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# GLOBAL GRID TRANSFORMATION

Energy Storage North America  
November 5-7, 2019 | San Diego, CA

## ABOUT THE GLOBAL GRID PROGRAM

Energy Storage North America (ESNA) Conference & Expo is the largest gathering for grid-connected energy storage in North America. In collaboration with IHS Markit, the US Commercial Service and the Global Energy Storage Alliance, ESNA 2019 brings together the largest and most diverse group of global policymakers, utilities, commercial and industrial customers, and storage industry stakeholders for energy storage site tours, networking, workshops and learning sessions with a focus on building the grid of the future. ESNA 2018 counted delegates from over 30 countries.

ESNA is unique in that its mission is to educate and inspire. To pursue that mission, each year ESNA hosts the Global Grid Transformation (GGT) program, a one-day facilitated roundtable and workshop with key stakeholders from around the world. International delegations come together to promote cross-border collaboration on grid transformation issues with policymakers and companies from across the United States to exchange ideas, share success stories and brainstorm solutions to key challenges, with a focus on promoting a decarbonized, resilient and affordable power grid. Key takeaways are then shared widely through various channels including the issuance of a public whitepaper and webinars. The resulting 2018 whitepaper produced by IHS Markit can be found [here](#) and related webinars [here](#).

This year, ESNA will host the 3<sup>rd</sup> Annual California Germany Bilateral Energy Conference (CGBEC), a collaboration of two global clean energy leaders co-produced by the California Energy Commission and German Federal Ministry for Economic Affairs and Energy. The theme of ESNA 2019 is *All About Innovation: Technology, Markets, Business Models*. This theme is an ideal backdrop for the CGBEC program, which focuses on clean energy more broadly. The following day, the ESNA 2019 Global Grid program will focus on how global leaders such as Germany and California can lead the way to realize their transition away from fossil fuels with energy storage.

Energy storage will play a central role in multi-sector decarbonization and the decentralized, resilient, affordable power grid of the future. We invite you to join the ESNA Global Grid Transformation program.

## Agenda: Tuesday, November 5, 2019

- |                     |  |
|---------------------|--|
| 8:00 AM - 12:00 PM  | Site Tours of deployed energy storage projects (transportation included)   |
| 12:30 PM - 17:30 PM | California Germany Bilateral Energy Conference<br><br>Convened by the California Energy Commission and the German Ministry of Economic Affairs and Energy, hosted by ESNA  |
| 17:30 PM - 19:00 PM | ESNA Welcome Remarks & Joint ESNA-CGBEC Keynotes <ul style="list-style-type: none"><li>• Mr. Andreas Feicht, State Secretary, German Federal Ministry for Economic Affairs and Energy (BMWi)</li><li>• Ambassador Eleni Kounalakis, Lieutenant Governor, State of California</li></ul> |
| 19:00 PM - 20:30 PM | Joint ESNA-CGBEC Networking Reception  |

## Agenda: Wednesday, November 6, 2019

9:00 AM-  
10:00 AM: ESNA Morning Keynotes

- Ernesto Ciorra, Chief Innovability Office, Enel
- Raj Apte, Principal Engineer, New Projects, Google X and Ramya Swaminathan, President and CEO, Malta Inc.

### GGT Morning Program: Innovating the Future of Power

10:45 AM -  
11:30 AM **Session 1: Decarbonizing the Power Sector and Maintaining Reliability: Solutions for Multi Day and Seasonal Storage**

Renewable energy is now the lowest marginal-cost source of electricity in many countries globally. Reliability at very high renewable penetration levels will require multi-day and seasonal energy storage solutions to match supply and demand. This session will address drivers for multi-day and seasonal storage and currently available solutions, as well as explore actions to help realize the potential of long duration storage to accelerate grid decarbonization without sacrificing reliability.

Moderated by: Janice Lin, Chief Executive Officer, Strategen

Key Questions:

1. What is driving the need for super bulk, multi-day and seasonal storage solutions? When will it be needed?
2. What bulk storage solutions are available today and what is inhibiting their use?
3. What actions should regulators and policy makers take today to facilitate the development of super bulk storage solutions?

11:35 AM -  
12:20 PM **Session 2: Energy Storage: Where the Power & Transportation Meet**

Along with power, transportation is one of the most carbon intensive sectors on the planet. Grid innovation and design cannot be decoupled from the growth of transportation electrification. This session will discuss how policy makers can connect the dots between transportation and grid modernization to incentivize ideal outcomes.

Moderated by: Julian Jansen, Research Manager, Energy Storage, IHS Markit

Key Questions:

1. How can energy storage and the power sector more broadly accelerate the Electrification of Transport?
2. How and who can unlock the value (energy/capacity/ancillary services market value, other system benefits) and monetize EV grid services?
3. How can policy makers and regulators accelerate the value case for stronger vehicle-grid integration?

12:30 PM – 14:00 PM **VIP Global Grid Luncheon (Invitation Only) | Sponsored by Fluence**

## **GGT Afternoon Program: Reinventing the Power Infrastructure Paradigm**

14:00 PM – 14:45 PM

### **Session 3: Rebuilding in the Wake of Disaster**

Natural disasters are becoming more common and more destructive. Energy storage and other enabling distributed energy resources and smart solutions can mitigate their occurrence and help consumers deal with wildfire mitigation strategies. This session invites regions marred by natural disaster such as Australia, California, Puerto Rico, and others to share challenges, opportunities, and best practices in rebuilding resilient islanded systems in the wake of disaster or to prevent disaster.

#### **Key Questions:**

1. What types of natural disasters amplify the need for energy storage?
2. What functions can energy storage provide? How are these services valued or not valued today?
3. How should regulators and utilities value resiliency in future resource planning?

Moderated by: Camron Barati, Senior Analyst Solar and Storage, IHS Markit

14:50 PM – 15:35 PM

### **Session 4: Thermal Fleet Retirement & Replacement**

As gas peakers in California and coal plants in Germany are closed, companies will be left with stranded assets on the balance sheet. This session will seek solutions and lessons for how energy storage can be used to transition the fossil fleet to lower cost renewable solutions, maintain reliability and keep the power sector affordable.

#### **Key Questions:**

1. What are energy storage – conventional generation hybrids? How do they work? What are the benefits they provide? (for existing conventional generation)
2. How do energy storage hybrids accelerate the power sector decarbonization?
3. What actions can regulators can take to enable faster adoption of hybrids?

Moderated by: Ed Burgess, Director, Strategen

16:00 PM – 17:30 PM

### **ESNA Afternoon Keynote Sessions**

1. Martin Adams, General Manager LADWP
2. Prakash Chandra, CEO GE Renewable Energy Hybrid Solution

18:00 PM – 21:45 PM

### **ESNA Beach Party at Kona Kai Resort (Transportation Provided)**