Forschungsportal-Mailliste EU-Foerderinfo: Querschnitt europäische Forschungsförderung
Intl. Klinikpartnerschaften; H2020 Open Calls: Secure, Clean & Efficient Energy
erstellt am 08.05.2020, gültig bis 01.01.2022, Autor: Dr. rer. nat. Ramona Grzeschik

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1. /BMWI*/ Smarte und souveräne Nutzung von Daten für die Produktion - Österreich-Deutschland, Frist: 20. August 2020, 12:00 Uhr, 1. Stufe

In einem österreichisch-deutschen Leitprojekt soll gezeigt werden, wie eine smarte und souveräne Nutzung von Daten in der Produktion erfolgen kann. Dieses Leitprojekt soll ein Best Practice Beispiel darstellen und folgende drei Schwerpunkte zum Inhalt haben:
? Identifikation, Extraktion und Organisation von produktionsrelevanten Daten
? Erhöhung der Flexibilität und Effizienz in der Produktion durch die Verarbeitung von produktionsrelevanten Daten
? Sicherstellung von Sicherheit und Verfügbarkeit für produktionsrelevante Daten.
Insbesondere soll auch die Möglichkeit bestehen Konzepte zu entwickeln, die den Bedarf sowie den technologischen und ökonomischen Nutzen der offenen Plattform GAIA-X verdeutlichen.
Die Förderung dieses internationalen Kooperationsprojekts erfolgt auf Grundlage des Förderrahmens „Entwicklung digitaler Technologien", dessen Rahmenregelungen gelten. Gefördert wird ein Strategisches Projekt in der Sonderform „Internationale Kooperationsprojekte" mit in der Regel drei bis fünf Partnern. Beide Seiten verfassen eine gemeinsame bilaterale Projektbeschreibung und reichen diese bis zum Stichtag in ihren Ländern ein. Grundlage für die Erstellung dieser Beschreibung des Leitprojekts ist die Vorlage für bilaterale Projektbeschreibung.
Für deutsche Förderinteressierte ist das Antragsverfahren zweistufig angelegt:

Stufe 1:
Bis zum Stichtag 20. August 2020, 12 Uhr reicht das deutsche Teil-Konsortium die bilaterale Projektbeschreibung als Projektskizze ein. Dies erfolgt über das Online-Skizzentool pt-outline. Der Link dazu wird in Kürze hier zur Verfügung stehen. Diese bilaterale Projektbeschreibung hat für das gesamte Konsortium bindenden Charakter! Im Sinne der üblichen Förderregeln ist dies bereits die Gesamtvorhabenbeschreibung. Sie dient als Grundlage für alle weiteren Schritte.

Stufe 2:
Nach positiver Begutachtung erfolgt für die deutschen Partner die Aufforderung zur Antragstellung. Bis zum Stichtag 20. Oktober 2020 sind die formalen Projektanträge über das online-Förderportal easy-online einzureichen. Dazu ist es notwendig, dass jeder deutsche Projektpartner auf Basis der bilateralen Projektbeschreibung zusätzlich eine Teilvorhabenbeschreibung zu seiner spezifischen Rolle und den Aufgaben verfasst und einreicht.

Einreichberechtigt sind österreichische und deutsche Unternehmen (GU und KMU) sowie Forschungseinrichtungen.

Am 19. Mai 2020 findet um 11:00 Uhr eine Auftaktveranstaltung (Web-Konferenz) für Anmeldung und Matchmaking statt.

Ansprechpartner:

DLR Projektträger
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Weitere Informationen:
https://www.digitale-technologien.de/DT/Navigation/DE/Foerderaufrufe/InternationaleKooperationen/d_oest_koop/d_oest_koop.html

2. /BMZ*/ Klinikpartnerschaften - Partner stärken Gesundheit, Frist: 22.06.2020

Im Rahmen des Förderprogramms Klinikpartnerschaften - Partner stärken Gesundheit unterstützt das Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung gemeinsam mit der Else Kröner-Fresenius-Stiftung Partnerschaftsprojekte zwischen deutschen Organisationen des Gesundheitssektors und Partnern in Ländern mit niedrigem und mittlerem Einkommen.

Alle medizinischen Fachbereiche sind vertreten.

Antragsberechtigt sind öffentlich-rechtliche Einrichtungen und gemeinnützige Organisationen in Deutschland.
Das Förderprogramm unterstützt nachhaltige Partnerschaftsprojekte, die entwicklungspolitische Aspekte berücksichtigen. Die wichtigsten sind:
- Relevanz: Das Partnerschaftsprojekt ist bedarfsorientiert; Berücksichtigung des lokalen Kontextes; Bedarfsadressierung - wo möglich und notwendig - von vulnerablen Gruppen.
- Effizienz: Tragfähiges Projektmanagement mit klaren Verantwortlichkeiten; angemessene Zeit- und Finanzplanung; Eigenbeitrag des deutschen Antragstellers erkennbar; effiziente und angemessene Verwendung der Mittel.
- Effektivität: Berücksichtigung von Aspekten der Umsetzbarkeit und Wirksamkeit; fachliche Konsistenz und Kohärenz; Ziele, Aktivitäten sowie Indikatoren sind aufeinander abgestimmt; kontinuierliche Überprüfung der Ziele ist gewährleistet.
- Nachhaltigkeit: Partnerschaftsprojekt verfolgt eine langfristige Vision; institutionelle Stärkung durch Kapazitätsaufbau und Prozessoptimierung ist berücksichtigt.
- Ethische Vertretbarkeit: Projektumsetzung befolgt einen ethisch und politisch vertretbaren Ansatz.

