



# Forecasting, Scheduling and Balancing of Renewable Energy for Grid Integration – under IGEN GEC

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**IGEF sub group 2 meeting**  
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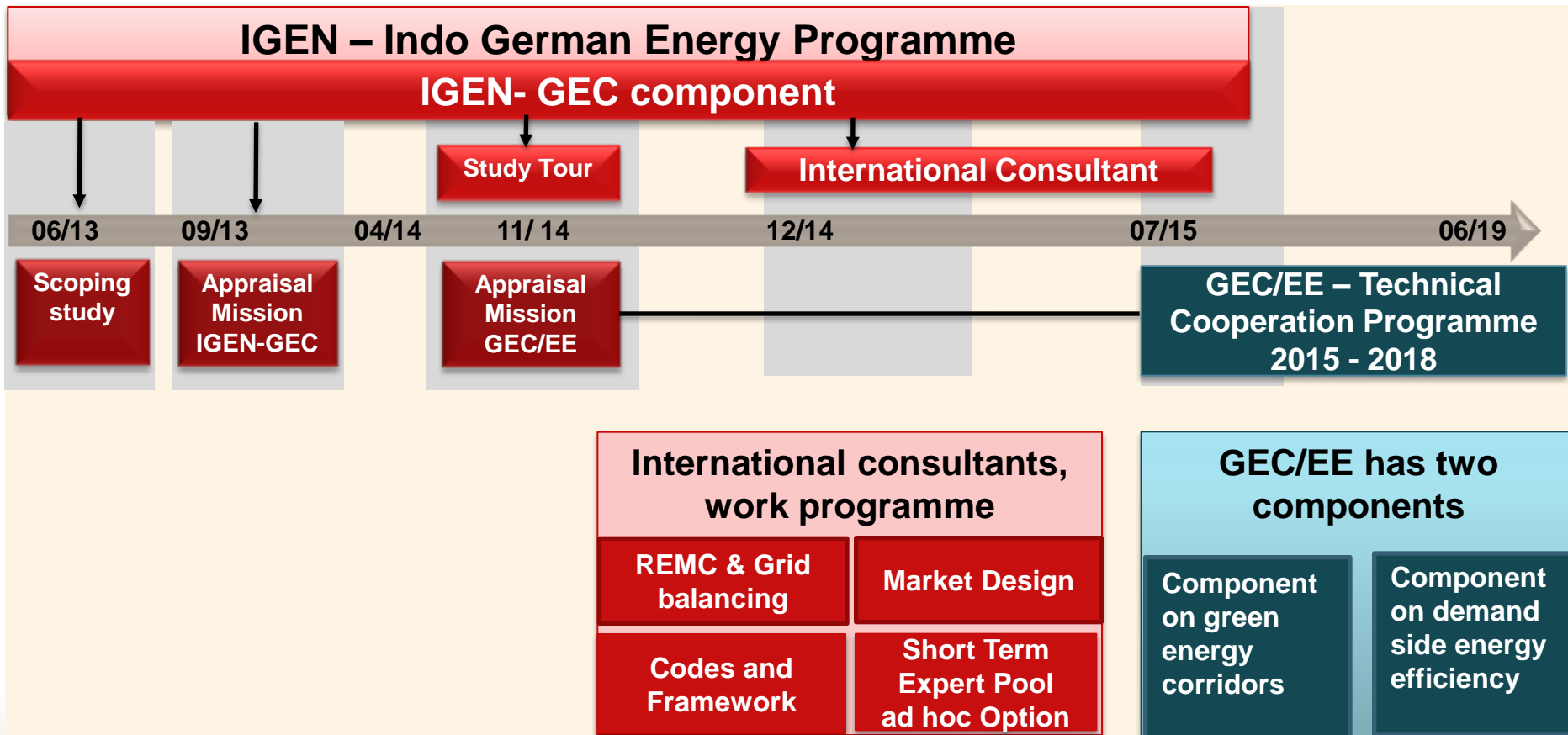


## TECHNICAL ASSISTANCE: IGEN - GEC

- Technical Cooperation component of Green energy corridors is being implemented by GIZ under Indo German Energy Programme (IGEN – GEC).
- The key objective of the IGEN-GEC component is that “Indian organisations/institutions on national and State levels are in possession of a concise set of decision making recommendations for extension and operation of the electricity transmission grid in the light of increased shares of renewable energy in the grid”.
- Forecasting scheduling and balancing are the key topics within IGEN-GEC
- The target group of the technical assistance work consists of the relevant staff members of MNRE, CEA, CERC, (POSOCO- NLDC, RLDCs), SLDCs, Central Transmission Utility (PGCIL), the State Transmission Utilities and distribution companies.



