BIOFUELS TOPICS

LC-SC3-RES-25-2020: International cooperation with Japan for Research and Innovation on advanced biofuels and alternative renewable fuels

NorEUnergy

1 Sep 2020

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. Actions will contribute to the **Mission Innovation Challenge 4 (Sustainable biofuels)**.

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**.

TRL: **up to TRL 3**

Budget: **EUR 2-5 million**

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**. It is also expected that the development of renewable fuels that **outperform the best fossil fuel alternatives is accelerated**.

SINTEF

Type of Action: RIA

LC-SC3-RES-26-2020: Development of next generation renewable fuel technologies from CO_2 and renewable energy (Power and Energy to Renewable Fuels)

NorEUnergy

21 Apr 2020

Specific Challenge: Renewable energy is expected to grow faster than the capacity of the grid, thereby creating **storage needs**. The **energy required to produce current renewable fuels reduces their competitiveness** as alternatives to fossil fuels. The specific challenge is to **increase the competitiveness** of next generation renewable fuels through efficiently **integrating unexploited renewable energy sources** in their production process and to **foster their use as a renewable energy storage** option taking advantage of the existing infrastructure for gaseous and liquids fuels.

Scope: Develop **next generation renewable fuels for energy and transport**, which **improve** substantially (beyond the state-of-the-art), the performance regarding **energy efficiency** as well as **cost of the conversion of direct renewable energy** (e.g., sunlight) **or renewable electricity and /or heat to liquid or gaseous renewable fuels from CO_2**. Targeted fuels should also provide very **low engine-out emissions**.

TRL: **3-4** to **4-5**

Budget: **EUR 3-5 million**

Expected Impact**:** The supported projects are expected to reduce conversion energy losses and production costs of **algal fuels/power to gas/liquid and heat to gas/liquid renewable fuels** respectively, as well as improving performance of these fuels as regards the efficiency, the environment and society.

Type of Action: RIA

SINTEF

LC-SC3-RES-36-2020: International cooperation with Canada on advanced biofuels and bioenergy

NorEUnergy

1 Sep 2020

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. Actions will contribute to the Mission Innovation Challenge 4 (Sustainable biofuels).

Scope: 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.

TRL: **3** to **5**

Budget: **EUR 3-5 million**

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. It is also 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.

SINTEF

Type of Action: RIA

SINTEF

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