



**Energy Transition Forum**  
**7<sup>th</sup> – 9<sup>th</sup> June 2023**  
**Chicago, USA**

*“Generating and delivering enough decarbonated electricity  
to power the energy transition”*

**Program**

- *Session 1: Setting the context: Will enough decarbonated electrons be available fast enough to power the energy transition?*
- *Session 2: How much can nuclear energy contribute to the needed clean energy by 2030, 2040, 2050?*
- *Session 3: How to accelerate large-scale wind and solar power deployment?*
- *Session 4: Current policies: What will they accomplish?*
- *Session 5: What further policies must be enacted to accelerate the generation and delivery of decarbonated electrons?*
- *Session 6: What are the consensus conclusions from this Energy Transition Forum?*

**The Energy Transition Forum:**

A highly interactive discussion and deeper dialogue is at the core of every Energy Transition Forum workshop. Each participant serves as a “speaker” throughout the two days by contributing their perspectives, based on their own experiences and observations, and sharing their questions and uncertainties. The high level and broad range of participants – representing the different industries along the value chain, as well as governments and academia – combined with the intimacy of the group and use of the Chatham House Rule, ensures a lively, candid, and productive exchange of views. Selected participants are asked to prepare comments in advance of the workshop, to “seed” each discussion.

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Energy  
Transition  
Forum

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## Background Information – The Energy Transition Forum 3.0

The Energy Transition Forum (ETF) seeks to generate frank discussion, innovative thinking, and concrete solutions and actions about the ways in which participants from the United States, Europe and Asia can work together to achieve a timely and responsible transition to a secure, affordable and low-carbon global energy system, with emphasis on the rapidly evolving electric power industry.

The ETF does this through a series of facilitated off-the-record dialogues between influential energy leaders (C-level) from the private and public sectors, academic thought leaders, and subject-matter experts who look at the impact of the latest energy challenges, new market entrants and energy technologies to define potential solutions in terms of innovative market and financial mechanisms, new business models and reforms to policy and regulation.

Initiated in 2012 by the transatlantic think tank The German Marshall Fund of the United States, the Energy Transition Forum has been working successfully ever since, to address the increasingly complex challenges of the energy value chain, based on the implementation of the two ETF pillars: **“total systems thinking”** and the **“dialogue method”**.

This approach has already catalysed surprising business and political insights, cutting-edge thinking, and practical innovative solutions. Perhaps even more importantly, the ETF’s structure has led to strong personal commitments, effective relationships and a coalition of people who are strongly motivated to understand, navigate, and accelerate the on-going energy transition within their own professional environment, producing a “pebble in the pond” effect.

**“Never doubt that a small group of thoughtful, committed citizens  
can change the world. Indeed, it’s the only thing that ever has.”**

*– Margaret Mead, Cultural Anthropologist*

When the first incubation period of the ETF at the German Marshall Fund came to a natural end, participants urged that the program continue. Thus, was launched “ETF 2.0” in October 2015. Two years later, a similar reassessment led to a new program of activity (“ETF 3.0”) with workshops in Berlin and Washington, DC, in 2018 and in Paris in June 2019 and New York in November 2019. During the COVID years in 2020 and 2021, the Energy Transition Forum’s team organised several virtual “ETF’s” online, followed by an in-person Forum in Washington DC in the USA in April 2022 and in November 2022 in the Port of Rotterdam in the Netherlands.

The ETF team is co-chaired by Miriam Maes and Andy Ott with Steve Berberich, Christophe Brognaux, John Jimison, Gerard Reid, and Aaron Chote as contributing team members.