## TIMELINE FOR GIZ's ACTIVITIES on GEC





## WP 1: REMC and GRID BALANCING

### Task 1

- Analysis of wind and solar power forecasting infrastructure and requirements

### Task 2

- Proposal for the establishment of Renewable Energy Management Centres (REMC)

### Task 3

- Balancing capability enhancement

### Task 4

- Overall strategy and roadmap



# WP 1: REMC AND GRID BALANCING ACTIVITIES



## Task 1 Analysis of wind and solar power forecasting infrastructure and requirements

- Review the **existing mechanisms**, systems and practices in India on **wind, solar and load forecasting** and identify the areas of improvement
- Recommend **appropriate forecasting infrastructure** and **communication system** requirements for Indian conditions.



## Task 2 Proposal for the establishment of REMC

- Forecasting of RE generation in jurisdiction area on **hour / day ahead basis**
- **Real time tracking** of generation from RE sources
- **Geo-spatial visualization** of RE generation
- Close coordination with LDC for RE generation and control for
- Smooth grid operation
- Single source **information repository** for RE penetration



# WP 1: REMC AND GRID BALANCING ACTIVITIES Contd..

## Task 3 Balancing capability enhancement



- Assessing **RE balancing** capability in entire individual states selected for GEC project
- Recommendation for ways forward towards **increasing balancing capability**
- Preparing report on **estimating cost** of Balancing RE

## Task 4 Overall Strategy and Roadmap



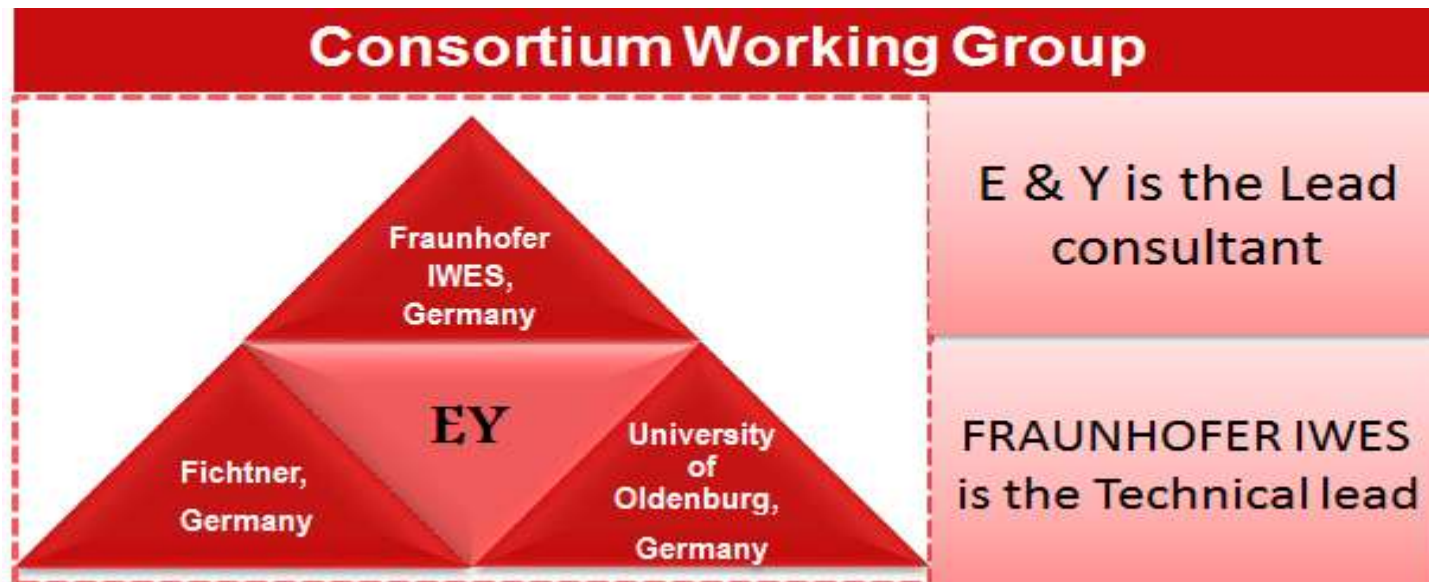
- Preparation of a report containing **overall strategy** and **road map** for providing the requisite balancing infrastructure and ensuring grid security, with forecasting system in place, with increasing penetration of renewable energy generation.





## IGEN GEC : GLOBAL CONSULTING WORK

- Global Consultant contract was awarded to consortium lead by E & Y.
- Consulting started from 1.12.2014 and will be completed by 31.07.2015.
- WP4: some answers on Forecasting and balancing were delivered to Indian stakeholders' this week





***THANK YOU***