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Weitere Informationen:
https://www.klinikpartnerschaften.de/

3. /EU Horizon2020*/ Low Carbon Industrial Production Using CCUS, ID: LC-SC3-NZE-5-2020, Deadline: 01.09.2020 17:00 Brussels time

Specific Challenge:
CCUS in industrial applications faces significant challenges due to its high cost and the fierce international competition in the sectors concerned. However, these sectors currently account for 20% of global CO2 emissions, and in the 2 degree scenario, should represent half of the stored CO2 by 2050. Relevant sectors with high CO2 emissions are for example steel, iron and cement making, oil refining, gas processing, hydrogen production, biofuel production and waste incineration plants.

Scope:

Projects will focus on integrating CO2 capture in industrial installations, whilst addressing the full CCUS chain. Projects will elaborate a detailed plan on how to use the results, i.e. the subsequent transport, utilisation and/or underground storage of the captured CO2. Important aspects to address are of technical (e.g. the optimised integration of capture plant with industrial processes; scalability; CO2 purity), safety (e.g. during transportation and storage), financial (e.g. cost of capture; cost of integration) and strategic nature (e.g. business models; operation and logistics of industrial clusters and networks).
In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation is encouraged, in particular with relevant Mission Innovation countries such as China.

Expected Impact:
Successful, safe and economic demonstration of integrated-chain CCUS from relevant industrial sources such as mentioned in the specific challenge will accelerate the learning, drive down the cost and thus help break the link between economic growth and the demand for industrial output on one hand, and increasing CO2 emissions on the other hand. The impact of projects under this call will to a large extent be determined by the extent to which the results will be exploited, i.e. the plan on how the captured CO2 will be actually utilised and/or stored, either in the project or planned as a future phase. This will be evaluated based on the maturity and quality of the proposed post-capture solutions. Projects under this call that are carried out in areas where there is both a high concentration of CO2 emitting industries and a nearby capacity for geological storage are considered prime sites for hub and cluster developments, and will generate the highest impact on full-scale deployment in the medium to longer term.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-nze-5-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-de=H2020-LOW-CARBON-CIRCULAR-INDUSTRIES-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;false;topicListKey=callTopicSearchTableState

4. /EU Horizon2020*/ Industrial (Waste) Heat-to-Power conversation, ID: LC-SC3-CC-9-2020, Deadline: 01.09.2020 17:00 Brussels time

Specific Challenge:
Better use of process excess/waste heat represents a significant source of energy savings for industries. In a context of reducing greenhouse gas emissions and introducing the concept of circular economy in heat management in view of industrial process electrification, European industries have a clear interest in finding new ways to capture the heat produced by their process and to reuse it or to produce electricity. The conversion of excess heat back to electricity would also improve energy efficiency, mitigate the increase of electricity consumption due to industrial electrification and thereby reduce the load on the power grids. This will also facilitate balancing the grid due to intermittent supply of electricity from renewables.
Innovative heat to (mechanical or electrical) power conversion cycles using either organic fluid or supercritical CO2 fluid, present several benefits compared to conventional steam cycles. Organic cycles have the potential to recover waste heat sources as low as 150 °C, whereas steam systems are limited to heat sources above 260 °C. The supercritical CO2 cycle covers medium and high temperatures with drastically reduced footprint, higher efficiency, reduced or eliminated water requirement, reduced operational costs, compared to steam cycles.
These technologies are also transferable to renewable and conventional power generation with higher efficiency and reduced footprint than established technologies.

Scope:

Accounting for the results of previous research, proposals will integrate an industrial waste heat-to-power conversion system using one type of fluid (supercritical CO2 or organic) and demonstrate the system operation in industrial environment at an output power level of at least 2 MW, with improved cost efficiency compared to existing solutions. Proposals are expected to bring the technologies to TRL 6 or 7 (please see part G of the General Annexes)
In order to reach this goal all the following development areas need to be covered:
- Optimisation of thermal cycles for different temperature levels of recovered heat and constrained industrial environment, in terms of efficiency and economics (capex, opex);
- Development/improvement of design tools at components and system levels;
- Development/improvement of materials and components: heat exchangers, turbomachinery, waste heat recovery unit, power generator and electronics, etc.
- Integration and demonstration of the system in industrial environment;
- Technical, and economical life cycle assessment of heat-to-power systems adapted for at least 4 energy intensive industrial sectors, to demonstrate economic viability, define business cases and exploitation strategy;
- Dissemination of the technical and economic benefits.

