

## Product Schedule 2

<b>Name of the Financial Product</b>	<b>CDP RIDW General Debt Financial Product</b>
<b>Use of Policy Window(s) and EU Guarantee amount per Policy Window</b>	Research, Innovation and Digitisation Window
<b>Policy objectives</b>	<p><b>1.1 European green deal innovations</b></p> <p><b>1.1.1 Energy</b></p> <p>(a) Research, development or innovation (including demonstrating, testing and validating new or improved products, technologies, processes or services in environments representative of real life operating conditions, including the development of a first commercially usable line producing the final commercial product, which is too expensive to produce for it to be used only for demonstration and validation purpose), in renewable energy (including renewable fuels) renewable or low-carbon hydrogen or fuel cells or electrolyzers; renewables in heating and cooling; innovative storage for decarbonisation; smart energy systems; and CC(U)S investments in the CO<sub>2</sub> capture, including through carbon removals, transport, use and storage; provided that for CCUS projects that concern CO<sub>2</sub> utilisation use additional renewable electricity for the conversion of CO<sub>2</sub> in useful products;</p> <p>(b) Energy efficiency: innovative up-scaling and industrialisation of building renovation solutions linked to increased energy efficiency or performance; demonstration of technological innovations linked to new business models; innovative measures for social housing or low-income households to eradicate energy poverty; and</p> <p>(c) Combination or integration of the points above (e.g. smart integration of distributed renewable energy production and storage).</p> <p><b>1.1.2 Modernisation and decarbonisation of industry</b></p> <p>(a) Research, development or innovation for low carbon technologies and processes, as well as products substituting carbon intensive ones, in sectors listed in Annex I of the Directive 2003/87/EC<sup>1</sup>;</p> <p>(b) Innovative renewable energy and fuels production and use of CC(U)S, energy storage based on new and innovative technology and low-carbon technologies in energy intensive industries; provided that for CCUS:</p> <p style="padding-left: 40px;">(i) projects that concern CO<sub>2</sub> utilisation use additional renewable electricity for the conversion of CO<sub>2</sub> in useful products;</p>

<sup>1</sup> Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (Text with EEA relevance) (OJ L 275, 25.10.2003, p. 32).

(ii) in case it does not concern research, development or innovation, the CO<sub>2</sub> capture, transport, use and storage, including individual elements of the CCUS chain, are integrated into or connected with a complete CCUS, chain; and

(iii) either (x) the investment in the CCUS component is distinct from the industrial application or power plants, or (y) for cases where the CCUS component is inextricably linked to an industrial application or power plant, such industrial application or power plant is a project concerning research, development or innovation (including demonstrating, testing and validating new or improved products, technologies, processes or services in environments representative of real life operating conditions, including the development of a first commercially usable line producing the final commercial product, which is too expensive to produce for it to be used only for demonstration and validation purpose);

- (c) Innovations and novel technologies, including process intensification technologies in the steel, cement, ceramics, aluminium, shipping and aviation industries. Projects that do not concern research, development or innovation shall aim at significant reduction or avoidance of GHG emissions;
- (d) Research and development activities or testing where appropriate, including with large scale demonstrators for energy intensive industries; and
- (e) Transition to alternative drive systems.

### **1.1.3 Sustainable and smart transport and mobility**

- (a) Research, development or innovation, retrofitting and upgrading in zero-emission road transport vehicles, trains and low or zero emissions aircraft and vessels;
- (b) Renewable and future low-carbon fuels for waterborne and aviation; and recharging and refuelling infrastructures supplying electricity, hydrogen or future low carbon fuels or, where necessary as a transitional solution, gas, including in combination with other infrastructure projects such as multi-modal hubs, low or zero emission ports, low- or zero-emission airports;
- (c) Multimodality, connectivity and interoperability, increasing the efficiency of transport by fostering the combination of the most sustainable modes for each leg of the journey, as well as improving the efficiency of each mode;
- (d) Research, development or innovation in cooperative, connected and automated mobility to foster and support new ground, waterborne and air mobility concepts, shifting design and development from a driver-centred to mobility-user oriented approach, providing viable alternatives for private vehicle ownership while increasing inclusiveness of mobility, and to improve road safety performance and analysis; and
- (e) Research, development or innovation in digital transformation, automation and artificial intelligence - including digitalisation projects supporting the achievement of the Single European Sky,

and the Single European Railway Areas, the development of U-space and drones as mobility and aerial services.

