



WORKING TOGETHER ON CLIMATE  
CHANGE, OCEANS AND CLEAN ENERGY

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TRAVAILLER ENSEMBLE À L'ÉGARD  
DES CHANGEMENTS CLIMATIQUES,  
DES OCÉANS ET DE L'ÉNERGIE PROPRE

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## **CHAIR'S SUMMARY: G7 ENERGY MINISTERS' MEETING**

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Under Canada's G7 presidency, Energy Ministers or their representatives from Canada, France, Germany, Italy, Japan, the United Kingdom, the United States of America, and the European Union (Heads of Delegation) met in Halifax, on September 21, 2018, to discuss progress since the 2017 Rome meeting and to plan future collaboration. The meeting revolved around the central theme of Building the Energy Systems of Tomorrow (BEST): systems that are secure, resilient, sustainable and clean, and which afford opportunities to a diverse array of workers, as the world shifts to low-carbon energy sources and technologies.

The Heads of Delegation discussions emphasized that energy lies at the heart of every country's sustainable economic growth and that access to reliable, affordable, sustainable and modern energy is crucial for citizen well-being.

They also recognized the importance of engaging citizens on their national energy future to nurture public confidence in the transition to cleaner forms of energy. They highlighted that the leadership, collaboration and knowledge of all people, including the growing leadership role of women in the energy sector, will be critical to improving the way energy is produced, transported and used.

Canada and Italy were pleased to welcome France, Germany, Japan, the United Kingdom, and the United States to the Equal by 30 Campaign to further advance equal pay, leadership and opportunities for women in the energy sector.

The Heads of Delegation agreed to advance collaborative efforts on several priorities, including cybersecurity for digitalized energy infrastructure systems, modernizing power systems and grids.

All G7 members agreed to promote energy systems of tomorrow with innovations in clean energy and ambitious country-driven energy transitions that will stimulate the construction of modern and quality infrastructure, reduce emissions from the energy sector and address energy security by strengthening and financing resilience. Most reaffirmed their strong commitment towards the implementation of the Paris Agreement to effectively hold the increase in 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 above pre-industrial levels. Most also reaffirmed their commitment to accelerate the decarbonisation of the energy sector, and to deliver the UN 2030 Sustainable Development Goal number 7.

Central to the Heads of Delegation's discussion was the need to remain competitive in the growing clean energy market and drive economic growth while protecting the environment. To that end, Canada will host the Clean Energy Ministerial and Mission Innovation in May 2019 to discuss shared priorities.

Recognizing that energy transitions can give rise to new energy security considerations, the Heads of Delegation discussed ways to strengthen their collective energy security and reiterated that energy should not be used as a means of political coercion or as a threat to the security of any nation or region. As a result, they expressed continued support for Ukraine in the implementation of energy sector reforms and its importance in the transit of natural gas to Europe.

## Open session discussions

For the morning portion of the program, the Heads of Delegation were joined by the Norwegian Head of Delegation, as well as civil society, labour and private sector leaders for discussions on offshore energy development, gender equality and transitions in the energy sector.

The International Energy Agency (IEA) summarized their report on renewable offshore energy, prompting a discussion on ways to further promote this sector and identify areas of collaboration between oceans industries. Speakers focused on the advances with offshore wind, emerging technologies like tidal and marine generation, and touched on non-renewable offshore energy development. They emphasized the role offshore resources can play in meeting rising global energy demand.

G7 governments heard from panelists about concrete actions to eliminate gender inequality and advance professional opportunities for women and youth in the energy sector. Speakers raised the importance of private sector and the education system in enabling women's role in the energy sector.

In the session on energy transitions, panelists discussed ways that companies can remain competitive and modern as investment trends shift away from new coal-fired generation to other, cleaner sources of power. They discussed how to create opportunities for workers impacted by transformations of the energy sector, ensuring a just transition of the energy workforce.

## Closed session discussions: Building the Energy Systems of Tomorrow

The Heads of Delegation continued their conversations in closed sessions on Building the Energy Systems of Tomorrow, with a focus on four main pillars: developing sustainable energy resources, preparing the workforce, promoting interconnected, open, transparent and stable energy markets, and modernizing power systems. They agreed on concrete actions to advance collaboration on cybersecurity and modernization of power systems.

### Developing sustainable energy resources of tomorrow

G7 members recognized the need to continue developing sustainable energy resources in order to meet growing demand, and the vital role of energy efficiency as the most cost-effective way to curb energy demand, reduce greenhouse gas (GHG) emissions, generate energy savings and improve the security, accessibility and sustainability of energy systems.

The Heads of Delegation reaffirmed the importance of diversifying the energy mix, energy fuels, sources, suppliers and routes to alleviate risks of supply disruptions. They also highlighted the remarkable progress achieved with regard to the development and deployment of renewable energy, notably solar and wind, driven by continuing technology cost reductions. They agreed that offshore energy development will continue to be a major contributor to the energy mix and to energy security. They welcomed the IEA report on "*Offshore renewable energy: A rising force in global energy*" and its policy recommendations.

