ANDHRA PRADESH
India's Sunrise State

POWERING
Andhra Pradesh
ENERGY INNOVATION SUMMIT 2018
28-29 November | VIJAYAWADA

Focused WORKSHOPS

NREDCAP

Dalberg

CII

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I. ABOUT THE SUMMIT

The Government of Andhra Pradesh is hosting '**Powering Andhra Pradesh**' - a global energy innovation summit to shape the future of energy in Andhra Pradesh on **28-29 November 2018** in **Vijayawada, India**.

This will be a first of its kind summit in the energy sector in a developing country that will:

- **Go beyond the most common themes** by including themes across the entire energy value chain along with cross-cutting levers such as climate change
- **Focus on innovation** and showcase cutting edge technologies in the energy sector
- **Convene future-oriented voices** by bringing global experts, investors, incubators, startups under one roof
- **Focus on communicating actionably** by using a mix of formats that can help surface concrete recommendations

Andhra Pradesh has been at the forefront of the energy sector and has now set a challenging vision to transform its energy sector. To help achieve the state's vision for the energy sector, the summit will bring together energy experts from a wide range of organizations including private sector, international agencies, donors, investors, independent think tanks, research institutions and governments to share technology innovations and best practices for transforming the energy landscape. The summit will comprise of a mix of events aimed at sharing of knowledge and developing actionable recommendations, including:

- **Ideas Forum** where leading experts from a wide range of organizations share best practices, trends, and principles on innovations in energy through keynotes and panel discussions
- **Pitch Competition** where 'energy-preneurs' pitch innovations that can help Andhra Pradesh solve the emerging energy challenges and meet its demand, while making it more livable
- **Focused Workshops** *(invite only)* where targeted, collaborative sessions will be held that bring together experts and government representatives to ideate and design an actionable roadmap for the energy sector in Andhra Pradesh
- **Exhibition** showcasing leading and innovative products, services, technologies, designs and concepts in the energy space
- **Networking events and dinners**

The Summit seeks to leverage global best practices and cutting-edge technologies to help Andhra Pradesh achieve its energy sector vision. Additionally, it aims to develop a thriving ecosystem for the energy sector in the state by attracting investments from large companies and start-ups in the state.

The summit is anchored on five themes, as represented in the figure below:

1 Conventional Power

Improving efficiency and reducing emissions of power plants

A. Fuel security

- Offshore & onshore gas storage
- Fuel efficiency

B. Gas power stations

- Hybrid gas power plants
- Higher efficiency gas turbines

C. Emission reduction

- Cleaner fuel and combustion
- Carbon capture and storage

D. Digitising power plants

- Operational efficiency
- Increasing uptime and safety

2 Renewable Energy

Harnessing new sources and enhancing efficacy of existing sources

A. Large scale renewables

- Large solar & wind parks
- Hybrid solar & wind plants

B. Floating/ offshore renewables

- Offshore solar/ wind plants
- Wave & tidal energy

C. Distributed generation

- Micro/mini grids
- Roof top solar
- Solar water pumps

3 Grid Upgradation

Futureproofing grids and strengthening sustainability of DISCOMs

A. T&D infra improvement

- Integration of renewables
- Increase in grid capacity

B. Smart grids

- Load management
- Smart metering
- Virtual Power Plants

C. Sustainability of DISCOMs

- DISCOM financial health
- T&D loss reduction

D. Utility scale storage

- Thermal and Pumped hydro storage
- Fuel cells

4 Energy Efficiency

Installing smart appliances in personal and collective spaces

A. Smart appliances

- Intelligent appliances
- Energy efficient lighting and appliances

B. Efficiency in built spaces

- Smart lighting
- Building energy management

5 Mobility

Incentivizing electric vehicles' adoption through innovation

A. EVs and batteries

- Electric vehicles (public, private)
- Battery technologies

B. EV infrastructure

- Charging stations
- EV parking spaces

II. FOCUSED WORKSHOPS – CONCEPT

A. Description and Objectives

The Summit will include solutioning workshops that intend to bring together different groups of stakeholders to ideate and develop actionable recommendations for Andhra Pradesh in the energy sector through structured problem-solving. The collaborative format will allow participants to bring together a diverse range of expertise and perspectives on targeted focus areas.

The primary objective of the workshops is to source ideas and actionable recommendations from a diverse set of stakeholders including key decision makers in the Andhra Pradesh energy landscape.

B. Format

The workshop will be conducted in two parts covering the five themes of the summit. The participants for the solutioning workshops will include representatives from a mix of organizations including private sector, research organizations, investors, government agencies etc. Additionally, the winners of the pitch competition will also be invited to take part in the workshops. Each workshop will have 20-25 participants. The participants will be grouped based on relevant themes, with each group having a mix of participants from various category of organizations (mentioned above).

