

## **Eighteenth Meeting of the IRENA Council – Thematic meeting**

**6 November 2019, 13.15 - 14.15**  
**Sheraton Hotel, Corniche, Abu Dhabi**  
**Oasis Room**

### **Decarbonising Complex Sectors: Paving the Way Towards a Carbon-Free Economy**

Industries such as iron and steel, cement, pulp and paper, chemical and petrochemical, as well as aluminium, are the foundations of the economy in many countries and account for most of the energy consumption, and thus carbon emissions, associated with all end-use sectors. Similarly, due to the high consumption of liquid fossil fuels associated with the transport sector, this end-use sector is one of the most carbon intensive, with heavy duty road transport, aviation and shipping representing key enablers of global trade. These industries and transport modes play a fundamental role in moving the global economy forward. Given that a deceleration in the activities of these sectors could negatively impact economic growth and employment, decarbonisation of these sectors should not imply reduced activity, but rather a shift from fossil fuels to renewable energy.

To tackle the negative climate impacts created by industry and transport, IRENA is developing a rigorous knowledge base on how renewable energy can contribute to decarbonising sectors, such as marine transport. This analysis indicates that the shipping sector will need to shift to carbon-free propulsion alternatives such as advanced biofuels, electric propulsion, renewable hydrogen and other hydrogen-based fuels, such as ammonia, by 2030. Particularly for aviation, IRENA has presented a strong knowledge base on the technical aspects, costs, market potential and barriers over the past years, combined with insights for policy makers on how to accelerate the transition to renewables.

In parallel, the Agency has been analysing the potential of green hydrogen and its role in decarbonising trucking, aviation, shipping, heating applications and other energy-intensive industries which present a challenge. At present, regulations and high costs limit the development of a clean hydrogen industry, yet, it is certain that green hydrogen production can increase renewable electricity market growth and broaden the scope of renewable solutions in some of the most carbon-intensive sectors.

Coupled with the above initiatives, the Agency is evaluating broader future paths to limit average global temperature rise to no more than 1.5°C above pre-industrial levels by the end of the century. All of these activities on knowledge development are being combined with strong partnerships where IRENA is engaging with strategic stakeholders across the public and private sectors, as well as other institutions (i.e. international organisations, NGOs, think tanks, etc.).

Within the context of the UN Climate Action Summit 2019, which took place in September 2019 in New York, and the IRENA Work Programme and Budget 2020-2021, the overall goal of this meeting is to share with participants the progress made to-date and discuss the findings, implications, and IRENA's role in the decarbonisation of challenging sectors.

The specific objectives of this meeting include:

- Discussing the potential of hydrogen fuel for hard-to-decarbonise energy uses, including energy-intensive industries, trucking, aviation, shipping and heating applications;
- Exploring the impact of maritime shipping on CO<sub>2</sub> emissions, the structure of the shipping sector, key areas that need to be addressed to reduce the sector's carbon footprint and the potential clean fuels and renewable-based means of propulsion that can shift historical emissions trends;
- Presenting the various advanced biofuels with the potential to shift the current CO<sub>2</sub> emissions associated with the aviation sector and identify the necessary steps in terms of technology and policy that could foster the adoption of advanced biofuels at scale;
- Providing an overview of the most carbon-intensive branches of the industry sector, evaluating their energy needs and presenting various alternatives to enhance the use of renewable energy.

### **Associated publications**

- A new report on the cost outlook for advanced biofuels (forthcoming);
- [Hydrogen from renewable power: Technology outlook for the energy transition \(2018\)](#);
- Advanced Biofuels: What holds them back (forthcoming);
- [Biofuels for aviation: Technology brief \(2017\)](#);
- [Hydrogen: A renewable energy perspective \(2019\)](#);
- [Transforming the energy system \(2019\)](#);
- [Navigating the way to a renewable future \(2019\)](#);
- [Innovation Outlook: Advanced Liquid Biofuel \(2016\)](#).

### **For more information, please contact:**

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