Given the transversal nature of the technology, the potential for transferring the technology to the generation of electrical power from conventional and renewable energy sources should be assessed and disseminated.
In the case of supercritical CO2 technology, the potential for international cooperation[2] to facilitate technology development and market uptake should also be explored, notably to: establish mechanisms for exchange of R&D results (e.g. on materials performance); establish forum on safety issues, on standardisation of performance models; establish standards for instrumentation performance and calibration.
This topic contributes to the roadmap of the Sustainable Process Industry through Resource and Energy Efficiency (SPIRE) cPPP. Clustering and cooperation with other selected projects under this cross-cutting call and other relevant projects is strongly encouraged.

Expected Impact:
Actions are expected to make substantial contributions in terms of industrial excess/waste heat use and impact on power distribution networks:
- Improved cycles to achieve scalability to higher power levels, higher cost effectiveness, wider input temperature ranges, significantly reduced system size compared to steam turbines, allowing wider take up of heat recovery from more industrial processes;
- Primary energy savings (GWh/year) in industry (heat recovery) and potential primary energy savings in the power generation sector, assuming full deployment in EU Member States and (as far as data are available for the calculation of the impact) in Associated Countries.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-cc-9-2020;freeTextSearchKeyword=;typeCodes=1;statusCodes=31094501,31094502,31094503;programCode=H2020;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=H2020-LC-SC3-2020;sortQuery=submissionStatus;orderBy=asc;onlyTenders=false;topicListKey=callTopicSearchTableState

5. /EU Horizon2020*/ Positive Energy Districts and Neighbourhoods for urban energy transitions, ID: LC-SC3:SCC-2-2020, Deadline: 01.09.2020 17:00 Brussels time

Scope:

Proposals will mobilise networks of national (and/or regional) research, innovation and demonstration programmes in the field of smart and sustainable cities and sustainable decarbonised integrated energy systems. They will pool the necessary financial resources with a view to implementing a joint call for proposals resulting in grants to third parties with EU co-funding in this area, and for related programme management, synthesis and dissemination of the results. Activities funded through the joint calls should focus on a circular, resource efficient and low carbon integrated system perspective. The joint calls should include the following three formats, which should be interlinked and integrated to achieve highest impact.

The joint calls will firstly include applied research, strategic innovation and demonstration projects to develop specific innovative approaches and solutions for the planning, implementation and operation of PED/PENs, which are relevant in many European cities and urban areas. Strategic innovation projects resulting from the joint calls should create opportunities for cross-linking and collaboration and target more than one of the following aspects:
- increasing energy efficiency of neighbourhoods and reduction of performance gaps, reducing climate impact and facilitating energy transition at urban scale promoting integrated and holistic approaches
- integrating renewable energy production and transformation technologies to support and optimize storage, including flexibility and resilience of PED/PENs
- support integration and development of integrated and smart solutions for sector-coupling in PED/PENs
- streamlining and alignment of the spatial planning processes and developing digital planning strategies and optimization tools
- developing societal innovation, social entrepreneurship and citizen participation
- developing business models for implementing and operating PED/PENs on full

The joint calls will secondly include the establishment of transdisciplinary and transnational innovation labs, innovation platforms and experimental areas for PED/PENs that facilitate the testing of prototypes, the co-creation and piloting of new concepts, approaches and urban designs, innovative formats and services in the planning, implementation and operation and replication phase of PED/PENs covering TRL 3-7. This should enable feasibility studies, field testing, sharing of test facilities, development of use cases and replication profiles for different PED/PEN types (e.g. new construction and retrofitting of neighbourhoods) to speed up the technology and service learning curves over the whole value chain. Particularly the PED/PEN innovation labs, innovation platforms and experimental areas shall bring together city administrations, PED/PEN business and industry, service developers/providers, and research organisations tying together actors bridging the whole value chain in different countries and regions.

The joint calls will thirdly include the development of formats to build local capacity and institutional learning in PED/PEN planning, development and operation with the aim to replicate and mainstream PED/PENs in a local, national and European environment. It should take into account the need to develop new public services and public innovation governance, in particular concerning effective public participation and challenge driven approaches in practice. This should enable sharing of experience, development of standardised packages, adaptation of regulations, human capacity building/trainings etc. Proposers are requested to include other joint activities including additional joint calls without EU co-funding.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-scc-2-2020;freeTextSearchKeyword=;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCod
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6. /EU Horizon2020*/ International cooperation with Canada on advanced biofuels and bioenergy, ID: LC-DC3-RES-36-2020, Deadline: 01.09.2020 17:00 Brussels time

Specific Challenge:
The optimisation of advanced biomass supply chains and overcoming specific conversion technology barriers are needed to improve the market up-take of sustainable advanced biofuels and bioenergy and accelerate their deployment for replacing the use of fossil fuels in the transport, power and heating sectors. International collaboration is mutually beneficial in strategic areas where knowledge can be exchanged and Europe can obtain leadership together with its international partners.

Scope:
Proposals will aim at international cooperation with Canada for fostering the deployment of advanced biofuels and bioenergy while substantially decreasing the costs of the feedstock supply or the conversion process.

