Cleantech for Europe

Making the Taxonomy Fit for Cleantech Innovation
Platform on Sustainable Finance: Technical Working Group
Response to the Taxonomy pack for feedback

Cleantech for Europe is an initiative giving a voice to the vibrant ecosystem of EU cleantech innovators and investors, who are developing technologies and business models that can help us lead the race to net zero. Our community includes pioneer EU cleantech venture capital investors, with decades of track record of investing in early-stage technologies for decarbonisation and sustainability. The start-ups and scale-ups (innovative SMEs) in which they invest are high-risk, often capital-intensive and need significant support to scale up. According to the IEA, these technologies that are not yet on the market could deliver almost half of the emission reductions needed to get to a net zero path[1].

Scaling up the EU's clean technologies is key to our future climate and industrial leadership, but for this scale-up to succeed, we need strong demand signals for clean technologies, an appropriate regulatory framework and the right financing environment. The EU Taxonomy is an important tool to direct funding towards sustainable innovation.

In this context, Cleantech for Europe and 9 co-signatories, all leading EU cleantech venture capital funds and investment experts, would like to provide feedback on the draft report by the Platform on Sustainable Finance on preliminary recommendations for technical screening criteria for the EU taxonomy.

Our analysis concludes that:

1. Enabling technologies are critical to sustainability objectives, including climate change mitigation
2. Of the critical enabling technologies we surveyed, more than half are not covered by either the June 4 Delegated Act or this draft report
3. Keeping the list of eligible activities in line with the vast portfolio of technologies being developed to get to net zero is a near-impossible task
4. Meeting Technical Screening Criteria can be onerous for start-ups

As a result, we propose to widen the scope of activities considered by the Annex, especially on enabling technologies, and to add a streamlined verification process for innovative SMEs engaged in sustainable activities.

1. Enabling technologies are critical to climate change mitigation

In the context of cleantech, enabling technologies are digital or hardware technologies, or combinations of the two, that indirectly enable economic activities to decarbonise. They are instrumental in the transition to net zero, as they provide the foundation for sustainable technologies to be widely deployed.

For example, the uptake of electric vehicles depends on the development of charging infrastructure, as well as enabling technologies such as software for battery

[1] https://www.iea.org/commentaries/net-zero-by-2050-plan-for-energy-sector-is-coming

management, for charging optimisation and for communications between charging stations and the electricity grid. Although these technologies only provide indirect carbon reductions, it is appropriate and important for them to be eligible in the Taxonomy.

2. **Important enabling technologies are missing from eligible activities**

Cleantech for Europe affiliates identified among their portfolios more than 30 cleantech start-ups and scale-ups active across 23 such sustainable enabling technology activities. A list of these companies and activities is available in Annex 1.

While the draft report by the Platform on Sustainable Finance makes a significant effort to identify a number of enabling activities and technologies, we found that more than half (14) of the 23 activities we listed are not covered by either the June 4 Delegated Act of this draft report.

We recognise that the European Commission intends to extend the list of eligible activities at a later date; however we believe this carries a risk of putting the sustainable activities not included at a funding disadvantage.

Below are examples of activities we believe should be considered:

The annex containing the full list of Technical Screening Criteria (Part B) lays out considerations for the manufacture of renewable energy and low-carbon heating devices. However, the facilitation of sales and installation of renewable energy and low-carbon heating for EU households is not covered.

Founded in 2018, Czechia-based innovative SME company Woltair is an online marketplace helping homeowners and tenants switch to renewable energy and low-carbon heating. The company helps clients find the right energy solution for their home, provide financing and maintenance services, as well as help to claim state subsidies for transitioning. The marketplace provides independent comparisons of different brands, allowing consumers to choose the most effective and cost-efficient solution. Woltair has 90 employees. The company is preparing to enter the Polish market, and aims to expand into other EU countries. Woltair has facilitated over 1,000 installations and repairs in Czechia, and calculates that this has resulted in CO2 savings of 3,500 tons/year.

Currently, neither section 2.9 (Manufacture of equipment generating electricity and/or heat) nor section 3.3 (Electricity generation using solar photovoltaic technology) mention this enabling activity.

Another example is sustainable agriculture. The annex lays out criteria for sustainable agriculture, without listing relevant enabling activities. We believe that technologies such as sensors and software analytics are key to making a more sustainable agriculture possible.

Founded in 2016, Denmark-based innovative SME Nordetect provides instant nutrient analysis of water and soil samples. The company is developing a device which allows growers to analyse samples on-site without the need for laboratory analysis. The

device can analyse water, soil and plant tissue, measuring nitrate (NO3), phosphate (PO4), calcium (Ca). Growers can monitor the state of their soil, plants and water more easily, leading to a reduction in the application of fertilisers and pesticides. Nordetect's solution also includes a data platform so that trends can be monitored and analysed. This enables transfer of knowledge and best practice, and therefore proactive avoidance of future pollution due to fertiliser over-use.

