

INNOVATION FUND

Driving clean innovative technologies towards the market

List of projects presented at the Innovation Fund workshops

This is a list of projects presented at the Innovation Fund workshops for which project presenters have agreed to have the information published on the [Innovation Fund website](#). This list is a user-friendly representation of the information contained in the presentations and minutes from the Innovation Fund workshops. **Hence, this list is by no means a pre-selection of projects for the Innovation Fund, the order of the projects is arbitrary and projects are grouped per sector.**

This list has been published in January 2020 and is a living document to be complemented with information from workshops held after that date.

Sector	Project Name	Description	Presented at	Presented by
Cement	Calcined Clay	High-performance blend of calcined clays and limestone to mitigate diminishing volumes of industrial by-products.	Cement Workshop	LafargeHolcim
Cement	Alternative Clinker	Use of lower carbon clinker types such as calcium sulphoaluminates.	Cement Workshop	LafargeHolcim
Cement	LEILAC - 2	Low emissions intensity lime and cement through direct separation technology in Belgium.	Cement Workshop	Cemex
Cement	SOLPART - 2	Raw meal calcination through solar energy in the clinker production.	Cement Workshop	Cemex
Cement	ECRA project idea	Three measures to improve clinker efficiency: to reduce clinker in cement, to reduce concrete in the structure and to reduce clinker in concrete. Use of clinker-efficient cements and recycled materials in concrete construction, cover the entire value	Cement Workshop	The European Cement Research Academy (ECRA)

		chain, incorporate circular economy, and develop new construction technologies and low-carbon construction elements.		
Cement	FastCarb	Forced and accelerated carbonation to capture more than 50% of CO2 emissions.	Cement Workshop	Vicat
Cement	Low-carbon cement by TITAN	Use of Belite Calcium Sulfo-Aluminate to produce low-carbon cement.	Cement Workshop	TITAN Cement Group
Cement	SOLCEMENT	Design of an integrated and low carbon footprint process for limestone calcination using concentrated solar radiation.	Cement Workshop	TITAN Cement Group
Cement/CCS	RECO2MED	REalistic options for sequestering CO2 in eastern MEDiterranean: carbon capture and storage in the south-eastern European cement sector and set up and performance of CO2 sequestration in a safe and sustainable manner.	Cement Workshop	TITAN Cement Group
Cement/CCU	CO2MIN	Accelerating of the re-carbonation of cement in concrete by design optimisation and curing casted concrete products in a CO2-rich atmosphere.	CCU Workshop	HeidelbergCement
Cement/CCU	Westküste100	CO2 capture from cement production (oxyfuel technology) to make methanol with hydrogen produced by electrolysis with surplus offshore wind energy in Germany.	Cement Workshop	LafargeHolcim
Cement/CCU	RECODE	Recycling carbon dioxide in the cement industry to produce added-value additives.	Cement Workshop	TITAN Cement Group
Cement/CCU/CCS	Aalborg Portland cement plant	Reduction of CO2 emissions in the cement industry by carbon capture and storage or utilisation and by reducing the clinker content in cement in Denmark. A further approach is industrial symbiosis to produce sustainable liquid fuels.	Cement & Denmark Workshop	Cementirholding