Proposals should address at least one of the following issues:
- Development of the full supply chain of biomass-to-bioenergy applications including intermediate bioenergy carriers, advanced biofuels, heat and power generation. Sustainable biomass production and collection strategies that facilitate sustainable bioenergy production and decrease feedstock supply costs will be included. All types of non-food/feed biomass including forestry, agricultural and their residues, organic fractions of municipal and industrial wastes can be targeted.
- Thermochemical, biochemical and chemical processing of sustainable biomass to advanced biofuels focusing on the pre-treatment and the conversion process and in particular on reducing the respective marginal cost.

Proposals are expected to bring the technology from TRL 3 to TRL 5.

Expected Impact:
It is expected that the exchange of knowledge through the targeted research activities with Canada will progress the technology state-of-the-art, strengthen the European and Canadian technology base and accelerate the development of sustainable fuels to replace the fossil fuel alternatives. At the same time, it is expected that the development of secure, long-term supply of sustainable feedstock and/or the technology advances will also significantly contribute to increase the viability of advanced biofuels and bioenergy in the EU and Canada.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-res-36-2020;freeTextSearchKeyword=;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCo
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7. /EU Horizon2020*/ Demonstration of innovative and sustainable hydropower solutions targeting unexplored small-scale hydropower potential in Central Asia, ID: LC-SC3-RES-34-2020, Deadline: 01.09.2020 17:00 Brussels time

Specific Challenge:
The challenge is to demonstrate innovative solutions targeting unexploited small-scale hydropower potential in Central Asia that will contribute to solve the particular cross-border water and energy management challenges in the region. Therefore, the hydropower technological solutions will need to be socio-economically and environmentally sustainable and embedded in a forward-looking cross-border Water/Food/Energy/Climate nexus concept for this region.

Scope:

Projects will demonstrate innovative hydropower equipment exploiting unexplored small-scale hydropower potential in Central Asia up to 10 MW installed capacity by means of sustainable and cost-effective small-scale hydropower solutions. The demonstration will provide solutions for realising innovative and sustainable hydropower, based on synergies between innovative European hydropower technology, research and industry partners, and the Central Asian hydropower sector. Therefore, the demonstration activities shall take place in Central Asia (Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan or Uzbekistan), with participation of local partners.

The project should also fulfil the highest standard in terms of socio-economic and environmental sustainability and impact, and engagement of local civil society. It should also demonstrate how it will contribute positively to the regional cross-border Water/Food/Energy/Climate nexus and refer to embedded sustainable hydropower auxiliary services.
Proposals are expected to bring the technology from TRL 6-7 to 7-8.

Expected Impact:
The action is expected to support the competitiveness of the European hydropower technology sector as a responsible actor in global markets in the long-term, with a strong focus on overall sustainability of the provided hydropower solutions within the Water/Food/Energy/Climate nexus in Central Asia. The expected outcomes will strengthen the worldwide leadership of the European hydropower industry in providing innovative and sustainable hydropower solutions and will support international cooperation with developing countries. Expected are outcomes which are in line with UN sustainable development goals

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-res-34-2020;freeTextSearchKeyword=;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCo
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8. /EU Horizon2020*/ International Cooperation with USA and/or China on alternative renewable fuels from sunlight for energy, transport and chemical storage, ID: LC-SC3-RES-3-2020, Deadline: 01.09.2020 17:00 Brussels time

Specific Challenge:
Decarbonisation of the energy and transport systems requires the ultimate replacement of fossil fuels in the long-term and the flexibility to store sustainable energy on a large scale and for a long time in new kind of energy storage compounds. To achieve this goal, the production of clean forms of storable chemical energy carriers from direct sunlight will be necessary.
International collaboration is mutually beneficial in strategic areas where knowledge can be exchanged. The specific challenge is for Europe to precede together with its international partners in global development of specific disruptive technologies for the ultimate replacement of fossil fuels.

Scope:
Proposals will aim at international cooperation with the USA and/or China on targeted research activities for obtaining advanced biofuels and alternative renewable fuels for energy and transport through photochemical/ photobiological or electrochemical reaction. The ranking of the successful proposals will ensure that a balanced portfolio of activities is covering both cooperation with USA and China (please see call conditions).
The proposals will develop breakthrough artificial photosynthesis technologies in terms of sunlight conversion efficiency for the production of energy carriers (other than electricity) with either de-novo synthetic biological and artificial/biochemical hybrid systems or novel photo-catalysis or photo-electro catalysis coupled with CO2 reduction.

At least one of the following technology-specific challenges has to be addressed:
- Improved light-harvesting and efficient charge separation in photocatalytic systems;
- Photoelectrochemical cells - PECs and catalyst development
- Improved light harvesting coupled with improved CO2 reduction efficiency in synthetic biological systems

Use of external renewable electricity or electricity generated by sunlight with PV or CSP to produce the carriers is excluded from this topic.