For those countries that opt to use and make continued investments in nuclear energy, they reaffirmed that it contributes to the security of energy supply as a carbon-free, baseload source of energy. They also noted the potential for next-generation nuclear technologies, such as small modular reactors, to complement renewable energy technologies. The Heads of Delegation reaffirmed the importance of maintaining the highest levels of nuclear safety, security and non-proliferation.

While the share of renewable energy in the energy mix is rising, fossil fuels continue to play a role in meeting global energy demand. In this context, they discussed the role of innovative energy technologies, such as carbon capture, use and storage (CCUS), to help reduce GHG emissions. Heads of Delegation reaffirmed commitments to phase out inefficient fossil fuel subsidies that lead to wasteful consumption and encouraged all countries to do so by 2025.

## **Preparing the energy workforce of tomorrow**

G7 members recognized the opportunities for innovation, sustainable growth, competitiveness and job creation arising from increased investment in sustainable energy sources, clean energy technologies and infrastructure. They stressed that successful energy transitions should also invest in a skilled, technologically advanced and diverse workforce. They noted that improving data collection systems could lead to a better understanding of labour market demand.

## **Modernizing the power systems of tomorrow**

The Heads of Delegation stressed the importance of modernizing power systems. They agreed on the need for new investments in resilient infrastructure and new digital technologies (e.g. energy storage and smart grids) that can support efficiency, reliability, flexibility and resiliency objectives. They welcomed existing international cooperation in this field, such as under the Clean Energy Ministerial and Mission Innovation. The Heads of Delegation agreed to pursue further collaboration on the modernization of power systems by studying lessons learned from pilot projects designed to modernize electrical grids in G7 economies.

They also emphasized the importance of cybersecurity for critical infrastructure and recognized the need to work with utilities, private sector, academia and civil society to strengthen G7 capabilities to address cyber risks in the energy sector. The Heads of Delegation agreed to launch a collaborative initiative to enhance the security and resiliency of our critical energy infrastructure.

## **Enabling energy markets of tomorrow**

The Heads of Delegation reaffirmed the importance of integrated energy markets as part of open, flexible, competitive and transparent global energy markets. They also recognized the need for continued and substantial investments in energy infrastructure and discussed G7 governments' role in addressing investment barriers. They noted the importance of community engagement and meaningful dialogue to build public confidence in energy projects, including through consultation with women, youth and Indigenous groups.

Heads of Delegation expressed their intent to pursue energy market integration as well as measures that will achieve more dynamic, transparent and competitive energy markets and more predictable energy trade. In this regard, they reiterated the importance of greater flexibility of commercial clauses in LNG contracts, including relaxation of destination restrictions, and similar restrictive mechanisms. To this end, they encouraged the sharing of information, on a voluntary basis, of private sector and regulatory best practices.

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# ANNEX

## G7 OUTCOMES

### **G7 members agreed to advance two joint initiatives.**

#### **1. Cybersecurity for Digitalized Energy Infrastructure Systems**

In the face of increasing digitalization of energy infrastructure systems and its associated vulnerabilities, G7 members will collaborate to enhance the security and resiliency of critical energy infrastructure. The aim is to develop a framework for an approach to developing the common skills and knowledge of owners and operators as well as government officials, and to facilitate the creation of a network of subject matter experts across the G7 to collaborate proactively to detect, defend, and respond to cyber-physical risks, as well as share recommended practices.

##### **Outcomes will include:**

- A compendium of knowledge, analysis, lessons learned and recommended practices to share with the G7 community and to sustain the initiative.
- Shared skills and knowledge transfer scenario based exercises to help energy infrastructure owners and operators in G7 members to secure their operating technologies against growing or emerging risks, and foster collaborative and trust based relationships.
- Increased G7 collaboration and coordination between operational engineers, cybersecurity teams, and control room operators through enhanced common understanding of shared knowledge and skills.
- Establishment of a core of subject matter experts from G7 members that can be drawn upon to support one another in the event of major attacks on the energy sector.

#### **2. Modernizing Power Systems and Grids Study**

In the transition towards a cleaner, more secure, low-carbon economy, the demand for electricity is increasing, and as society continues to digitize communications and controls, connecting devices and equipment to the internet and storing data in cloud computers, we are increasingly dependent on a functioning electricity grid. This growing demand and reliance underlines the critical nature of the power systems of tomorrow and the need for G7 members to dedicate resources to ensure the security and resilience of power systems. As such, the G7 will contribute studies of pilot projects.

##### **Objectives will be:**

- Increased G7 collaboration and coordination through information sharing.
- Enhanced G7 understanding of challenges and opportunities in modernizing electrical grids.
- A future reference document highlighting success factors for modernizing electrical grids.

## Equal by 30 Campaign

The Equal by 30 Campaign is a public commitment by public and private sector organizations to work towards equal pay, equal leadership and equal opportunities for women in the clean energy sector by 2030. Equal by 30 asks organizations, companies and governments to endorse principles, then take concrete action to accelerate the participation of women in the clean energy sector, and close the gender gap. Canada and Italy are pleased that France, Germany, Japan, the United Kingdom, and the United States agreed to join the Equal by 30 Campaign.