**Program of the Energy Transition Forum Chicago, USA**  
**7<sup>th</sup>-9<sup>th</sup> June 2023**

***“Delivering enough decarbonated electricity  
to power the energy transition”***

**Wednesday 7<sup>th</sup> June 2023**

06:30pm **Welcome Reception and dinner sponsored by Urenco**

*Hotel “The Langham”  
The Chelsea Room  
330 N Wabash Ave  
Chicago, IL 60611 USA  
Tel: +1 312 923 9988*

07.15pm **Dinner**

**Welcome**

*Miriam Maes, Co-Chairman Energy Transition Forum  
Boris Schucht, CEO, Urenco; Former CEO 50 Hertz Transmission System  
Operator, Germany*

**Introduction to Keynote Speaker:**

*Miriam Maes, Co-Chairman Energy Transition Forum*

**Keynote Speaker:**

*Ambassador Ivo H. Daalders, President, Chicago Council on Global Affairs;  
Former US Ambassador to NATO; Host, “World”, USA*

**Keynote Theme:**

***“Why Ukraine-Russia and Taiwan-China change everything for the  
energy transition and why you better pay attention to it!”***



Prior to his appointment as Ambassador to NATO by President Obama, Daalder was a senior fellow in foreign policy studies at the Brookings Institution, specializing in American foreign policy, European security and transatlantic relations, and national security affairs. Before joining Brookings in 1998, he was an associate professor at the University of Maryland’s School of Public Policy and director of research at its Center for International and Security Studies. He also served as director for European affairs on President Bill Clinton’s

National Security Council staff from 1995 to 1997. Ambassador Daalder is the author and editor of 10 books, including his latest *The Empty Throne America's Abdication of Global Leadership* (with James M. Lindsay). Daalder is a frequent contributor to the opinion pages of the world’s leading newspapers, and a regular commentator on international affairs on television and radio. Ambassador Daalder was educated at the universities of Kent, Oxford, and Georgetown, and received his PhD in political science from the Massachusetts Institute of Technology.

## Thursday 8<sup>th</sup> June 2023

- 07:25am **Assemble in the lobby of:**  
*Hotel “The Langham”  
330 N Wabash Avenue  
Chicago, IL 60611 USA  
Tel: +1 312 923 9988*
- 07:30am **A 9 minutes’ walk to:**  
*Bryan Cave Leighton Paisner  
161 N Clark St #4300  
Grant Thornton Tower  
Chicago, IL 60601 USA*
- 07:40am **Arrival and security check**  
*Please bring formal photo identity papers such as your passport or driver’s license*
- 08:00am **Coffee and continental breakfast**
- 08:30am **Safety briefing regarding Bryan Cave Leighton Paisner’s offices**
- 08:35am **Welcome to the Chicago Energy Transition Forum**  
*Bryan Keyt, Partner and Global Practice Group Leader, Energy,  
Environment and Infrastructure, Bryan Cave Leighton Paisner, USA*
- 08:45am **Welcome and introduction to the Energy Transition Forum and the Chicago Program**  
*Miriam Maes, Co-Chair, Energy Transition Forum; Chairman Supervisory  
Board Port of Rotterdam*
- This presentation will introduce the Energy Transition Forum and the Chicago Programme, including the:
- The *content of the Chicago Energy Transition Forum (“ETF”)* on the topic of *“Producing enough decarbonated electricity to power the energy transition”*.
  - Potential topics for future Energy Transition Forums.
- 09:05am **A Long-Time Participant’s Perspective on the Energy Transition Forum**  
*Basil Scarcella, CEO UK Power Networks, UK*
- 09:15am **Self-introduction of participants**  
*Moderator: Miriam Maes, Co-Chair, Energy Transition Forum*
- 10:15am **Session 1: Setting the context: Will enough decarbonated electrons be available fast enough to power the energy transition?**  
*Presenter: Christophe Brognaux, Member, Energy Transition Forum Team*
- This presentation will outline:
- The quantification of *how much decarbonated power* will be needed and by when across all usages and under different scenarios.
  - Speed of phase-out of existing capacities under different scenarios
  - The different generation options that could bridge the gap between decarbonized power demand and supply, and what they could offer: .
    - Nuclear generation

- Centralized wind and solar
- “Behind the meter” generation solutions such as solar rooftop.
- Possible other “centralized” generation solutions such as fossil with CCUS, geothermal, hydrogen as fuel

d) The gap between the likely demand and available supply for decarbonised electrons under the different scenarios.

e) *The key question to be answered during the Chicago ETF* – What are the barriers that we need to overcome and what are the policy and market solutions and concrete actions to be taken NOW to address these barriers?