The current scope of activities in section 1.2 (Crop production) of the Annex of the Taxonomy pack does not include measurement and analysis activities and therefore we conclude that Nordetect would not be eligible for Taxonomy alignment.

In the annexed table, we identify a number of other innovative enabling activities that are not covered in the Full List of Technical Screening Criteria detailed in the report annex (Part B). Examples include:

- 3D printing to use less material in manufacturing and achieve higher levels of local production to reduce transportation emissions
- Artificial Intelligence and Quantum computing to design new sustainable materials
- Software for EV charging optimisation
- Marketplaces for reused industrial goods
- Low-power sensors
- Sensors and software to optimize lighting in cities
- Sensors enabling precision agriculture to reduce chemical usage
- Technology to convert waste heat into electricity

The fact that these activities are not yet covered will reduce innovative SMEs' ability to raise funding to develop these technologies and deploy them in the EU.

3. **Keeping the list of eligible activities in line with the vast portfolio of technologies being developed to get to net zero is a near-impossible task**

As the sample list above shows, new enabling technologies for sustainability are constantly being developed at a fast pace, inventing or adapting technologies from other sectors to sustainability challenges. Predicting what enabling technologies and applications may emerge in the coming years is not possible.

The task of maintaining an up-to-date list of enabling technologies for sustainability will be very challenging, if not impossible. However, it is very important that newly emerging enabling technologies are Taxonomy-eligible, so they can raise the appropriate financing to develop and enable climate leadership.

To remedy this challenge, we propose to include a general provision about enabling technologies for sustainability, making them eligible by default if they provide a significant contribution to sustainability objectives.

At a minimum, a less desirable option would be to include an annual revision mechanism to consider new enabling technologies or new applications of existing technologies. Cleantech for Europe affiliates would be happy to provide input to such revisions. Venture capital investors are constantly exposed to emerging technologies

while evaluating potential portfolio investments and as such are well placed to identify technology trends which are still under the radar for other parts of the economy.

4. **For eligible activities, Screening Criteria should be fit for innovation**

As venture capital investors, our affiliates invest in and support the growth of early-stage, sometimes pre-revenue companies and technologies. These start-ups and scale-ups (**innovative SMEs)** are typically on fast growth trajectories; this growth provides the opportunity for important future climate change mitigation. We believe they align very strongly with the Taxonomy's objectives.

Documenting Taxonomy eligibility and alignment can be an onerous task for small companies. We propose to add a streamlined verification process for innovative SMEs engaged in activities enabling sustainable impact.

In particular, innovative SMEs report the following issues with measuring and documenting Taxonomy alignment:

- In many cases, the Taxonomy annex lists several pages of criteria which must be satisfied for an activity to be considered aligned. Small companies do not have the resources to prove qualification to all criteria
- Criteria are tailored to large companies with standardized products
- Third-party validation may be too costly for small companies

Estonia-based start-up Reverse Resources develops a software platform to track and trade textile waste. Textile waste is separated and categorised at source to optimise reuse rates and value for each type of material, meaning that waste is reused in the best possible way, with cascading impact throughout the waste hierarchy. The company aims to ensure traceability for all materials, and to provide materials at a cost not exceeding virgin material, ensuring that implementing circular economy principles becomes financially viable.

Reverse Resources was founded in 2014 and currently has 14 employees. The company is at a critical stage of development as it works to convert initial positive customer validation into material market traction.

The company's activity is covered by section 6.6 of the TSC annex.

To meet the proposed technical screening criteria the company would have to:

- Complete a 3rd party verified activity assessment
- Complete another 3rd party verified assessment is required to comply with DNSH criteria for Climate Change Mitigation. LCA analysis is particularly complex in the case of circular economy actors, whose intended effect is to modify the nature of the product lifecycle itself
- Complete a third 3rd party verified risk assessment to comply with DNSH criteria for Climate Adaptation

These verification procedures require significant time and resources. Typically a start-up at this growth stage needs to invest all of its limited resources into developing its solution and gaining market traction in order to be successful: it is a critical stage in

which start-ups which do not grow sufficiently fast become unable to raise the capital they need to finance their scale up stage.

We therefore suggest a streamlined verification process for companies developing solutions under a certain TRL (for example, TRL 6), or below a certain number of employees (for example, 50). Based on 'Nature of the activity' criteria, we believe companies should be automatically considered as Taxonomy aligned during this critical early growth stage.

We thank the Platform on Sustainable Finance for their attention and are available to discuss any of these questions in more detail, or to organise a follow-up discussion with cleantech investors and/or start-ups at your convenience.

Signatories

Cleantech for Europe

BEAMLINE ACCELERATOR

b to v industrial tech fund

Capricorn PARTNERS

DEMETER

INVIEIN CAPITAL CEZ GROUP

mvp

rockstart.

