







Exchanging Best Practices to Incorporate Variable Renewable Energy into Long-term planning in Arab countries

Grand Millennium Hotel Amman, Jordan













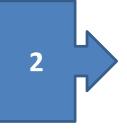
Program Overview: Key Highlights





Generation adequacy and capacity credit

- ☐ Difference between adequacy and security
- ☐ Measurement of Capacity Credit and Various Factors
- ☐ Importance of consideration and method of integration



How generation adequacy and capacity credit can be reflected in energy planning models

- ☐ Overview to mimic capacity credit and implications in modeling
- Checkpoints used for optimal capacity expansion models
- ☐ Different country practices

Program Overview: Key Highlights



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System Flexibility

- ☐ Definition of Flexibility
- ☐ Types of flexibility and its importance
- ☐ Definition of time slices and the use of the IRENAFlextool



Exchange of country experiences and discussions

- ☐ Is concept of flexibility relevant to country?
- ☐ How is power system flexibility reflected in long-term planning?
- ☐ Gaps faced in current models

Program Day 3



09:30 10:25 IRENAFlextool/transmission investment and resource quality

10:25 11:15 Exchange of country experiences

11:15 11:45

Coffee Break

11:45 12:45 Stability related operational constraints

12:45 13:30 Exchange of country experiences

13:30 14:30 • Lunch

14:30 16:30

Identification of planning gaps

17:00 18:15 Identification of follow-up/Closing

Discussion points



- 1. Out of the five aspects of the long-term planning that we discussed today, which aspects need to be improved in your long-term planning process?
- 2. What are the barriers? Access to information, access to data, access to tools, access to training opportunities?
- 3. How can the region work together to overcome the gap? How can IRENA/RCREEE/other technical partners support the process?
- 4. If we are to organize follow up activities, how should that look like?

1. Priority topics



 Out of the five aspects of the long-term planning that we discussed today, which aspects need to be improved in your long-term planning process?

| | Generation | Networks |
|----------|---|----------------------------|
| Adequacy | Firm capacity | Transmission capacity |
| Security | Flexibility | Voltage control capability |
| | Stability (frequency response and voltage response) | |
| | | vstem-specific |
| | High relevance No. | ear-term relevance |

Barries?



- 2. What are the barriers?
- Access to information
- Access to data
- Access to tools
- Access to training opportunities
- Any other points?

Next steps



- 3. How can the region work together to overcome the gap? How can IRENA/RCREEE/other technical partners support the process?
- 4. If we are to organize follow up activities, how should that look like?
 - Hands on training on tools (on which topics?)
 - Expert lectures from wide range of country practitioners
 - Knowledge product (on which topics?) reports, technical guideline, temlates
 - **— ? ? ?**