies are split across sectors

We have a Pan-European and Diversified Portfolio

Portfolio Split between sectors (total # of companies)



Environment, Food & Energy

- 20 companies (15% of the total)
- €85 million committed (12% of the total)

modvion, Electrochaea, ROSI

Health – Pharma & Biotech

- 59 companies (44% of the total)
- €308 million committed (45% of the total)

Bluedrop Medical, alginor, FARON

Space, Transport & Mobility

- 12 companies (9% of the total)
- €68 million committed (10% of the total)

DAZE TECHNOLOGY, hiber

Hardware, New Materials & Construction

- 26 companies (20% of the total)
- €156 million committed (23% of the total)

PASQAL, NIL TECHNOLOGY, TiHiVE

Software, Fintech, Security & Connectivity

- 12 companies (9% of the total)
- €52 million committed (8% of the total)

IQM, nyris

Others

- 4 companies (3% of the total)
- €12 million committed (2% of the total)

PKvitality, Handiscover, s-biomedic the skin microbiome company

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Case Study: Hysilabs Journey to success

European Innovation Council

EIC Fund selected & supported Hysilabs at an early stage, helping it to scale up and attract new investments

HYSILABS

1. Creation

- Founded in **2014 in France**
- Supported by **EIT Energy** since 2017
- Selected for DeepTech4Good accelerator program

2. First Steps

- Filed 12 patents families on the whole technology
- Signed **5+ LOIs** with key energy players in Europe

3. EIC selection & funding

- EIC identified company and provided **€1.2M** of grant funding in 2020

4. Subsequent support & Co-investment

- Investor introductions made and pitch deck review by Dealflow.eu team
- Continuous tech development which achieve **TRL 7 with 70 owned patents**

5. Success

- **13 million Series A** in February 2023 led by Equinor Ventures and joined by the EIC Fund, EDP Ventures, and PLD Automobile
- Round supported by current investors Kreaxi, Région SudInvestissement and CAAP Création

35

EIC Fund's Co-investors

European Innovation Council

EIC Fund companies have also attracted many investors so far

Non-exclusive investors examples

1038 Co-Investors[1] World-Wide

From Angel Investors to Investment Funds (ticket agnostic)

From Institutional Investors to Industry Leaders

Co-Investors from 40+ countries

Rockstart, Accel, SOFINNOVA PARTNERS, VENTECH, techstars, kima ventures, FASHION FOR GOOD, mvp, planet A VENTURES, WORLDFUND, aster, cdp, Capricorn PARTNERS, matterwave ventures, CHALMERS VENTURES, Google for Startups, bpifrance, FBA FEMMES BUSINESS ANGELS, intel Capital, rubio impact ventures, DEMETER, INVIEIN CAPITAL CEZ GROUP

1. This number reflects the number of investors that have invested in a company in the EU portfolio, but not necessarily in the same round

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Next Steps: How to connect to EIC Fund's Ecosystem?

European Innovation Council

1. Join our Co-Investment Portal
2. Subscribe our newsletter highlining top Investment Opportunities
3. Attend our Specific Pitching Events (Online and In Person)
4. Join our Roundtable sessions and Slack community

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European Innovation Council

Co-investment portal & Monthly Newsletter

The public list of co-investment opportunities

EIC fund Platform

…to scout beneficiaries & access pitch decks

850+
Investors Registered

survey.eicfund.eu
to register as an Investor

125+
Companies listed

invest.eicfund.eu
to the platform

Monthly Newsletter

…all the latest co-investment opportunities in one place!

