

Twelfth session of the Assembly  
Abu Dhabi, 15-16 January 2022

## Background Note

### Ministerial Roundtable on Geopolitics of Hydrogen

1. Fundamental changes are taking place in the global energy system, affecting all nations and having wide-ranging consequences. Renewables have moved to the centre of the global energy landscape and have become an indispensable element of the net-zero discourse. Technological advances, falling costs and progressive policies have made renewables grow faster than any other energy source. But the impact of the global energy transition transcends the usual boundaries. A deeply intertwined nature of energy and economy, along with the imperatives of sustainable development and climate change, give an outsized and at times unpredictable role to the ongoing transition.
2. At the Ninth session of the Assembly, IRENA launched "A New World – The Geopolitics of the Energy Transformation", the first report of its kind and the result of ten months of intensive consultations by the Global Commission on the Geopolitics of Energy Transformation. The report mapped out the possible impacts of the developments in the sector. The Commission concluded that just as fossil fuels have shaped the geopolitical map over the last two centuries, the energy transformation will alter the global distribution of power, relations between states, the risk of conflict, and the social, economic and environmental drivers of geopolitical instability.
3. Many countries are currently developing strategies to become climate neutral by mid-century. It is evident that technology developments in the power sector, with renewables at the centre, will be the backbone of these strategies. Decarbonisation of other uses is still in a nascent stage, with limited solutions at hand. That is why hydrogen has emerged as a policy priority in the past couple of years. Hydrogen as an alternative energy carrier offers the potential to replace fossil fuels as feedstock in these harder to abate sectors. Beyond industrial processes, hydrogen could also be used for transport, residential heating, and provide balancing and seasonal storage for power systems. The growing momentum to establish a global hydrogen market could have a wide impact on geopolitics, international trade and bilateral relations.
4. IRENA Members have brought the hydrogen discussion to different facets of the Agency's work. This includes the Collaborative Framework on the Geopolitics of Energy Transformation (CF-GET), which requested the Agency to undertake an in-depth analysis of the geopolitics of hydrogen. This is especially pertinent given the highly consequential policy developments that have taken place since the release of the Global Commission's report.
5. Building on IRENA's substantial body of work in hydrogen and related issues and drawing on the CF-GET discussions, the study reflects on many of the key themes highlighted in the Commission's report, with a targeted focus on hydrogen evolution. Under the umbrella of the CF-GET, country representatives and subject experts have exchanged views on the role of hydrogen in the energy transition and the potential geopolitical impacts in the course of the year. Moreover, IRENA issued two surveys under the auspices of the CF-GET to Members and experts to gather evidence and most current information from a wide range of sources.

- IRENA received responses from some 40 countries and over 70 experts on the main drivers, challenges and preferences to developing hydrogen policy and strategies. Combined, these efforts provided a solid base for the development of authoritative analysis on geopolitical considerations of the advance of hydrogen.

### Objectives of the session

- IRENA will launch the report on the issue at the Assembly, covering issues such as trade flows, value chains, and energy security, among others. The goal of this session is to exchange views on the evolving geopolitical energy landscape and the role of hydrogen in the process and highlight policy considerations in this rapidly evolving sector.

### Guiding questions

- What are the most pressing issues that require the attention of leaders of governments, businesses and other sectors of society? How could they be addressed?
- Where are the next frontiers, both in terms of hydrogen potential not currently being considered, as well as possibilities for international cooperation in further developing the industry?
- How can IRENA better support Members to navigate geopolitical considerations on hydrogen-related investment and policy decisions?
- Which policy and investment considerations along the hydrogen value chain are most likely to influence geopolitical trends?

### Associated Publications

- [A New World – The Geopolitics of the Energy Transformation](#) (2019)
- [Green hydrogen: A guide to policy making](#) (2020)
- [Green hydrogen cost reduction](#) (2020)
- [World Energy Transitions Outlook: 1.5°C Pathway](#) (2021)
- [Green Hydrogen Supply: A guide to policy making](#) (2021)
- [Decarbonising end-use sectors: Practical insights on green hydrogen](#) (2021)