#### **1.1.4 Circular economy**

- (a) Investments with a substantial contribution to a circular economy, as defined in the EU taxonomy for circular economy<sup>2</sup>; in particular investments in key sectors that use the most resources and where the potential for efficient circularity is high: electronics and ICT, batteries and vehicles, packaging, plastics, textiles, construction and buildings (including building materials), food, water, nutrients, and renewable energy equipment;
- (b) Investments to ensure a sustainable supply of secondary critical raw materials through recycling of mining waste (e.g. bauxite, iron ore), or the recycling of products such as recovery of rare earths from used permanent magnets; and
- (c) Investments replacing a critical raw material with a non-critical raw material that offers similar performance; for the avoidance of doubt this does not include the manufacturing of non-critical raw materials.

#### **1.1.5 Bioeconomy**

- (a) Circular bio-based technologies and innovations, including digital solutions, which enable resource efficiency and supply chain optimisation, re-usage, reduction and recycling of side-streams, by-products, residues and waste as well as carbon capture. Projects that do not concern research, development or innovation provide a substantial contribution to one of the environmental and climate objectives defined in the EU Taxonomy Regulation;
- (b) Increase the biomass/feedstock output and/or decrease carbon footprint of agriculture, farming, forestry and blue economy;
- (c) Research, development and demonstration of technologies for biomass/feedstock processing;
- (d) Enabling the substitution of conventional feedstock with bio-based feedstock for the production of chemicals and materials, allowing a substantial reduction of GHG emissions;
- (e) Performance biologicals (i.e. specialities with application in nutrition, personal care and other industry verticals);
- (f) Sustainable food systems, value chains, supply chains, modernising primary production, including urban food systems, by-products and residues of the food supply chain, waste and packaging; and
- (g) Projects where bio-based solutions significantly contribute to Green Deal objectives, i.e. climate mitigation and reduction of environmental impacts through the reduction or removal of GHG or other pollutant emissions.

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<sup>2</sup> In the period up to adoption of the relevant delegated act under the EU Taxonomy Regulation, reference should be given to the report: "Categorisation system for the circular economy: A sector-agnostic approach for activities contributing to the circular economy", provided that projects that concern industrial waste, except in case of innovation, research or development, shall not correspond to prevailing practice in the sector in the region.

### **1.1.6 Sustainable blue economy**

- (a) New blue bioeconomy value chains for innovative, sustainable products and processes from aquatic biological resources including fuel, pharma, enzymes and environmental services (e.g. bioremediation);
- (b) Innovative wind farms, wave, tidal, salinity gradient, ocean thermal energy;
- (c) Demonstration and upscaling of less invasive fishing techniques and gears;
- (d) Innovations related to water and seabed pollution prevention, reduction (including plastics), monitoring and management technologies, including solutions for alternative products;
- (e) Innovative solutions for the conservation and restoration of marine and coastal biodiversity and ecosystem services including adaptation/mitigation of climate change;
- (f) Sustainable aquaculture; and
- (g) New technologies for marine observation and the digital ocean.

### **1.1.7 Nature-based solutions, natural capital and ecosystem restoration**

Research, development and innovative solutions for conservation, restoration, enhancement and sustainable management of natural capital and ecosystems including carbon removals, either terrestrial, freshwater or marine (e.g. through nature-based solutions including ecosystem-based approaches), in any sector (e.g. waste, water, forestry, agriculture, transport, energy and other sectors).

### **1.1.8 Adaptation to climate change**

Research, and development, including demonstration and testing of innovative solutions for enhancing the adaptive capacity, strengthening resilience and reducing vulnerability of key systems affected by climate change (for example health, food security, natural environment, water, infrastructure and built environment and others).