10:45am **Coffee and Tea Break**

11:05am **Session 2: How much can nuclear energy increase its contribution to the need for decarbonized energy by 2030, 2040, 2050?**

*Moderator: Miriam Maes, Co-Chairman Energy Transition Forum*

11:10am **Session 2.1.: Overview Presentation from an Insider**

*Presenter: Boris Schucht, CEO, Urenco, UK*

The presentation will describe:

- The two main drivers for the potential growth in nuclear generation:
  - The Energy Transition and
  - The Russian-Ukraine war.
- The two roles of nuclear in a clean energy system:
  - The role of nuclear in decarbonising the electricity supply efficiently.
  - The role of nuclear in the production of green hydrogen, decarbonised heat, and synthetic liquid fuels versus renewables and its cost competitiveness and efficiencies.
- The development of existing and new nuclear plant capacity globally between now and 2030, 2040 and 2050 and
- The gap between the nuclear generation required to achieve the climate goals and the actual capacity in those years.

11:20am **Session 2.2.: The global nuclear landscape and geopolitical challenges**

*Interview on video between:*

*Boris Schucht, CEO, Urenco, UK*

and

*Rafael Mariano Grossi, Director General, International Atomic Energy Agency (IAEA), Austria*

They will:

- Outline the role of the International Atomic Energy Agency (IAEA).
- Discuss the latest developments around nuclear in the Ukraine and Iran.
- Discuss Dr. Grossi’s vision of the role of nuclear in decarbonising the electricity supply and supporting the production of green hydrogen, decarbonised heat, and synthetic liquid fuels.
- Consider Dr. Grossi’s assessment of the 3 main challenges in nuclear energy:
  - Extending the lifetime of current nuclear power plants.
  - Building new nuclear power plants.
  - Developing new nuclear technologies

11:40am **Session 2.3.: Extending the lifetime of current nuclear powerplants; building new ones; and developing new nuclear technologies.**

*Presenter: Michael Goff, Principal Deputy Assistant Secretary, Office of Nuclear Energy, US Department of Energy, USA*

This presentation will outline the **key challenges and potential solutions** to:

- Extending the lifetime of current nuclear power plants in a safe and affordable manner.
- Building new nuclear power plants.
- Developing new nuclear technologies

11.05am

**Session 2.4.: Panel Session:**

***What are the main technological, finance, policy, supply chain, and societal issues and potential solutions in nuclear generation short, medium, and long term?***

This session will respond to the previous presentations and answer questions regarding:

- **Technology:** What technologies are or will be available and how can these be implemented in time and at an acceptable cost level? Will the new EPR technology be viable, and will it reduce the capital costs of building nuclear? Will Small Modular Reactors (SMR's) be the solution, by when and at what power price levels? By when will fusion be a realistic alternative?
- **Policy & Regulations:** Are the current nuclear policies and safeguarding measures still up to date, are they adequate, or are they excessive? Do we need other policy and regulatory incentives?
- **Supply Chain:** Is there enough uranium and enriched uranium available to extend nuclear production? What new product developments are taking place? Do we have enough qualified human resources/engineers to build out nuclear?
- **Societal Engagement:** Is there still an anti-nuclear lobby despite its non-carbon electrons? What about nuclear waste solutions? How to engage with those who say: Not in my backyard ("NIMBY").

**Panelists:**

- **Kathleen L. Barrón**, Executive Vice President and Chief Strategy Officer, Constellation, USA
- **Mark Brownstein**, Senior Vice President, Energy, Environment Defence Fund, USA
- **Michael Goff**, Principal Deputy Assistant Secretary, Office of Nuclear Energy, US Department of Energy, USA
- **John Hopkins**, President, and CEO, NuScale, USA
- **Jeffrey Miller**, Director Business Development, TerraPower, USA

12:15pm

**Lunch**

01:15pm

**Session 2.5.: Dialogue Session with Participants**

***Moderator: Gerard Reid, Member of the Energy Transition Forum Team***

The participants offer their views on the central questions:

- What are the realistic nuclear solutions in the coming 10 years?
- How can nuclear energy contribute to the need for carbon-free electrons by 2030, 2040, 2050?
- How can these be implemented in time and at acceptable costs levels?
- What concrete actions are required now?