Cement/CO ₂ capture	CARMOF	New process for efficient CO ₂ capture by innovative adsorbents based on modified carbon nanotubes and metal-organic framework materials.	Cement Workshop	TITAN Cement Group
Refineries	Shell project idea	Usage of high temperature electrical furnace for deep decarbonisation.	Netherlands Workshop	Shell
Refineries	Co-Processing	Modification of existing refinery hydro treating unit for continuous, full-year introduction of renewable feedstock as co-feed.	Refineries Workshop	OMV
Refineries	Nuclear magnetic resonance (NMR) crude analyser	NMR analyser for refinery applications to increase data availability for improved process operations.	Refineries Workshop	Sartec
Refineries	Bio-refinery Project	Energy crops and agricultural residues for ethanol and electricity production in Croatia.	Refineries Workshop	INA
Refineries	Waste to Wingtip	Aviation fuel from municipal solid waste (MSW).	Refineries Workshop	British Petrol
Refineries	SkyClean	Pyrolysis of agriculture and forestry products, sequestering of carbon through bio char and production of jet fuels in Denmark.	Denmark Workshop	Stiesdal Fuel Technologies
Refineries	Advanced Biofuels	Production of wood-based renewable diesel and naphtha.	Paper & Bioenergy Workshops	UPM
Refineries	Kotka Biorefinery	Advanced biofuels from new sustainable feedstock such as solid wood biomass and Brassica Carinata by hydro-treatment technology in Finland.	Paper & Bioenergy Workshops	UPM
Refineries	Advanced Bioethanol project	Application of the technology CelluAPP®- conversion of biomass to sugars and bioethanol in Sweden.	Bioenergy Workshop	Sekab
Refineries	REWOFUEL	Conversion of softwood residues into high performance gasoline and jetfuel.	Bioenergy Workshop	Sekab

Refineries	Project DSL-01	Production of sustainable aviation fuels from waste oil through hydrotreated esters and fatty acids technology in the Netherlands.	Bioenergy Workshop	SkyNRG
Refineries	Advanced Marine Biofuel derived from Fast Pyrolysis Oil	A sustainable, low sulphur, 2 nd generation, drop-in marine biofuel based on the upgrading of fast pyrolysis oil.	Bioenergy Workshop	Biomass Technology Group
Refineries	DME (dimethyl ether) circle project	Producing dimethyl ether from biomass and residues. Use for DME in heavy-duty fuel cell vehicles.	Bioenergy Workshop	Click Autogas
Refineries	Converted Local Biomass CLB®	Technical imitation of the natural carbonisation process of biomass to coal with final uses in the iron and steel industry and district heating in Germany.	Bioenergy Workshop	Mitsubishi Hitachi Power Systems
Refineries	Direct Processing with Betaproces	Using sugar beet to produce bioethanol and a pure CO2 stream for greenhouses in the Netherlands.	Bioenergy Workshop	Dutch Sustainable Development t BV
Refineries	Black pellets from biomass residue	Pellets from biomass residue as a potential alternative to coal.	Bioenergy Workshop	Engie Laborelec
Refineries	Proton Power	Jet fuel from sustainable biomass through pyrolysis.	Bioenergy Workshop	Engie Laborelec
Refineries	HS3 based biorefinery	HS3 pre-treatment of biomass.	Bioenergy Workshop	API Europe
Refineries	Agro biomass pre-processing	Cleaning of difficult biomass fuels so that they can be fired in fluidised bed boilers thus replacing fossil fuels in CHP plants.	Bioenergy Workshop	Valmet
Refineries	GreenE project	Use of small-scale gasification systems for the flexible production of methane and biofuels from different waste sources.	Bioenergy Workshop	GreenE
Refineries	HTC Technology	Production of bio-products such as bio coal from bio-waste through hydrothermal carbonisation (HTC).	Bioenergy Workshop	Ingelia

