Government of Canada Gouvernement du Canada

VIRTUAL WORKSHOP: FIRST EU-CANADA DIALOGUE ON HYDROGEN

Supporting the Development of a Global Regulatory Framework for Hydrogen and Its Derivatives

In December 2015, parties to the United Nations Framework Convention on Climate Change (UNFCC) agreed to limit the rise in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C by the end of the twenty-first century. To meet these aspirations, greenhouse gas emissions must be greatly reduced. The energy system must play a key role here: it is to transition from one that is fossil-based to one that is carbon neutral in 2050. A shift from fossil fuels to renewable energy is critical to achieve our climate ambitions, including through the use of renewable electricity and the direct and indirect electrification of different processes.

Converting renewable electricity into hydrogen is an exciting new opportunity to replace fossil fuels in end-use applications where electricity is not an option. Renewable hydrogen is produced via the electrolysis of water; the electricity used for the electrolysis must be derived from renewable resources. It offers an essential replacement for fossil fuels and other forms of hydrogen. There is a strong interest in hydrogen from many countries, including those in the G20. Almost thirty countries have developed detailed strategies and roadmaps for deploying hydrogen energy solutions in recent years.

Published on 8 July 2020, the European Commission's hydrogen strategy aims to enable renewable hydrogen's role in integrating renewables into the EU's energy system, to decarbonise fossil-based hydrogen production and to deploy renewable hydrogen or its derivatives in industrial processes and economic sectors that are hard-to-decarbonise. The strategy also includes the ambition to create a global liquid hydrogen market. Building on this, the Commission's Fit for 55 Package (proposed on 14 July 2021) is a set of relevant proposals to make its energy policies fit for reducing net greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels. More recent EU policy proposals include the new framework to decarbonise gas markets, promote hydrogen and reduce methane emissions (proposed on 15 December 2021) and the upcoming delegated act on the production of renewable hydrogen from electricity.

In response to the high energy prices in Europe, the European Commission has put forward a new REPowerEU plan to accelerate hydrogen to reduce the dependence of imports from fossil fuels from Russia. The plan includes new ambitions to scale up local production of renewable hydrogen as well as imports of renewable hydrogen from a diverse set of potential suppliers.

Launched on 16 December 2020, the Hydrogen Strategy for Canada sets out a framework for action that aims to make hydrogen a central tool for Canada to achieve net-zero emissions by 2050 and establish itself as a global leader in clean fuels. The Strategy's recommendations fit into eight pillars, which address both the domestic and international recommendations for engagement with hydrogen for Canada. Alongside the Strategy, several of Canada's provinces have released or announced their own hydrogen strategies. In addition, Canada's Low-Carbon and Zero-Emissions Fuels Fund provides C$1.5 billion (€1 billion) for low-carbon fuels, including hydrogen. For renewable

and low-carbon hydrogen to become a global and cost competitive energy carrier with widespread use across all sectors, an integrated policy approach is required. Notably, a global regulatory framework is needed to establish standards and corresponding certification schemes to prove the origin, carbon content and sustainability of all production processes of hydrogen and its derivatives. This would help to ensure the frictionless trade of hydrogen and its derivatives.

International cooperation is critical to meet the different objectives in the European and Canadian strategies. One of the important global initiatives concerning the development of regulatory frameworks is the International Partnership for Hydrogen and Fuel Cells in the Economy (IPHE)'s Hydrogen Production Analysis Task Force (H2PA). The EU, US and France have led the initiative in its development of a methodology to determine the greenhouse gas emissions associated with the production of hydrogen. Two separate taskforces will look at the demand side and transport of hydrogen.

Although the pursuit of a harmonised and well-thought-out global framework is essential, at the same time there is an urgent need to ramp-up regional and global hydrogen trade. Yet, a potentially ensuing patchwork of rules and standards must be avoided in favour of a harmonious approach, which should ideally be in line with climate goals and WTO rules. This begs the question: As major hydrogen producers and consumers, what should the EU and Canada do in the current absence of this global framework? As a starting point, an EU-Canada meeting, organised by the PtX Hub in collaboration with IRENA, will be held to compare notes on regulatory framework for hydrogen in the EU and Canada and discuss elements of a regional/global regulatory framework.

Virtual Workshop: First EU-Canada Dialogue on Hydrogen Supporting the Development of a Global Regulatory Framework for Hydrogen and Its Derivatives 28 April 2022		
Europe (CEST)		**Canada (EDT)**
Welcome		
16:00-16:10	**Tudor Constantinescu**, Principal Advisor to the Director General for Energy, DG ENER, European Commission **Paula Vieira**, Executive Director – Fuel Diversification Division, Natural Resources Canada	10:00-10:10
Keynote Speech: Scene Setting on a Global Framework for Hydrogen		
16:10-16:20	**Laurent Antoni**, CEA, Head H2 production analysis task force at the International Partnership for Hydrogen and fuel cells in the Economy (IPHE)	10:10-10:20
First Panel Discussion: European and Canadian Approaches to Regulation on Hydrogen: Standards, Criteria and Insights into Certification Schemes Under Development		
16:20-17:00	Moderator: **Heino von Meyer**, Global Relations and Networking, PtX Hub **Johannes Baur**, Project Leader, DG ENER, European Commission **Aaron Hoskin,** Senior Manager Intergovernmental Initiatives, Natural Resources Canada **Jens Honnen**, Analyst, Adelphi *Comments on the Development of Regulatory Frameworks in the EU and Canada* Followed by Q&A	10:20-11:00

Second Panel Discussion: The Road to a Global Framework for Hydrogen: What is the State of Debate and How Can Agreement be Established?		
17:00-18:15	Moderator: **Heino von Meyer**, Global Relations and Networking, PtX Hub **Uwe Remme**, Head of Hydrogen and Alternative Fuels Unit, International Energy Agency (IEA) *IEA Perspective on a Global Framework* **Barbara Jinks**, Programme Manager – Green Gas Delivery and Use, International Renewable Energy Agency (IRENA) *IRENA Perspective on a Global Framework* **Laurent Antoni**, CEA, Head H2 production analysis task force at the International Partnership for Hydrogen and fuel cells in the Economy (IPHE) *Proposals of the Hydrogen Production Analysis Taskforce* **Maira Kusch**, Head of Office, World Energy Council Germany *Global Harmonisation of Hydrogen Certification: Opportunities and Barriers* Followed by Q&A	11:00-12:15
Closing Remarks: Main Outcomes and Recommendations for EU-CAN High Level Energy Dialogue		
18:15-18:30	**Tudor Constantinescu**, Principal Advisor to the Director General for Energy, DG ENER, European Commission **Paula Vieira**, Executive Director – Fuel Diversification Division, Natural Resources Canada	12:15-12:30

The workshop is conducted under the EU-funded *Strategic Partnership for the Implementation of the Paris Agreement* (SPIPA), a climate diplomacy programme that facilitates exchange between the EU and non-EU major economies.

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