02:15pm

**Session 3: How to accelerate large-scale wind and solar power deployment?**

This session will focus on the potential to accelerate a massive build-out of a green, decarbonized power system relying significantly on renewable generation. Several barriers are hampering a significant expansion of renewables such as on- and offshore wind and solar production in the USA, Europe, and elsewhere. Some of the latest renewable energy auctions in Portugal, Germany, and other countries have not been successful. Are local, state, national and federal authorities avoiding the real issues or accepting invalid arguments?

**Session 3.1.: Introductory Presentation**

***Presenter and Moderator: Steve Berberich, Member, Energy Transition Forum Team***

This session will start with a short presentation outlining:

- a) The vital need to ***accelerate a massive built-out of large-scale renewable generation to meet*** the 2030, 2040 and 2050 objectives for clean energy supply.
- b) The ***magnitude of additional generation needed*** to de-carbonize the economy.
- c) ***The key issues***, hindering this necessary expansion:
  - Grid infrastructure development, interconnection policy, grid management technologies, and integration of “behind the meter resources”
  - Long lead times associated with permitting.
  - Unsatisfactory economics, financing, and power market design pitfalls
  - Outdated or short-sighted policies and regulation

02:25pm

**Session 3.2.: Panel Session:**

***Barriers and solutions regarding grid infrastructure development, siting and permitting challenges, grid management and integrating a reliable grid with distributed generation and demand response resources.***

Key challenges to be addressed by the panel are:

- The need to build and extend the grid infrastructure to allow large scale renewable generation.
- Insufficient and time-consuming grid access and connection capacity.
- Location of renewable supply generation not aligned with demand centres.
- Intermittency of renewable generation and need for diverse resources for reliability.
- Implementation of grid technologies offering digital planning and control systems.
- Affordable and effective peak and seasonal utility storage capacity.
- Integrating “behind the meter resources” such as Demand Side Management, solar rooftop generation, customer battery storage, and thermal/hot water storage.

**Panelists:**

- ***Fintan Slye, Managing Director, National Grid ESO, UK***
- ***Bob Ethier, VP System Planning, ISO New England, USA***
- ***Felix Zhang, Group Executive Director and Venture Partner, Envision Energy, China, USA, and Europe***
- ***Rajiv Mishra, Managing Director India, China Light & Power Holdings Limited, Managing Director Apraava Energy, India***



02:55pm ***Session 3.3.: Dialogue session with participants regarding grid infrastructure development, grid management technologies, and deployment of distributed generation and demand resources.***

03:25pm **Coffee and Tea Break**

03:45pm ***Session 3.4.: Panel Discussion:  
Reforms needed in capacity and energy markets to achieve correct price incentives, reliable all-events capacity, and appropriate market values for zero-marginal-cost renewable generation.***

**Panelists:**

- ***John R Bear***, CEO, Midcontinent Independent System Operator (MISO), USA
- ***Mark Rothleder***, Senior Vice President and Chief Operating Officer, California Independent System Operator (CAISO), USA
- ***Basil Scarcella***, CEO, UK Power Networks, UK
- ***Hilde Tonne***, President, and CEO, Statnett, Norway

04:30pm ***Session 3.5.: Panel Session:  
Barriers that regulators can and should address:***

- Ineffective policies and regulations to accelerate renewable energy generation interconnection and transmission permitting.
- Failure to adopt effective power market signals or designs for renewable energy.
- Ensuring the required flexibility, power quality, and availability.
- Integrating and managing “behind the meter” resources.
- Negotiating overly bureaucratic and slow regulatory and approval processes.
- Confronting State, national, and local government authorities that avoid the real issues or accept invalid arguments.
- Addressing “Not In My Back Yard” (NIMBY) resistance to projects.
- Dealing with unreasonable environmental activism.