Refineries	Meva Energy industrial-scale modularised gas plant for utilising low cost residue locally	Decentralised gasification of medium density fibreboard (MDF) residue (e.g. sawdust) replacing fossil gas to produce power and heat.	Sweden Workshop	Meva Energy
Refineries/ Bioenergy	Holzgas Kraft-Wärme-Kopplung	Pyrolysis of waste to produce renewable gas, heat for district heating and activated carbon in Austria.	Austria Workshop	Kommunalkredit Public Consulting
Refineries/ Bioenergy	Produktgaserezeugung aus biogenen Abfällen	Gasification of bio-waste to produce syngas, electricity and heat in Austria.	Austria Workshop	Kommunalkredit Public Consulting
Refineries/ Bioenergy	Catalytic pyrolysis	Expansion of the existing bioenergy plant production to include renewable transportation fuel.	Bioenergy Workshop	Valmet
Refineries/ CCS	Preem CCS	On-site demo leading to a roadmap for CO2 reduction in Sweden.	Refineries Workshop	Preem
Refineries/ CCS	BIO-CCUS and CCUS	Use of biogenic CO2 from bio-refinery for enhanced oil recovery (EOR).	Refineries Workshop	INA
Refineries/ CCU	CCU – Green Methanol	Conversion of CO2 into green methanol via hydrogenation with green hydrogen from an electrolysis powered with renewable electricity in Austria.	Refineries Workshop	OMV
Refineries/ components	Dual-fuel application in Heavy Duty Vehicles	A conversion kit for heavy-duty vehicles to operate with diesel fuel and methane.	Bioenergy Workshop	Lombardy Mobility Cluster
Steel	TataSteel project idea	Use of hydrogen in steel making.	Netherlands Workshop	TataSteel
Steel	Torero	Wood waste is converted to biocoal by torrefaction. Biocoal replaces fossil powdered coal in a hydroge mill blast furnace.	Steel Workshop	ArcelorMittal

Steel	Hydrogen Hamburg	Demonstration production and melting of carbon free direct reduced iron (DRI) with hydrogen at industrial scale in Germany.	Steel Workshop	ArcelorMittal
Steel	SIDERWIN	Direct electrolytic iron making.	Steel Workshop	ArcelorMittal
Steel	Hlsarna	One-step from raw material to hot metal in the Netherlands.	Steel Workshop	Tata Steel
Steel	Ijmuiden	Modified infrastructure in Ijmuiden for the transition to circular deployment of waste gases in the Netherlands.	Steel Workshop	Tata Steel
Steel	SALCOS®	Carbon Direct Avoidance by replacing carbon in iron ore reduction processes with hydrogen in Germany. Additionally, process heat for steelmaking by electrical energy instead of coal.	Steel Workshop	Salzgitter AG
Steel	Hot-briquetted iron (HBI)/ DRI based hybrid steelmaking	A combination of basic oxygen steelmaking and electric arc furnace technology in Austria.	Steel & Hydrogen Workshop	voestalpine AG
Steel	HYBRIT	Hydrogen Breakthrough Ironmaking Technology to produce fossil-free steel by 2035 in Sweden.	Hydrogen Workshop	Hydrogen Europe
Steel	Green Steel	Steelmaking with green hydrogen.	Hydrogen Workshop	Paul Wurth S.A.
Steel/CCU	IGAR	Re-activation of CO2 into syngas with renewable energy and waste streams.	Steel Workshop	ArcelorMittal
Steel/CCU	Steelanol	Capture and reuse of waste gaseous carbon into all kinds of hydrocarbon products in Belgium.	Steel Workshop	ArcelorMittal
Steel/CCU	Carbon2Value	Capture, cleaning and preparation of gaseous CO2 for transport and storage by use of waste heat.	Steel Workshop	ArcelorMittal

Steel/CCU	CCU Hub Ghent (The Methanol Demo Project)	CO2 from the steel industry in the port of Ghent is converted into methanol via methanol synthesis with green hydrogen.	CCU Workshop	Cleantech Flanders
Steel/CCU	BOF2UREA	CO2 capture in the iron and steel industry and subsequent utilisation of CO2 in urea.	CCU Workshop	TNO
Steel/CCU/CCS	Project Everest	Carbon capture use and storage (CCUS) in steelmaking to produce chemicals.	Steel Workshop	Tata Steel
Chemicals	ReOil	Chemical recycling by the conversion of post-consumer plastic (PCP) into usable secondary raw materials through thermal depolymerisation in Austria.	Refineries Workshop	OMV
Chemicals	BASF Carbon Management	Energy and process efficiency improvements, increasing the share of renewables. Switching from conventional furnaces to e-furnaces for naphtha cracking and hydrogen from methane pyrolysis.	Chemicals Workshop	BASF
Chemicals	Chemical Recycling	Chemical recycling as an alternative to landfill and incineration of plastic waste.	Chemicals Workshop	SABIC
Chemicals	Plasma Gasification	Plasma gasification of municipal, industrial and agricultural waste to syngas that can enter a variety of applications such as energy, fuels and chemicals.	Chemicals Workshop	Clariant
Chemicals	Sunliquid® technology platform	Technology platform to produce chemicals such as esters, ethers and polymers from underutilised renewable feedstock through processes such as fermentation.	Chemicals Workshop	Clariant
Chemicals	Evonik Low Emission Farming (LEF)	Use of manure from farming in a fermenter to produce biogas for energy production and fuel substitution and the production of a fertiliser with a negative CO2 footprint.	Chemicals Workshop	Evonik
Chemicals	Bio-chemicals in Germany	Biomass for sugar pulping and chemical conversion into mono-ethylene glycol and mono-propylene glycol in Germany.	Paper & Bioenergy Workshops	UPM