4+
Companies Promoted

6
Different Sectors

Keep you up to date with our initiatives

Interacting with our community

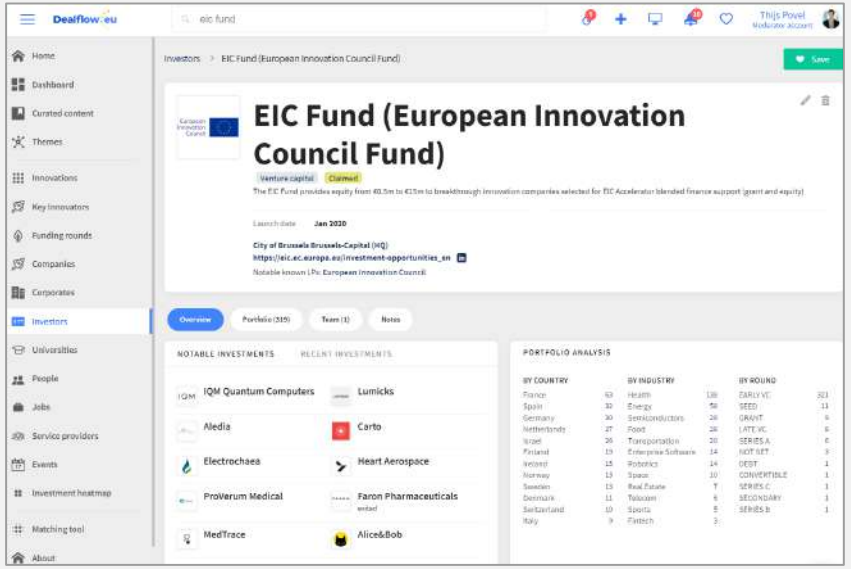
Share important key resources

The Dealflow list

The public list of co-investment opportunities

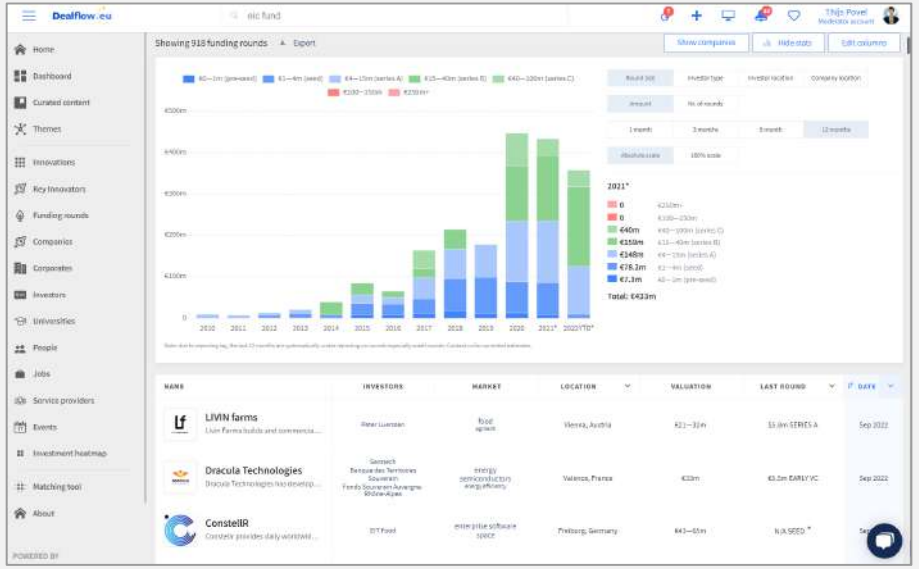
EIC Fund Profile on Dealflow

Check the current portfolio…



EIC Fund Portfolio

…and search & filter the co-investment opportunities!



Access it here: https://startups.eicfund.eu

Roundtable and Slack Community

European Innovation Council

Join our Investor round tables to gain access to co-investment opportunities & meet your co-investors

Investor Roundtable calls

- Investors-only Calls
- 7 different sectors
- Highlight on EIC fund companies and Open Sector Specific Panel discussion (Market trends, Q&A) within one sector

Frequency:	2 roundtable calls per year per sector
# of investors:	20 investors per call

+100
investors invited yearly

+60
startups showcased

Slack community

We've built a slack community to:

- Strengthen & engage our network of investors
- Offer them a targeted space to share information on potential deals & events

Selected invited investors (Non-exhaustive)

+150
investors using slack community

7
channels (one General & six vertical specific)

40