**Panelists:**

- ***Rt Hon the Lord Barker of Battle***, Chairman EV Networks; Former Chairman EN+ Group; Former Co-Chairman Carbon Pricing Leadership Coalition (CPLC), World Bank; Former Minister of Climate Change, UK
- ***Jonathan Brearley***, CEO, Ofgem, UK
- ***Marc Thrum***, Partner, Customer Solutions and Business Development, Intelligent Generation, USA
- ***Jon Wellinghoff***, Chief Regulatory Officer at Voltus; CEO, GridPolicy Inc.; Former Chairman, Federal Energy Regulatory Commission (FERC), USA

05:15pm ***Dialogue Session with Participants  
What practical actions are required to deal with unsatisfactory economics, attract financing, adopt viable power market designs, and correct outdated or short-sighted regulation?***

Participants will offer their own answers to the following questions:

- What actions should be taken now to achieve adequate renewable power generation, electrical infrastructure, and correctly incentivized power markets?

- How do the US and Europe meet the need for more power system storage, flexibility, energy traders, and a significantly increased role for demand response and “virtual power plants.”
- How can we achieve reform of power market design to create better functioning power markets?
- How should we anticipate the impacts (positive or negative) of a huge number of electric vehicles dependent on the grid?

06:00pm **Update on the electrical grid and power situation in Ukraine**  
*Sonya Twohig, Secretary General ENTSOE, European Network of Transmission System Operators for Electricity*

06:15pm **Summary of the day’s main conclusions**  
*Presenter: Maurice Berns, Managing Director and Senior Partner, Boston Consulting Group; Chair, Center for Energy Impact, Boston Consulting Group, UK*

06:30pm **Group Photo**

06:40pm **A 12-minute walk to University Club of Chicago**  
*University Club of Chicago  
 76 E Monroe St  
 Chicago, IL 60603  
 United States*

07:00pm **Reception sponsored by Apraava Energy**

07:30pm **Dinner sponsored by Apraava Energy**

**Welcome:**

*Rajiv Rajan Mishra, Managing Director India, China Light & Power;  
 Managing Director, Apraava Energy, India.*

**Introduction to Keynote Speaker:**

*Steve Berberich, Member Energy Transition Forum Team*

**Keynote Speaker:**

*Peter F. Smith, CEO, Citizens Energy Corporation, USA*

**Keynote Theme:**

*“The unique utility business model of Citizens Energy: serving customers AND the local community.”*



Pete joined the Citizens team in 2000 and assumed the role of CEO in 2014. He is responsible for all aspects of Citizens Energy's business and charitable activities, overseeing the company's day-to-day operations. Working with Chairman and Founder Joseph P. Kennedy II, and more recently his son Joseph P. Kennedy III, Pete has led Citizens in building a \$500+ million operational portfolio of energy projects in high-voltage transmission, solar, battery storage, and microgrids. Collectively, these projects deliver millions of dollars of energy savings each year to low-income families and non-profit organizations serving the most vulnerable populations. Before

joining Citizens, he was a Manager at The Boston Consulting Group and spent five years on active duty with the United States Coast Guard. Pete holds a BS in Economics from the U.S. Coast Guard Academy and an MBA from Harvard Business School.

## Friday 9<sup>th</sup> June 2023

- 07:25am **Assemble in the lobby of:**  
*Hotel “The Langham”  
330 N Wabash Avenue  
Chicago, IL 60611 USA  
Tel: +1 312 923 9988*
- 07:30am **A 9- minutes’ walk to:**  
*Bryan Cave Leighton Paisner  
161 N Clark St #4300  
Grant Thornton Tower  
Chicago, IL 60601 USA*
- 07:40am **Arrival and security check**  
  
*Please bring formal photo identity papers such as your passport or driver’s license*
- 08:00am **Coffee and continental breakfast**
- 08:00am **“Check-In” with Participants**  
*Miriam Maes, Co-Chair, Energy Transition Forum*
- 08:15am **Session 4: The latest statutory enactments: What will they accomplish?**  
*Moderator: John Jimison, Member, Energy Transition Forum Team*

This session will summarize the **major** recent enactments in the USA, the State of Illinois, the UK, and Europe supporting the generation and delivery of decarbonated electrons to achieve the clean energy transition, noting their goals as well as their implementation challenges. It will feature a comparative analysis scoring national decarbonization achievements and policies against a common standard.