Expected Impact:
It is expected that the exchange of knowledge through the targeted research activities with USA and/or China will progress the scientific understanding and the technology state-of-the-art and in addition strengthen the European and international partners' technology base. At the same time, it is expected that the development of renewable fuels that outperform the best fossil fuel alternatives is accelerated.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-res-3-2020;freeTextSearchKeyword=;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCodramCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortfault;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState

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9. /EU Horizon2020*/ International cooperation with Japan for Research and Innovation on advanced biofuels and alternative renewable fuels, ID: LC-SC3-RES-25-2020, Deadline: 01.09.2020 17:00 Brussels time

Specific Challenge:
Disruptive conversion technologies are needed for replacing completely the use of fossil fuels in the transport and heating sectors with advanced biofuels and alternative renewable fuels. International collaboration is mutually beneficial in strategic areas where knowledge can be exchanged and Europe can obtain leadership together with its international partners.

Scope:
Proposals will aim at international cooperation with Japan involving Japanese organisations in the consortia for the development of disruptive catalytic technologies, by developing novel catalysts and linked lab-scale components/systems with significantly improved performance for conversion efficiency and specific marginal cost reduction for obtaining low-cost bioenergy carriers, non-food/feed based advanced biofuels and alternative renewable fuels (excluding hydrogen) and maximizing GHG abatement.

Expected Impact:
It is expected that the exchange of knowledge through the targeted research activities with Japan will progress the technology state-of-the-art and in addition it will strengthen the European and Japanese technology base. At the same time, it is expected that the development of renewable fuels that outperform the best fossil fuel alternatives is accelerated.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-res-25-2020;freeTextSearchKeyword=;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCogramCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sorefault;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState

10. /EU Horizon2020*/ Efficient combination of Concentrated Solar Power and desalination (with particular focus on the Gulf Cooperation Council (GCC) region), ID: LC-SC3-RES-20-2020, Deadline: 01.09.2020 17:00 Brussels time

Specific Challenge:
Several arid and semi-arid regions of the world are highly dependent on desalination and the demand for desalination is projected to grow. Many of these regions have also an abundant solar resource, which is suitable for the application of Concentrated Solar Power (CSP). Several technical aspects need to be addressed to match the thermal cycle of a CSP plant to the energy needs of a desalination system in an effective way.

Scope:
Support will be given to demonstrate efficient solutions that couple the thermal cycle of a CSP plant to a water desalination system.
The proposals are expected to bring technologies to TRL 6 at the end of the project activities.

In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation is encouraged, in particular with Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. The participation of organisations from these countries as partners in the project will be positively evaluated.

Expected Impact:
The expected impacts are a substantial reduction of CO2 emissions from desalination and strengthened international cooperation. This will support the objectives of the many international initiatives that are currently addressing the crucial nexus between energy and water systems.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-res-20-2020;freeTextSearchKeyword=;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCo
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11. /EU Horizon2020*/ Geological Storage Pilots, ID: LC-SC3-NZE-6-2020, Deadline: 01.09.2020 17:00 Brussels time

Specific Challenge:
The total geological storage capacity in Europe is estimated to be over 300 billion tonnes (Gt) of CO2. This is sufficient to permanently hold all the CO2 that could be captured in the EU for decades to come. The significant lead time for the development and permitting of geological storage, which is in the order of 7-10 years, demands speeding-up storage site identification and characterisation in Europe. The appraisal and development of storage capacity in promising regions has to provide the necessary confidence that the required CO2 storage capacity will be available when needed. In addition, storage pilots will play a crucial role in unlocking European CO2 storage capacity, assessing the potential risks and visualising CCS technology to the wider public. A portfolio of pilot storage sites in different geological settings, onshore or offshore, either in depleted hydrocarbon fields or in deep saline aquifers, is therefore needed to catalyse full-scale deployment of CCS in the medium to longer term.

Scope:
The objective is to carry out the identification and geological characterisation of new prospective storage sites for CO2 (including the 3D architecture of the storage complex) in promising regions of future demonstration and deployment (onshore or offshore) through the implementation of new CO2 storage pilots. This will result in new data, knowledge and detailed models of potential storage complexes and their response to dynamic pressurisation. Important aspects include (but are not limited to): detailed geological characterisation, including faults and facture systems; analysis of initial stress field and geomechanical behaviour of the storage formations and seals under varying stress and pore-pressure conditions; estimation of storage capacity; accurate modelling of injectivity; overall storage risk assessment, including induced seismicity and blow-out or blockage during injection, and including proposed mitigation action. Detailed plans should propose site-specific solutions for CO2 injection strategies, pressure management, mitigation of induced seismicity, and MMV (measurement, monitoring and verification).

For geological storage, in particular onshore, public acceptance is paramount. Therefore projects are expected to identify and engage relevant end users and societal stakeholders and analyse their concerns and needs using appropriate techniques and methods from the social sciences and humanities, noting the significant differences in potential regional consequences where the CO2 stored comes from power versus industry.

