



Grid Efficiency Improvements: Regulatory Considerations

Priyantha D C Wijayatunga
Principal Energy Specialist
Asian Development Bank

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Opportunities for Grid Efficiency Improvements with
High-Temperature Low-Sag Conductors
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Outline

- System Losses
- Loss reduction
- Regulatory approaches
- Final Remarks



System Losses

- Transmission and distribution losses
 - Major component in distribution
 - Technical and Commercial
 - Bangladesh – 14%
 - India – 23%
 - Nepal – 25%
 - Sri Lanka - 11%
 - Significant component – technical losses



Loss Reduction

- Commercial Loss Reduction
 - Strengthening legal environment and enforcement
 - Technical solutions
 - Bundle conductors
 - Feeder separation
 - High Voltage AC



Loss Reduction

- Technical Loss Reduction
 - Efficient conductors
 - Proper design of transmission and distribution network
 - Appropriate siting of generation
 - Economic dispatch considering losses
 - Power factor improvement
 - VAR compensators etc



Regulatory approaches

- Regulations and rules on generation and network planning and dispatch
- Encourage appropriate interventions
 - Recognize investment costs in tariff setting
 - Provide incentives for achievements in efficiency improvements



Regulatory Approaches

- ROR based regulation
 - Investment guidelines
 - Recognize in the rate-base
 - Any reduction in losses beyond target will allow additional % points in benchmark ROR
- Targeted Incentive Regulation
 - Set system loss targets
 - Any achievement beyond rewarded



Regulatory Approaches....

- Price/revenue cap regulation
 - Set the price/revenue cap considering benchmark loss levels
 - Any savings beyond – utilities' profit or shared



Final Remarks

- Regulator can play a key role in providing incentives for network efficiency improvements
- Investments in new technologies with long term benefits
- In the absence of effective regulators planning authorities/ministries/utilities need to take the lead



Thank you

Priyantha D C Wijayatunga
E-mail: pwijayatunga@adb.org