The workshops will be moderated by experts from Dalberg (i.e. knowledge partner for the summit), and will include opportunities to brainstorm, applying techniques shared by the facilitators to develop innovative solutions to given problems.

Each workshop will aim to develop recommendations around the following (preliminary):

- Identifying technologies most-suited to Andhra Pradesh's context within the summit themes and sub-themes
- Relevant partnerships that need to be developed to harness the technologies
- Ecosystem level measures that need to be put in place (e.g. policy measures, funding mechanisms)
- Global best practices to tackle potential challenges / roadblocks that may emerge during implementation

Brief details on the focused workshops are mentioned below.

Focused Workshop 1

Energy Generation, Transmission and Distribution

Renewable Energy

Last year, India added more power generation capacity through renewable sources than conventional sources and was ranked as the second most attractive market for renewable energy investment. As Andhra Pradesh looks to develop a forward-looking energy strategy with 18 GW of renewable power by FY22 and 30% renewable share in installed capacity, **the workshop will aim to explore actionable recommendations for harnessing large-scale renewables, floating / offshore renewables and distributed generation.**

Conventional Energy

Even as renewables are added, conventional power is expected to continue to hold a significant share of the energy capacity in Andhra Pradesh. Conventional sources have the added advantage of being a more stable source of power unlike renewables, but there is significant potential to improve efficiency and reduce emissions to minimize the effect on the climate. **The workshop will explore technology, policy, partnerships and funding levers to ensure fuel security, improve efficiency of fuel consumption, reduce emissions and digitize conventional power plants.**

Transmission and Distribution

Increasing RE penetration and proliferation of distributed systems means the grid of the future will have to be smarter, more stable and resilient to deliver continuous and quality power. T&D losses continue to be a pressing challenge in India and Andhra Pradesh has set itself a target of reducing losses to below 3%. **Given this context, the workshop will focus on developing a roadmap around sustainability measures for DISCOMs, using emerging technologies to reduce T&D losses, applications of smart grids and the role of utility scale storage.**

Focused Workshop 2

Energy Consumption

Energy Efficiency

As Andhra Pradesh seeks to achieve its energy savings targets leading to potential annual savings of INR 6,000 crores (~USD 850 mn), the workshop will **delve into actionable recommendations around harnessing technological advancements in making appliances and personal/collective spaces 'smarter' i.e., energy efficient. It will also explore policy interventions and behavioral nudges required to incentivize their adoption.**

Electric Vehicles and Mobility

Moreover, Andhra Pradesh envisions 10 lakh (1 million) Electric Vehicles (EVs) on the road by 2023, attracting an investment of INR 30,000 crores (~ USD 4.5 bn). Lack of supporting infrastructure and viable business models may restrict mass adoption. **The workshop will explore recommendations that cover key technological developments in the EV space including batteries and EV infrastructure (e.g. charging stations), partnerships and incentive mechanisms to drive their adoption in both personal and public transport.**

Agenda

Day 1 (November 28)	Day 2 (November 29)	
	8:30 – 9:45 am **Breakfast with CM and experts** (invitation only)	
	9:45 – 10:00 am **Announcement of pitch-competition winners**	
	10:00 am – 11:15 am **Smart spaces and Energy efficiency** | Panel	10:00 - 12:00 am **Workshop - Part 1 | Generation, Transmission and Distribution –** Themes 1, 2, 3 *(invitation only)*
10:30 am – 12:00 pm **Inauguration and Opening Address by Hon'ble Chief Minister**	11:30 am – 12:45 pm **Riding Electric: Road to EVs** | Rapid fire panel discussion	
12:00 – 1:00 pm **Address by key note speakers**	12:45 – 1:45 pm **Lunch and networking**	
1:00 – 2:00 pm **Lunch and networking**		
2:00 – 3:15 pm **Serving energy demand through renewables** | Panel	1:45 – 3:00 pm **Innovations in Conventional Energy** | Panel	1:45 - 3:45 pm **Workshop - Part 2 | Consumption –** Themes 4, 5 *(invitation only)*
3:30 – 4:30 pm **Pitch competition - Part 1**	3:45 – 4:45 pm **Valedictory Address**	
4:30 - 4:45 pm: **Tea**		
4:45 – 6:00 pm **Grids of the future and DISCOM sustainability** | Panel	4:45 pm – 5:15 pm: **Tea**	
6:00 - 7:00 pm **Pitch competition – Part 2**		
7:00 pm onwards **Dinner hosted by the Hon'ble Chief Minister** *(invitation only)*		

Pitch competition
Panel discussion
Workshop