Expected Impact:
Detailed geological characterisation and development planning of promising and safe storage sites and successful realisation of storage pilots will facilitate the subsequent application for storage permits and the kick-start of CCS in the concerned Member States and Associated Countries. Such a 'pipeline of sweet spots' can provide a baseline for estimation of storage cost, increase public awareness and help prepare the ground for full and active development into operational storage sites in the mid 2020's.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-nze-6-2020;freeTextSearchKeyword=;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCoc ramCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sort fault;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState

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12. /EU Horizon2020*/ Integrated local energy systems (Energy islands): International cooperation with India, ID: LC-SC3-ES-13-2020, Deadline: 01.09.2020 17:00 Brussels time

Specific Challenge:
The fast growth of energy production from renewable energy sources offers new and economically attractive opportunities for decarbonising local energy systems (e.g. isolated villages, small cities, urban districts, rural areas with weak or non-existing grid connections). It is also a technological and financial challenge for the electricity network to integrate more renewables, but it is also an opportunity to optimise the electricity system operation in synergy with other energy carriers/vectors to increase the hosting capacity for renewables, not just for electricity but also for heating/cooling, transport and/or industry in a sector coupling approach. Novel approaches to optimize network architecture, planning and development based on the opportunities offered by integrated local energy systems and enabled by digitalisation and power electronics can contribute to addressing the challenge, as can storage of electricity in all energy vectors (e.g. electricity, heating, cooling, water, wastes, etc.), including possibilities offered by batteries and electric vehicles.
Integrated local energy systems can be used to create economically attractive conditions to boost local energy sources and activate local demand-response. Innovative approaches, for example based on Renewable Energy Communities, in line with the recently adopted Renewable Energy Directive (EU)

2018/2001, can result in attractive business cases for local investments in smart integrated energy systems with weakly or non-existing grid connections. At the same time, decarbonisation can go hand-in-hand with the improvement of local air quality and citizens' engagement.

Scope:
Proposals will develop and demonstrate solutions which analyse and combine, in a well delimited system, all the energy vectors that are present and interconnect them, where appropriate, to optimise their joint operation that is demonstrated by an increased share of renewables in and higher energy efficiency of the local energy system.
Proposals should present a preliminary analysis of the local case as part of the content of the proposal and propose to develop solutions and tools for the optimisation of the local energy network, that also have a high replication potential across Europe and India.

Local consumers, small to medium industrial production facilities and/or commercial buildings should be involved in the projects from the start, preferably by creating energy renewable energy communities.
In bi-lateral discussions between India and the EU, as well as in several international contexts such as the Mission Innovation initiative launched at COP21, the Clean Energy Ministerial and the International Energy Agency Implementing Agreement on Smart Grids (ISGAN), this topic was identified as being of common interest owing to its potential for decarbonisation. In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), international cooperation with India is promoted under this topic.

The cooperation must be under the form of a proposal demonstrating a local energy system (or several local energy systems) in either the EU/Associated Countries or India or both, and through a project work programme with meaningful contributions by entities from the EU/Associated Countries and India.

Mutual learning and extensive exchange between demonstrations in European and Indian contexts is encouraged under this topic. Accordingly, the notion of 'first application/deployment in the market' as specified in the definition of an Innovation Action applies reciprocally to India and thus 'first' means new also in India.

Proposals will include a task on the analysis of obstacles to innovation in both the EU and Indian context and foresee the coordination on policy relevant issues (e.g. regulatory framework, business models, data management, consumer engagement) with similar EU-funded projects through the BRIDGE initiative as well as with similar India-funded projects. Coordination and synergies will be explored and, if relevant to the project, may be established with the Clean Energy for EU Islands initiative. An indicative budget share of at least 2% is recommended for the research work associated with these issues and an additional 2% for the coordination effort.

Expected Impact:
The supported projects are expected to contribute to all the following impacts:
- validate solutions for decarbonisation of the local energy system while ensuring a positive impact on the wider energy infrastructure, on the local economy and local social aspects, and local air quality;
- enhance the involvement of local energy consumers and producers, preferably by creating energy communities in the development and the operation of local energy systems and test new business models;
- validate approaches, strategies and tools to safely and securely operate an integrated local energy system across energy vectors (electricity, heating, cooling, water, wastes, etc.) so that it is able to integrate higher shares of renewables (than it would in case of separate operation of infrastructures);
- benchmark technical solutions and business models that can be replicated in many local regions and that are acceptable by local citizens.

- Proposals are invited to include ad-hoc indicators to measure the progress against specific objectives of their choice that could be used to assess the progress during the project life. Indicators are expected to have clear and measurable targets.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-es-13-2020;freeTextSearchKeyword=;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState

13. /EU Horizon2020*/ European Energy and Climate Modelling Forum (2020-2024), ID: LC-SC3-CC-7-2020, Deadline: 01.09.2020 17:00 Brussels time

Specific Challenge:
The European Union aims to decarbonise its economy according to policies for 2020 and 2030 and long-term visions for mid-century. The Commission has extensively used energy and climate economic models to assess the impacts of its policies and has supported the development of new knowledge in this field. As the energy transition will require radical changes in energy production, distribution and use, there is a need for a diversified set of modelling approaches to add robustness to the technical feasibility of the identified pathways and the evaluation of their respective costs and benefits.

Currently, the European energy and climate modelling landscape is quite fragmented. Structured, multilateral communication between modelling groups and other stakeholders was only recently initiated via the Energy Modelling Platform Europe, whereas similar initiatives have a long history in the USA and at UN level and also exist in China.