### ***The international carbon reduction scorecard***

- ***Bob Litterman***, *Founder Kepos Capital; Board member Wildlife Fund, Ceres, Climate Leadership Council, USA (via video link)*

### ***The Inflation Reduction Act (IRA)***

- ***Tanuj Deora***, *Director Clean Energy; Team Lead Carbon Free Electricity, White House Council on Environmental Quality, Executive Office of the US President, The White House, USA*

### ***The State of Illinois “Climate and Equitable Jobs Act” (CEJA)***

- ***Douglas Scott***, *Vice President, Strategic Initiatives, Great Plains Institute; Former and incoming Chairman Illinois Commerce Commission (ICC); Former Director Illinois Environmental Protection Agency, USA*

### ***The market and power system policy changes in the UK***

- *Jonathan Brearley, CEO, Ofgem (UK Energy Regulator), UK*

*The European “Net Zero Industry Act”: Europe’s response to the US Inflation Reduction Act*

- *Gerard Reid, Member of the Energy Transition Forum Team*

09:15am

**Discussion Session with Participants:**

Participants will offer their own comments on the following questions:

- What is the scope of these recent enactments? Will they survive political push-back? Will they accomplish their intended goals? How well will they deal with four key challenges:
  - Significant projected increase in power demand, especially for electrification of transportation and heating.
  - Increased supply-side power quality and stability issues, as intermittent renewable energy generation exceeds 50% of capacity.
  - Insufficient dispatchable power as the gap grows between peak electricity loads and the dispatchable power capacity.
  - Energy market reform problems resulting in price volatility and missing investments in needed generation capacity.
- To what extent will the threat of future political reversal prevent these enactments from serving as effective long-term guidelines?

10:00am

**Coffee and Tea Break**

10:20am

**Session 5: *What further policies must be enacted to accelerate the generation and delivery of sufficient decarbonated electrons?***

**Panel Discussion:**

*The future of the power system and power markets and the key policies to accelerate their decarbonization?*

Three panelists will briefly state:

- What they see as the key **remaining** barriers in policies and regulation to a rapid and massive expansion of generation and delivery of clean energy.
- What **additional** key policies and regulations should be adopted quickly to achieve such a clean energy expansion: Carbon Pricing? Unconstrained energy market pricing? Financing solutions? Geopolitical actions? Demand side management? Greater customer optionality?
- What they see as the key **political** threats or **societal acceptance** barriers to adopting these policies.

**Panelists**

- *Rt Hon the Lord Barker of Battle, Chairman EV Networks; Former Chairman EN+ Group; Former Co-Chairman Carbon Pricing Leadership Coalition (CPLC), World Bank; Former Minister of Climate Change, UK*
- *John Moore, Director, Sustainable FERC Project, Climate & Clean Energy Program, Natural Resources Defense Council, (NRDC), USA*
- *Mark Thrum, Partner, Customer Solutions & Business Development, Intelligent Generation, USA*

10:45 am

**Discussion Session with Participants**

**Both** sets of panelists and all participants will then address:

- What further policy actions are necessary to establish the policy basis for a rapid transition to decarbonized energy system and power markets?
- To what extent could a meaningful and internationally effective price on carbon substitute for these and other specific industrial policies?

11.45am

**Session 6: Potential consensus conclusions of the Energy Transition Forum**

***Presenter: Maurice Berns, Managing Director and Senior Partner, Boston Consulting Group; Chair, Center for Energy Impact, Boston Consulting Group, UK***

This “wrap-up” session has as its objective to discern the main conclusions from the whole ETF program.

12:00pm

**Key insights gained and topics for future Energy Transition Forums**

***Moderator: Miriam Maes, Co-Chair, Energy Transition Forum***

Participants will:

- Share their own key insights and personal “take-aways” from this Energy Transition Forum, perhaps suggesting how they may try to help accelerate the Energy Transition in their own business context.
- Suggest the priority challenges and opportunities that would benefit from deep-dive consideration when ETF reconvenes in 2024.

12:30pm

**Closure and Networking Lunch**

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