### **1.1.9 Innovative solutions for environmental observations and climate services**

Research and development, including demonstration and testing of innovative solutions for: environmental observation and climate services serving CCM, CCA, biodiversity and nature protection and other sustainable development objectives across sectors (e.g. circular economy and waste, pollution prevention and control, sustainable use and protection of water and marine resources, forestry, agriculture, transport, energy and other sectors).

### **1.1.10 Innovative solutions for the critical raw materials value chain**

Research, development and innovation, including testing and demonstration of innovative solutions related to critical raw

materials such as permanent magnet developments and rare earth refining.

#### **1.1.11 Sustainable ICT**

Sustainable ICT and digital climate technologies, including, without limitation, research, innovation and deployment projects that either demonstrate a potential to achieve a significant reduction or avoidance of GHG emissions as compared to currently used technologies/business models or systematically use technologies leading to a significant GHG emission reduction, for example:

- (a) Research, development and demonstration for solutions for reducing the energy consumption of digital devices, components and processes, including novel computing architectures, energy efficient data platforms and data flows, software defined infrastructures for workload balancing optimisation, energy efficient super computing, energy efficient artificial intelligence (AI) and blockchain algorithms;
- (b) Research, development and demonstration for increasing the lifespan of digital devices and improving the circular performance of ICT sector;
- (c) Research, development and demonstration for novel digital climate technologies (Mission earth): super computing for improved earth observation and climate change modelling, real time data gathering and analysis on carbon emissions with blockchain innovations;
- (d) Innovative solutions (incl. digital solutions) for precision agriculture, digitalisation of decarbonised grids, big data solutions for energy; and
- (e) Semi-conductors.

### **1.2 Health**

#### **1.2.1 Clinical development, validation and market entry, including manufacturing scale-up, focusing on areas of unmet medical and public needs:**

- (a) Vaccination and other preventative interventions: Development of solutions for communicable and non-communicable diseases.
- (b) Therapeutics:
  - i) Development of solutions and technologies for therapeutic and curative medicinal drugs, devices or tools to treat diseases or health issues, with high unmet medical needs, with a highly detrimental social and economic impact or entailing high public health expenditures (excluding, for malaria, new antimicrobials for antimicrobial resistance (AMR) and proton therapy related activities);
  - ii) Development of solutions for rare diseases and neglected indications such as paediatric, orphan, neurodegenerative and auto-immune diseases.

(c) Diagnostics:

Development of biomarkers, technologies, devices and imaging tools to improve accuracy, speed and cost of diagnostic solutions for the identification of existing and newly discovered diseases.

**1.2.2 Strengthening the research, testing, development and implementation of innovative solutions relevant for the transformation of health and care systems**, such as:

- (a) Novel health service/system interventions (meaning excluding therapies, diagnostics and vaccines);
- (b) Innovative financing and/or reimbursement models;
- (c) Novel needs assessment and/or resource allocation methods and/or tools;
- (d) Innovative service delivery models; and
- (e) Innovation, including digital solutions and solutions for improving the interoperability of the health and care systems and implementation of innovative digital solutions (AI, blockchain, data analytics, etc.) that improve the performance, delivery and outcomes of health and care services.

**1.3 Future technologies**

**1.3.1 Strategic technologies**

**1.3.1.1 Strategic digital technologies**

- (a) HPC and quantum technologies;
- (b) Data middleware platforms / data spaces targeted to specific sectoral needs, such as data sharing and re-use in manufacturing, agrifood, mobility and health, and highly specialised cloud and edge services, including digital assets, financial, compliance and market services;
- (c) Design and manufacturing of hardware components and technologies (for example photonics, electronics and advanced chip design, and semiconductors);
- (d) Cybersecurity & blockchain;
- (e) Artificial Intelligence: trustworthy and ethical innovative AI applied to emerging areas, such as computer vision, natural language understanding and production, autonomous driving, small-data decision support, with the focus on growth stage AI companies, as well as AI hardware development & advanced, self-learning or autonomous robotics; and
- (f) Internet of things (IoT), 5G & beyond, edge computing, industry 4.0-ready digital technologies, such as advanced industrial automation or data flow controls.