The European capacity to explore the pathways to achieve its long-term climate and energy objectives needs to be enhanced and these efforts need to be made within a structured and transparent framework that results in tools that are open for use by all stakeholders.

Scope:
A new "European Energy & Climate Modelling Forum" will structure and manage joint model benchmarking and comparison exercises on the EU energy system, climate mitigation and its regional and sectoral components along relevant policy questions. This does not include new model development, but will:
- Benchmark and compare different assumptions, data sources, scenario building and modelling suites to explore the pathways to long-term climate - energy policies;
- Interpret the results across different societal, economic, and policy perspectives;
- Provide robust evidence supporting the development of near-term and long-term policies for the implementation of the 2030 and 2050 objectives;
- Support the development of modelling capacity in Member States/Associated Countries and create a technical (IT-based) communication channel between the EC and Member States. This will complement existing channels like the Energy Economics Group[6] (which gathers experts from the Member States/Associated Countries) and new groups arising from the regulation on the governance of Energy Union or groups from Framework Programme research projects. No group currently exists for climate policy, but the project could actively support engagement between member states stakeholders and modellers.
- Link with existing global modelling projects, such as COMMIT, and projects under Horizon 2020 Work Programmes to support the transition to a low-carbon energy system (LC-SC3-CC-2-2018) or to improve integrated assessment models and use them to inform policy-making (LC-CLA-01-2018)
- Contribute to joint scientific publications from modelling teams.

Besides managing the core comparison activity, the forum will:
- Organise regular meetings to share findings and to brainstorm on research questions with policy relevance and directions for the European energy and climate modelling community;
- Contribute to the development of a truly integrated approach by considering the possible feedbacks between the energy system and the environment;
- Organise, store or link the quantitative information produced by modelling exercises in a transparent and accessible manner;
- Interact with a wide range of stakeholders including modelling experts working for Member States/Associated Countries and other entities as well as promoting links with policy makers at all levels.

Expected Impact:
Results from the Forum's activities (modelling comparisons, scenarios etc.) will inform the development of future energy and climate policies at national and European level.
The Forum will create a closer, stronger, European modelling community. It will present a more coherent, unified evidence base that will, in turn, form a concrete basis for action by policy makers.
It will also improve collaboration beyond Europe, which will lead to a greater influence on global energy and climate policy.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-cc-7-2020;freeTextSearchKeyword=;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCode
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14. /EU Horizon2020*/ Social Sciences and Humanities (SSH) aspects of the Clean-Energy Transition, ID: LC-SC3-CC-1-2018-2019-2020, Deadline: 01.09.2020 17:00 Brussels time

Specific Challenge:
The clean-energy transition doesn't just pose technological and scientific challenges; it also requires a better understanding of cross-cutting issues related to socioeconomic, gender, sociocultural, and socio-political issues. Addressing these issues will help to devise more effective ways of involving citizens and to better understand energy-related views and attitudes, ultimately leading to greater social acceptability as well as more durable governance arrangements and socioeconomic benefits.
Scope:
Energy citizenship: SSH research offers many insights into the conditions favouring civic engagement, active participation and interaction with institutional or corporate actors. Such "energy citizenship" is not limited to early technology adopters or environmental activists, and it goes beyond (but also encompasses) mere "consumer involvement". Rather than using SSH research as an instrument to achieve particular outcomes (e.g., social acceptance) it can help to understand in what kind of environments collaborative goal setting and commitment can take place, how relevant decisions are made and any trade-offs between competing goals are addressed. This has important implications for EU energy policymaking. Proposals are expected to examine the factors affecting the emergence and effectiveness of energy citizenship and its potential for achieving the decarbonisation of the energy system. This should include factors such as digitalisation, social media, social group dynamics (e.g. creating trust, finding shared goals), societal factors (e.g. institutional, corporate or legal environment), demographics and social justice. It should result in practical recommendations for policy-makers.

Specifically, proposals are expected to focus on one or several of the following questions:

- Is energy citizenship more likely to emerge locally, or at regional, national or supranational levels? For what reasons?
- What is the relative importance of processes internal to relevant social groups (e.g., creating trust and connection, finding shared goals and solutions, building coalitions), as opposed to external environmental variables (e.g., relative openness of institutional or corporate environments, availability of sympathetic interlocutors, access to financial or other sources of support, legal or other obstacles)?
- What impact does the digitisation of the energy system and the proliferation of social media have on the emergence and consolidation of energy citizenship?
- Under what conditions is energy citizenship conducive to reaching broader policy goals, particularly the decarbonisation of the energy system, and under what conditions does it have the opposite effect?