Chemicals/ CCU	CCU Solvay	A CO2 capture facility at a steam methane reformer to valorise the CO2 by mineral carbonation in Germany.	Chemicals Workshop	Solvay
Chemicals/ CCU	Artificial Photosyntheses	Generation of high-value specialty chemicals such as butanol and hexanol from carbon dioxide and renewable electricity.	Chemicals Workshop	Evonik
Ceramics	Absorptionswärmepumpe zur Ziegeltrocknung	A heat pump to recover heat from the drying process of roof tiles in Austria.	Austria Workshop	Kommunalkredit Public Consulting
Ceramics	The Pilot Plant	Creation of a digital twin to build a low-carbon pilot plant in France.	Ceramics Workshop	CTMNC
Ceramics	CerWave	Gas-Microwave Porcelain Firing in Portugal.	Ceramics Workshop	CTCV
Paper	Alternative Fibers in Tissue: The Columbus Application at Mannheim	Production of pulp in small modular units, fitted to the needs of the paper mill from locally available alternative fibre sources like wheat straw, barley straw or other agricultural residues in Germany.	Paper Workshop	Essity
Paper	Lecta's short to medium term targets in energy	Reducing the consumption of thermal and electrical energy and using renewable fuels, CO2 capture and circular economy. Technologies include biomass boiler, refuse-derived fuel (RDF) and solid recovered fuel (SRF) boiler.	Paper Workshop	Lecta
Paper	Metsä projects	Fossil fuel free production with new biomass-fuelled boilers and biomass gasification, improving the efficiency of chemical recovery boilers and producing new bio-products from wood.	Paper Workshop	Metsä
Paper	B2G	Production of mid caloric gas from bark residues, integration of the technology in existing closed cycle production infrastructure of a pulp bio-refinery and novel process to increase caloric value of the gas to suitable levels.	Paper Workshop	Mondi

Paper	Modellfabrik Papier	A model factory to rethink the paper production process, which includes the minimisation of raw material and energy losses and the use of digital technologies.	Paper Workshop	Felix Schoeller Group
Paper	Replacing fuel in limekilns with electricity	Replacing the burner with plasma arc equipment operating with pure biogenic CO ₂ and making a small process chamber and slaking in steam atmosphere using the plasma arc heat supply. These innovations are compatible with BECCS/BECCU.	Paper Workshop	Stora Enso
Paper	New concepts for fibre based packaging and energy efficiency	Low energy and no effluent mill concept, new unit processes and digitalisation and industrial internet services for continuous optimised production.	Paper Workshop	Valmet Paper
Paper	Advanced Process Control	Digital process control measures.	Paper Workshop	Voith
Paper	EcoHood 65	A hood enclosing the dryer section of the paper making process that allows better heat recovery and increases the process efficiency.	Paper Workshop	Voith
Paper	New Process Technologies	New pulping concept.	Paper Workshop	Voith
Paper	Breakthrough Papermaking Technologies	Papermaking process that will cut GHG emissions by more than half.	Paper Workshop	Voith
Hydrogen	UpHy	Upscaling of green H ₂ for mobility and industry by investment in green H ₂ value chain from production in electrolysis, trailer loading and FCV-refuelling station in Austria.	Refineries & Austria Workshop	OMV
Hydrogen	REFHYNE	Installation and operation of the world's largest hydrogen electrolyser in Germany.	Refineries Workshop	Concawe
Hydrogen	Nouryon and ENGIE project idea	Production of green hydrogen by means of large-scale electrolysis.	Netherlands Workshop	Nouryon & ENGIE

