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Clean Energy Ministerial - Update

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Outline

- 1. Background on Clean Energy Ministerial**
- 2. NICE Future Activities in 2018 – 2019**
- 3. Canadian Perspectives on CEM10**
- 4. Next Steps from CEM10**
- 5. Side Meeting – *Generation IV International Forum***



Clean Energy Ministerial (CEM)



- **CEM:** a high-level global forum of 25 countries and the EU that promotes policies and programs to:
 - Advance clean energy technology
 - Share lessons learned and best practices
 - Encourage the transition to a global clean energy economy
- **CEM members** account for 75% of global greenhouse gas emissions and 90% of global clean energy investments
- **Annual Ministerial-Level Meeting**
- Co-scheduled with Mission Innovation
- **Canada hosted CEM10/MI4 in Vancouver (May 27-29)**



CEM focus and activities

- **The only high-level, global forum dedicated exclusively to clean energy issues**
 - Countries work together to achieve their energy goals and accelerate the clean energy transition globally
 - Combines annual Ministerial meetings with year-round, technical work in the form of Initiatives and Campaigns
- **Distributed leadership approach**
 - Any government interested in pursuing a substantive idea on a clean energy technology or issue is encouraged to identify willing partners and go forward with it



Meeting the challenge



NICE Future
Nuclear Innovation: Clean Energy Future

- Initially, nuclear was not part of the dialogue at CEM
- **CEM8** – U.S. Energy Secretary Rick Perry proposed the idea of a nuclear initiative, making nuclear an integral part of CEM discussions
- **CEM9** – Canada, Japan, and the US launched the “NICE Future” initiative

Nuclear Innovation: Clean Energy Future (NICE Future)

- Focus on emerging areas of interest:
 - Small modular reactors and full scale reactors
 - Nuclear-renewable “hybrid” energy systems
 - Hydrogen economy
 - Industrial decarbonization



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Effective partnerships are key to success



NICE Future

Nuclear Innovation: Clean Energy Future

Lead Participants



USA



CANADA



JAPAN

Participants



ARGENTINA



POLAND



ROMANIA



RUSSIA



UAE



UK

External Partners

International Energy Agency

OECD Nuclear Energy Agency

International Atomic Energy Agency

International Framework for Nuclear Energy
Cooperation

Generation IV International Forum

ClearPath

Third Way

Energy for Humanity

Energy Options Network

Women in Nuclear Global

International Youth Nuclear Congress

Nuclear Industry Council

Nuclear Energy Institute

World Nuclear Association



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NICE Future activities leading up to CEM10

Key Accomplishments:

- Outreach to individuals from 35 countries and 80 organizations
- Engagement at 25 conferences, workshops, and webinars.
- Supporting development of key reports, such as the IEA report on “The Role of Nuclear Power in Clean Energy Systems”
- Engagement with youth and women
 - Partnership with the International Youth Nuclear Congress to develop messages from youth on clean energy at CEM10
 - Global nuclear industry has been a leading partner on the women in clean energy “Equal by 30” campaign at CEM

Key Activities

- **November 2018:** NICE Future co-sponsored a high-profile event with the International Framework on Nuclear Energy Cooperation (IFNEC) in Japan
- **December 2018:** NICE Future convened an official event (positively received) at the United Nations COP24 Climate Change Conference in Poland
- Webinars – Series of Webinars
- Clean Energy Solutions Center’s “Ask an Expert”



Clean Energy Ministerial (CEM10)



- Canada hosted the **Clean Energy Ministerial** (May 26-29, 2019) in Vancouver



- Canada, US, and Japan co-lead a CEM initiative on nuclear energy – called “NICE Future”



Highlights from CEM10

Record representation in Vancouver:

- ✓ 2500+ CEM participants
- ✓ 200+ nuclear sector participants
- ✓ 15% of Innovation Showcase
- ✓ 15 civil society organizations
- ✓ 14 SMR developers
- ✓ 5+ side events featuring nuclear energy
- ✓ 4 leading nuclear operators (OPG, Bruce Power, NB Power, Exelon)



Launch of *Breakthroughs*

- A “top 10” book featuring short vignettes on examples of short-term nuclear innovation



Remarks by Deputy Minister Tremblay

- Emphasized the important role of nuclear energy globally, as well as Canada’s status as a “Tier 1” nuclear nation and a leader on SMRs



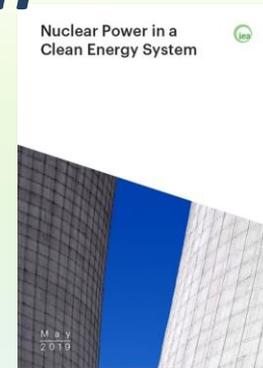
Launch of the “Flexible Nuclear Campaign”

- Civil society groups launched a campaign to understand the benefits of nuclear-renewables integration in a clean energy future



International Energy Agency (IEA): *Nuclear Power in a Clean Energy System*

- Special report on the need for nuclear in global climate policies
 - Launched at the Clean Energy Ministerial by IEA Executive Director Fatih Birol
 - First IEA report on nuclear in 20 years
- Key findings:
 - **Nuclear plant retirements will significantly constrain global efforts to meet Paris targets**
 - Investments in nuclear energy life extensions and new builds make it **cheaper and easier to meet Paris targets**
 - **Not investing in nuclear energy increases risk of failure to meet targets**
 - It will cost an estimated **US\$1.6 trillion less to meet targets with nuclear than without**



Bottom Line: IEA recommends including nuclear energy in climate policies and programs, and recommends strong support for nuclear energy, including SMRs



Next Steps from CEM10

NICE Future

- Year two workplan on broader activities in development

Flexible Nuclear Campaign

- Launched by civil society groups to:
 - Carry out economic modelling on flexible nuclear
 - Understand the benefits of nuclear-renewables integration
- Participants will communicate results to governments and advanced reactor design teams
- Platform for civil society groups to engage on NICE Future



Join us! An open call to partner on NICE Future

- NRCan has an open call for concrete activities that partners could advance under NICE Future.
- There is no template! We're open to creative ideas that meet the following criteria:
 1. Proposals must support the objectives of the initiative;
 2. The activity must target policy makers, clean energy stakeholders or public; and,
 3. Significant weight will be given to activities that include clean energy stakeholders outside the nuclear sector and expand clean energy conversations.

Find out more at: <https://nice-future.org>



Side Meeting: Generation IV International Forum



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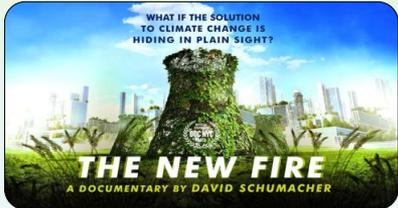
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Highlights from GIF



- **SMR vendor workshop**
 - Bringing together 100 GIF participants with 14 vendors
 - Matching GIF research with private sector needs



- **Canadian premiere of The New Fire**
 - Documentary by award-winning filmmaker David Schumacher on the role of nuclear innovation in responding to climate change



- **A new path forward for GIF**
 - A renewed focus on supporting SMRs
 - Closer engagement and collaboration with SMR vendors



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Generation IV International Forum (GIF)

- Canada hosted the **Generation IV International Forum** on the margins of CEM
 - Global forum for R&D on the next generation of nuclear systems
- Taking the next step: **focused on bringing GIF research to market**
 - Brought together 100 GIF participants with 75 private sector SMR developers and stakeholders
 - Workshops and roundtables, with commitments for further action