#### **1.3.1.2 Future manufacturing technologies**

- (a) Key enabling technologies<sup>3</sup>;
- (b) Digital technologies for the manufacturing sector (i.e. for the whole product lifecycle from design, planning, fabrication, logistics, distribution, use, re-use/recycling);
- (c) Sustainable manufacturing technologies (including zero waste and circular manufacturing technologies); and
- (d) Advanced manufacturing and processing technologies, including their integration with well-established technologies.

#### **1.3.2 Space**

- (a) Space technologies, products, applications or services in: research, development, manufacturing, distribution or operation of components, products, systems or technologies for space, ground or launch systems segments;
- (b) Research, development, and distribution of data processing, analytical tools and artificial intelligence for use with space data and other data sources;
- (c) Development and distribution of digital applications and services based on or using space data;
- (d) Development and integration of space data and services into innovative products in other market segments, e.g. autonomous vehicles and connectivity networks;
- (e) Adaptation of space technologies, products, applications and services to non-space economic sectors or policy areas, or
- (f) Other exploitation of space outputs and related digital technologies.

#### **1.3.3 Defence investments**

Research, development and innovation of dual-use technologies and equipment, including in the areas of:

- (a) Cyber, space, air, ground, naval and underwater systems;
- (b) Medical response, chemical biological radiological nuclear, biotech and human factors;
- (c) Secure communications including control, communications and computing (C4), intelligence, surveillance and reconnaissance (ISR);
- (d) Advanced passive and active sensors (such as optronics and radars systems); and
- (e) Simulation and training.

#### **1.3.4 Research Infrastructures and Testing and Experimentation Infrastructures, Research Institutes**

- (a) Supporting Research Institutes and Research Infrastructures and Testing and Experimentation Infrastructures, in embracing the tech-driven economy and the role of driving innovation, fostering entrepreneurship and catalysing economic development;

	<p>(b) Institutional transformation of universities, the modernisation and greening of their premises and Research Infrastructures and Testing and Experimentation Infrastructures, thereby complementing ERASMUS and Horizon Europe’s support to the research and innovation (R&amp;I) mission of universities, including, where relevant, the European university alliances; and</p> <p>(c) The deployment of testing and experimentation facilities (to the extent that they qualify as Testing and Experimentation Infrastructures or Research Infrastructures or Research Institutes) accessible to, <i>inter alia</i>, high tech start ups to test and experiment innovative products, in view of complementing the “Digital Europe” and “Horizon Europe” programmes,</p> <p>provided that access to the services based on publicly funded Testing and Experimentation Infrastructures shall be granted on a transparent and non-discriminatory<sup>4</sup> basis and on market terms to multiple users.</p> <p><b>1.3.5 Nuclear research</b></p> <p>(a) Construction or refurbishing of research infrastructure, specialised equipment or technology demonstrators for research purposes (i.e. demonstrators of concepts and elements of fission and fusion nuclear power plants without electricity production/co-generation demonstrators);</p> <p>(b) Research and development for all aspects of nuclear systems and fuel cycles so far as they contribute, directly or indirectly, to improved safety of existing and future nuclear installations;</p> <p>(c) Research and development of innovative applications of nuclear science and ionizing radiation technologies in medical, industrial and other research fields, including supply and safe use of radioisotopes; and</p> <p>(d) Technology transfer from research to industry.</p> <p><b>1.4 Areas of strategic importance</b></p> <p>An Operation under any of the policy objectives where the main objective is building production capacity for the purpose of large-scale competitive commercialisation, excluding, for the avoidance of doubt, Operations concerning a non-economic activity or public good.</p>
<b>Targeted geography</b>	Italy

<sup>3</sup>See [https://ec.europa.eu/info/research-and-innovation/research-area/industrial-research-and-innovation/key-enabling-technologies\\_en](https://ec.europa.eu/info/research-and-innovation/research-area/industrial-research-and-innovation/key-enabling-technologies_en)

<sup>4</sup> This does not prevent e.g. price differentiation.