Hydrogen	H2V NORMANDY	Provision of green hydrogen to industries already consuming fossil-based hydrogen in their processes in France.	Hydrogen Workshop	H2V Industry
Hydrogen	H2V 59	Injection of hydrogen produced by H2V59 into the natural gas transmission network in France.	Hydrogen Workshop	H2V Industry
Hydrogen	H2Magnum	Combustion of hydrogen in a combined cycle gas turbine (CCGT) in the Netherlands.	Hydrogen & Netherlands Workshop	Equinor & Vattenfall
Hydrogen	GetH2	Large-scale water electrolysis from offshore wind energy in Germany.	Hydrogen Workshop	Nowega GmbH, REW Generation SE
Hydrogen	LOHC Industry Transformation	Liquid Organic Hydrogen Carrier (LOHC) Technology using conventional oil infrastructure to connect hydrogen supply and demand.	Hydrogen Workshop	Hydrogenious
Hydrogen	HySynGas	Creation of a green hydrogen hub in Germany of industrial scale to supply use cases especially for heavy-duty transportation on road, maritime and industry.	Hydrogen Workshop	Vattenfall, ARGE Netz
Hydrogen	Last Mile's Concept	Green hydrogen from locally produced solar energy with electrolyzers for last-mile transport in urban areas.	Solar Energy Workshop	Akuo Energy
Hydrogen/ CCS	H-Vision	New combination of existing technologies (H2 from natural gas, CCS, hydrogen burning) and use of hydrogen to replace natural gas/coal burning & decarbonise refinery fuel gases in the Netherlands.	Hydrogen Workshop	TNO
Fertilisers	Green Ammonia	Renewable energy to produce ammonia fertilisers via hydrogen.	Fertilisers Workshop	Yara
Fertilisers	Hybrid Plant	Use of hydrogen from electrolysis in combination with renewable electricity in the conventional fertiliser production instead of hydrogen from steam methane reforming.	Fertilisers Workshop	Borealis

Fertilisers	Power to Gas solution	Use of electrolysis and CO2 from fertiliser production for hydrogenation to produce hydrogen and methane.	Fertilisers Workshop	Borealis
Fertilisers	CO2 Capturing via Gypsum Conversion	Use of gypsum in the fertiliser production to bind CO2 from flue gases.	Fertilisers Workshop	Lovochemie
Bioenergy	ZEE technology	Secondary biomass to thermal energy and electric power generation in Germany.	Bioenergy Workshop	ZEE GmbH
Bioenergy	Meva Energy industrial-scale modularised gas plant for heat intensive process industry	Decentralised gasification of local biomass and fibre residues from a paper mill replacing 90% of the LPG need.	Sweden Workshop	Meva Energy
Bioenergy	Demo plant 30 MWe	Biomass-to-coal (BTC) plant in Sweden.	Sweden Workshop	Phoenix Biopower
CCS	Northern Lights	A European CO2 transport and storage network which is part of a Norwegian full-scale CCS demonstration project.	Cement & CCS Workshops	HeidelbergCement & Equinor
CCS	Ervia CCS	Storage of CO2 from two gas-fired combined cycle gas turbines and an oil refinery in Ireland in the Kinsale Gas Field with 300 MT capacity.	CCS Workshop	Ervia
CCS	Antwerp@C project	CO2 capture and transport infrastructure for a carbon capture, utilisation, and storage value chain in Belgium.	CCS Workshop	Port of Antwerp
CCS	Clean Power Project	Capture of the CO2 of a power plant in Lithuania for use in enhanced oil recovery.	CCS & CCU Workshops	Minijos Nafta
CCS	Bio CHP in central Stockholm	Bioenergy with carbon capture and storage (BECCS) at Stockholm combined heat and power (CHP) plant in Sweden.	Sweden Workshop	Stockholm Exergi