Expected Impact:
The proposed research will:
- provide a better understanding of socioeconomic, gender, sociocultural, and socio-political factors and their interrelations with technological, regulatory, and investment-related aspects, in support of the goals of the Energy Union and particularly its research and innovation pillar;
- Social innovation in the energy sector (2018): yield practical recommendations for using the potential of social innovation to further the goals of the Energy Union, namely, to make Europe's energy system more secure, sustainable, competitive, and affordable for Europe's citizens;
- Challenges facing carbon-intensive regions (2019): yield practical recommendations for addressing the challenges of the clean-energy transition for Europe's coal and carbon-intensive regions, including socioeconomic and political ones.
- Energy citizenship (2020): based on a better understanding of socio-economic, gender, socio-cultural, and socio-political factors, their interrelations with technological, regulatory, and investment aspects, yield practical recommendations for harnessing energy citizenship to achieve the energy and decarbonisation goals in the European Union and Associated Countries.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-cc-1-2018-2019-2020;freeTextSearchKeyword=;typeCodes=0,1;statusCodes=31094501,31094502,31094503;pr4503;programCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=DellCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageStateageState

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15. /EU Horizon2020*/ Pan-European advanced manufacturing assistance and training for SMEs, ID: INNOSUP-08-2020, Deadline: 01.12.2020 17:00 Brussels time

Scope:
The objective is to reinforce the competitiveness of manufacturing SMEs by providing easy and pan-European access to advanced manufacturing advice and expertise as well as training programmes. The services to be provided to the SME should be driven by its business needs and the implementation must be flexible and fast to better cope with the speed of innovation in advanced manufacturing and the SME requirements.
The action will consist of the two elements (which can be combined) listed below which will continue and expand the activities of the Advanced Manufacturing Support Centre:
- The roll-out of a pan-European advanced manufacturing assistance programme helping SMEs with the ambition to turn into a factory of the future: Reaching out to companies and assisting a critical mass of manufacturing SMEs with a view to transform their business towards a factory of the future with modern and sustainable production.

The coherent EU methodology, developed on the basis of good practices and existing initiatives within Member States and regions and tested through a small-scale pilot by the (virtual) European Advanced

Manufacturing Support Centre, should be used as a basis for assisting companies to transform their organisation into a factory of the future. SMEs will be offered assistance to elaborate a transformation plan for their company and will also be coached and guided during the implementation phase of the plan to turn their company into a factory of the future. The transformation plan should take an integrated approach to advanced manufacturing and address the innovativeness of processes and products as well as the environmental and social sustainability of manufacturing, as outlined in the EU methodology.

- The roll-out of an advanced manufacturing training programme which will consist of (1) Cross-border training services to be provided to a critical mass of SMEs in cooperation with technology or training centres capable of delivering training services to SMEs in advanced manufacturing and (2) The development of framework(s) for training programmes ready to be scaled-up under the European Social Fund.

The training services should include practical, "on-site" training delivered at facilities where technologies can be tested and demonstrated such as pilot lines (e.g. "learning by doing", "learning factories", fab labs). Proposals should include solutions to overcome the challenge of both geographical distance and the gender segregation.

The consortium will define quality criteria for the trainings. A quality label compatible with the European quality assurance reference framework for vocational education and training (EQAVET) should acknowledge the quality of the trainings provided.
For this second element of the topic, proposers are encouraged to also build on experiences from actions undertaken under the Blueprint for sectoral cooperation on skills and the identified pilot sectors identified in the Communication on a New Skills Agenda for Europe[9] which could allow a smoother roll-out of the specific frameworks for training programmes.

The consortium should be formed by a group of partner organisations with proven track records in providing innovation and training services directly to SMEs in the area of advanced manufacturing. The involvement of vocational education and training centres will be necessary to ensure the long-term impact of frameworks for training programmes.
Wherever appropriate, actions could seek synergies and co-financing from relevant national/regional research and innovation programmes, or from structural funds addressing smart specialisation. Actions combining different sources of financing should include a concrete financial plan detailing the use of these funding sources for the different parts of their activities.

Proposers are encouraged to liaise with the Enterprise Europe Network and cluster organisations, in particular for outreach to SMEs having a potential and willingness to adopt advanced manufacturing solutions and/or with specific training needs. Liaison with the relevant regional and cluster partnerships set up in the context of the Smart Specialisation Platform for Industrial Modernisation and the European IPR Helpdesk is also encouraged.

Expected Impact:
- Provide a clear and measurable contribution of the advanced manufacturing assistance and training programme to the innovation performance and environmental and social sustainability of the supported SMEs, as revealed by indicators such as: numbers of new or significantly improved production processes, products or services or new organisational methods; its impact on resource efficiency; its impact on productivity, production lead times, investments and/or turnover; number of SMEs that prepared a concrete plan to upgrade their manufacturing processes during the action; its impact on technical and non¬technical competences acquired and workers involvement; a wider impact on job creation is also expected to be measured in the longer term.
- Frameworks for training programmes related to advanced manufacturing, ready for implementation within the duration of the action. These should propose a pathway on how to facilitate a further scaling-up under the European Social Fund.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/innosup-08-2020;freeTextSearchKeyword=;typeCodes=0,1;statusCodes=31094501,31094502,31094503;programCode=null;programDivisionCode=null;focusAreaCode=null;crossCuttingPriorityCode=null;callCode=Default;sortQuery=openingDate;orderBy=desc;onlyTenders=false;topicListKey=topicSearchTablePageState