SET Ventures

CLIMATE & STRATEGY PARTNERS

Cleantech for Europe

Annex 1: Analysis of enabling technologies in Cleantech for Europe Leaders portfolio companies, and their coverage in the first Taxonomy Delegated Act and current Taxonomy pack for feedback

Enabling tech	Example Innovative SMEs	Investor	Covered in the June 4 Delegated Act annex?	Covered in the Taxonomy pack for feedback TSC Annex?
1. Agriculture, Forestry and Fishing				
Sensors and software to reduce the use of chemical inputs in agriculture	Nordetect (DN), Geoflex (FR)	Rockstart (NL), Demeter IM (FR)	No	No
Microencapsulation technology to optimize aquaculture feeds	Huddle Corp (FR)	Demeter IM (FR)	No	No
2. Manufacturing				
3D printing to use less material in manufacturing	Luxexcel (NL), BigRep (DE)	Munich Venture Partners (DE), SET Ventures (NL), btov (DE)	No	No 2.12 Manufacture of machinery, equipment and solutions enabling a substantial contribution to the circular economy
AI / Quantum to design new sustainable materials	HQS Quantum Simulations (DE)	btov (DE)	No	Not explicit 6.6 Provision of data-driven solutions enabling to prolong asset's lifetime, provide value chain material and product information, or enable product designers to make a substantial contribution to the circular economy

Predictive maintenance for industrial machinery and clean energy	Neuron Soundware (CZ), Fibersail (NL), Elmodis (PL)	Inven Capital (CZ), Rockstart (NL), SET Ventures (NL)	No	Yes 6.6 Provision of data-driven solutions enabling to prolong asset's lifetime, provide value chain material and product information, or enable product designers to make a substantial contribution to the circular economy
Repair services for home appliances	Spareka (FR)	Demeter IM (FR)	No	Yes 14.2 Provision of repair and maintenance services and of directly related activities
3. Energy				
Marketplace for households to switch to clean power / clean heating	Woltair (CZ), Zolar (DE)	Inven Capital (CZ)	No	No
Software for EV charging optimisation	Greenflux (NL, acquired)	SET Ventures (NL)	No	No, only electrical equipment in 2.10
Low-power sensors	Sensolus (BE)	btov (DE), Capricorn Partners (BE)	Limited to specific applications (buildings, electricity distribution)	No (only in circular economy context)
Sensors and software to optimize lighting in cities	Upciti (FR)	Demeter IM (FR)	No – buildings only	Not explicit 2.13 Manufacture of machinery, equipment and data solutions

				enabling a substantial contribution to pollution prevention and control
Waste heat to electricity	Orcan Energy (DE)	btov (DE)	No Conversion to electricity not covered by 4.25 Production of heat/cool using waste heat	No
Renewable Power to Gas, grid energy storage as gas	Electrochaea (DE)	Munich Venture Partners (DE), btov (DE)	No Storage as gas not covered by 4.10. Storage of electricity	No
Space observation for electricity grid maintenance	LiveEO (DE),	btov (DE)	No	Not explicit 6.2 Digital solutions exploiting space-based earth observations enabling climate change mitigation
Software for grid digitalization, microgrids and balancing of supply and demand in energy systems	Fusebox (EST), Sympower (NL), Envelio (DE), Ammp (NL), Dexter (NL), GreenCom Networks (DE)	Beamline Accelerator (EST), Demeter IM (FR), Rockstart (NL), SET Ventures (NL), Munich Venture Partners (DE)	No	Yes 2.10 Manufacture of high, medium and low voltage electrical equipment that result in or enable substantial contribution to climate change mitigation

Software for energy management in buildings	EnergieIP (FR), Deepki (FR)	Demeter IM (FR)	Installation only	Yes 2.10 Manufacture of high, medium and low voltage electrical equipment that result in or enable substantial contribution to climate change mitigation
IoT platforms for smart metering	Cuculus (DE)	Demeter IM (FR)	Yes	Yes 2.10 Manufacture of high, medium and low voltage electrical equipment that result in or enable substantial contribution to climate change mitigation
5. Buildings				
Design of sustainable and circular buildings	Construcia (E), Alterea (FR)	Demeter IM (FR)	Yes	Yes Section 5 - Buildings
6. ICT				
Marketplace for reused industrial goods	Magic Pallet (FR), Hesus (FR)	Demeter IM (FR)	No	Not explicit
Marketplace for trading used textiles	Reverse Resources (EST)	Beamline Accelerator (EST)	No	Yes 6.6 Provision of data-driven solutions enabling to prolong asset's lifetime, provide value chain material and product information, or enable product designers to make a substantial

				contribution to the circular economy
Marketplace for trading used electronics	BackMarket (FR)	Eurazeo (FR)	No	Yes 2.8 Resell and/or remanufacture of used electrical and electronic equipment
Carbon reduction software to calculate and reduce companies' footprint	Plan A (DE)	Demeter IM (FR)	Yes	
8. Tranportation				
Hardware and software enabling shared mobility	Vulog (FR)	Inven Capital (CZ)	No	No
Battery swapping technologies for small electric vehicles	Zeway (FR)	Demeter IM (FR)	No	Not explicit 2.10 Manufacture of high, medium and low voltage electrical equipment that result in or enable substantial contribution to climate change mitigation (includes recharging)