CCS	ARC Carbon Capture	Waste-to-Energy plant combined with district heating and carbon capture and storage (CCS).	Denmark Workshop	ARC
CCU	CirclEnergy	One-step catalytic reaction of CO ₂ and hydrogen to produce methanol.	Bioenergy Workshop	Carbon Recycling International
CCU	Project Air	Production of methanol from CO ₂ , residue streams and biogas to replace fossil methanol in Sweden.	Sweden Workshop	Perstorp
CCU	Commercial scale CO ₂ -to-methanol plant using 100% RES	A CO ₂ -to-methanol plant in Norway using CO ₂ capture, electrolysis and hydrogenation.	CCU Workshop	Carbon Recycling International
CCU	ICO2CHEM	From industrial CO ₂ streams to added value chemicals such as white oils and high molecular weight waxes in Germany.	CCU Workshop	VTT
CCU	Direct Air Capture for Zero Emission Jet Fuel	Direct air capture of CO ₂ to produce aviation fuels in the Netherlands.	CCU Workshop	Climeworks
CCU	CCU at Twence	CO ₂ capture to produce sodium-bicarbonate in the Netherlands.	CCU Workshop	Twence
CCU	Power-to-methanol demonstration project	CO ₂ from flue gases and hydrogen from electrolysis for methane production in Belgium.	CCU Workshop	Port of Antwerp
CCU	E-Fuel 1	E-fuels through electrolysis and the Fischer–Tropsch process to produce diesel, naphtha and wax in Norway.	CCU Workshop	Nordic Blue Crude
CCU	Norsk E-Fuel Alpha	Production of renewable jet fuel and chemicals from electricity via electrolysis in Norway.	CCU & Hydrogen Workshops	Sunfire
CCU	Unique partnership between two sectors	Use of post-combustion capture of CO ₂ from flue gas for greenhouses in Germany.	CCU Workshop	Linde

CCU/CCS	Porthos	Carbon capture use and storage (CCUS) at the port of Rotterdam in the Netherlands.	Netherlands Workshop	Shell
Energy storage	Flexible efficiency with digitalisation	Balancing the electricity grid when a large share of different variable renewable electricity sources is used and the share of combustion capacity is reduced.	Bioenergy Workshop	Valmet
Energy storage	Alion	High specific energy aluminium-ion that is rechargeable for decentralised electricity generation sources.	Waterborne Sector Workshop	Southampton Marine & Maritime Institute
Energy storage	ThermaFLEX	A project to assess thermal demand and supply as flexible elements of future sustainable energy systems in Austria.	Austria Workshop	AEE Intec
Energy storage	gigaTES	Development of large-scale thermal energy storage in Austria.	Austria Workshop	AEE Intec
Energy storage	Azelio's Thermal Energy Storage	Energy storage with dispatchable power production made possible by a phase change material (PCM) of recycled aluminium alloy for Greek non-interconnected islands (NIIs).	Sweden Workshop	Azelio
Energy Storage	Geothermal Energy Buffer (GEB)	Energy storage solution consisting of a geothermal aquifer, electricity from renewables and a heat pump.	Geothermal Energy Workshop	Pluton DG
Geothermal energy	Poggio Montone Project	Geothermal innovative zero emissions power plant in Italy.	Geothermal Energy Workshop	Sorgenia
Geothermal energy	Transform the pilot project into a standardised and scalable product	Next generation of low-temperature geothermal energy and scale up of energy production.	Geothermal Energy Workshop	CLEAG
Geothermal energy	Eavor-Loop™	Geothermal energy development as a scalable and repeatable manufacturing operation by eliminating the need for an aquifer.	Geothermal Energy Workshop	Eavor

Geothermal energy	EnBW project	Integration of geothermal heat in large-scale district heating systems in Germany.	Geothermal Energy Workshop	EnBW
Geothermal energy	Geothermal innovation	Municipal geothermal networks for heating in Veresegyház, Bóly and Túrkeve in Hungary.	Geothermal Energy Workshop	Porcio
Geothermal energy	Combination of aquifer thermal energy storage (ATES) and low temperature district heating and cooling (DHC) system	Combination of ATES in DHC networks to move towards smart energy systems and carbon-free heating and cooling.	Geothermal Energy Workshop	University of Bologna
Geothermal energy	Reinjection of non-condensable gases	Solution to the challenge of reinjecting non-condensable gases in the geothermal energy industry.	Geothermal Energy Workshop	Steam
Geothermal energy	Deep geothermal energy systems	Combination of a tunnel boring system (TBS) with electric pulse boring (EPB) to build deep shafts for geothermal energy production.	Geothermal Energy Workshop	Swedish-Slovak strategic research
Geothermal/energy storage	Geothermal and/or industrial (90 – 120 °C) heat conversion to 24/7 electricity	Geothermal heat for the production of electricity and energy storage.	Sweden & Geothermal Workshop	Climeon AB & Baseload Capital
Geothermal/energy storage components	Vulcan Project	Mining of zero carbon lithium from geothermal brine in combination with renewable energy for the production of batteries.	Geothermal Energy Workshop	Koppar Resources
Hydropower	Wasserkraft u. Sektorkopplung	Use of hydropower with focus on ecological aspects, power-to-heat and power-to-gas in Austria.	Austria Workshop	Energie Steiermark
Ocean energy	Raz Blanchard tidal array project	Multi-turbine tidal array with a capacity of 10MW at Raz Blanchard, France.	Ocean Energy Workshop	Simec Atlantis Energy

Ocean energy	Deep Green	A subsea kite technology that unlocks clean electricity generation from low-flow tidal streams and ocean currents.	Ocean Energy Workshop	Minesto
Ocean energy	100 MW Deltaworks	Standard modular tidal barrier concept for powering the delta works in the Netherlands.	Ocean Energy Workshop	Tocado
Ocean energy	Pilot Array (3 Wave Energy Converters)	Pilot array with three devices certified to achieve bankable accreditation.	Ocean Energy Workshop	CorPower
Ocean energy	5-30 MW farms	Several ocean energy projects of varying capacities, for example in Ireland.	Ocean Energy Workshop	CorPower
Ocean energy	HiWave-5	Three devices in a pilot farm, delivering electricity to the grid with certification of availability and performance.	Ocean Energy Workshop	CorPower
Ocean energy	Westwave	5 MW wave energy project in Co Clare, Ireland.	Ocean Energy Workshop	Ocean Energy
Renewable energy	Innovative Wärmeezeugung	200 GWh renewable heat per year around Graz, Austria, and further energy storage and sector coupling.	Austria Workshop	Energie Steiermark
Renewable energy	Valenciaport Zero-Net Emissions 2030	By installing renewables the port of Valencia in Spain wants to become net-zero emissions by 2030.	Waterborne Sector Workshop	Fundación Valenciaport
Renewable Energy	HEVIMA: Hybrid Electric Vessel with Integrated Motor Assist	Conversion of conventional boats to hybrid electric boats.	Waterborne Sector Workshop	Southampton Marine & Maritime Institute
Renewable energy	PHARES	Replacement of four diesel generators at Ushant island, France, by solar PV, wind turbines, tidal turbines and energy storage units.	Ocean Energy Workshop	Sabella
Renewable energy	Hybrid Power Plants (such as TILOS)	Hybrid power plants: integration of generation units such as wind turbines and solar PV but also storage integration.	Wind Energy Workshop	Vestas

Renewable energy / component	The 3SUN 2.0 Initiative	A factory to produce innovative heterojunction technology (HJT) PV technology to lower energy costs. The technology comprises of converting silicium thin film technology to an innovative wafer-based PV technology.	Solar Energy Workshop	Enel Green Power
Renewable energy/Components	The Quantum Engine	A technology based on quantum tunnelling in ammonia for power and propulsion.	Waterborne Sector Workshop	Bulgarian Ship Hydrodynamics Centre
Renewable energy/Components	Dual-/multi-fuel engine	A robust and efficient flex-fuel powertrain using a wide range of alternative, renewable and conventional fuels.	Bioenergy Workshop	FPT Powertrain Technologies
Solar energy	Wacker's Green Hydrogen	Renewable hydrogen production by electrolysis instead of steam methane reforming for use in polysilicon manufacturing.	Solar Energy Workshop	Wacker
Solar energy	Agrinergie®	Combining solar greenhouses with social progress.	Solar Energy Workshop	Akuo Energy
Solar energy	Aquanergie®	Combining solar panels and fish farming: a canopy of solar panels over a fish pond which protects the fish from predators and stabilises water temperature.	Solar Energy Workshop	Akuo Energy
Solar energy	Sunstyle®	With its fish-scale construction, the solar roof protects the building from environmental conditions and produces electricity.	Solar Energy Workshop	Akuo Energy
Solar energy	Solar Process Heat Solutions	Increasing solar process heat demand in industry and decreasing fossil fuels subsidies create opportunities for energy service companies in the field of solar process heat solutions.	Solar Energy Workshop	Industrial Solar
Solar energy	Solar Heat Power	Efficient thermal solar system for field hospital mobile units.	Solar Energy Workshop	Orkli
Solar energy	TVP Solar project example	Use of heat from industrial processes in the food and beverage sector.	Solar Energy Workshop	TVP Solar

Solar energy	Photovoltaik	Annual installation of 8 MW in the Steiermark, Austria.	Austria Workshop	Energie Steiermark
Solar energy/energy storage	GEM® Green Energy in Motion	A plug and play solution of solar panels and electricity storage.	Solar Energy Workshop	Akuo Energy
Solar energy/components	Phoenix	Buoyancy propulsion system for an Unmanned Air Satellite through the integration of photovoltaic power system, batteries and reversible fuel cell components.	Waterborne Sector Workshop	Southampton Marine & Maritime Institute
Wind energy	Silenseas	A 300 person sail powered ship with panelled automatic-folding sail and a foldable 360° rotating rig. The project includes a 2 MW fuel cell for hotel load, LNG fuel and continuous energy emission improvements.	Waterborne Sector Workshop	Chantiers de l'Atlantique
Wind energy	The FastRig Demonstrator	A ship that harnesses the power of wind.	Waterborne Sector Workshop	Smart Green Shipping Alliance Ltd
Wind energy	Floating Offshore Wind	Floating offshore wind power installations.	Wind Energy Workshop	Equinor, NAVAL Energies and Principle Power
Wind energy	Electrification & Power-to-X	Direct electrification solutions for industry replacing fossil-gas for heating processes. This could be done with wind energy in relation to electric vehicle charging infrastructure or hydrogen and e-fuels produced at offshore wind farms.	Wind Energy Workshop	Hydrogenics
Wind energy	OnshoreWindkraft	300 MW installed onshore wind in the Steiermark, Austria.	Austria Workshop	Energie Steiermark
Wind energy	The North Sea ElectrofuelHub	Green fuels from offshore wind farms in the North Sea for ammonia-fueled ship engines.	Denmark Workshop	Siemens Gamesa Renewable Energy
Wind energy/components	Next generation of wind turbines	Data driven design and operation, new components and materials and recycling materials for the next generation of wind turbines.	Wind Energy Workshop	Vestas

Wind energy/components	Material Recycling	Low emission end of life strategies to demonstrate commercially mature recycling technologies.	Wind Energy Workshop	Wind Europe
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