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GSMA GREEN POWER FOR MOBILE

Pakistan/Afghanistan

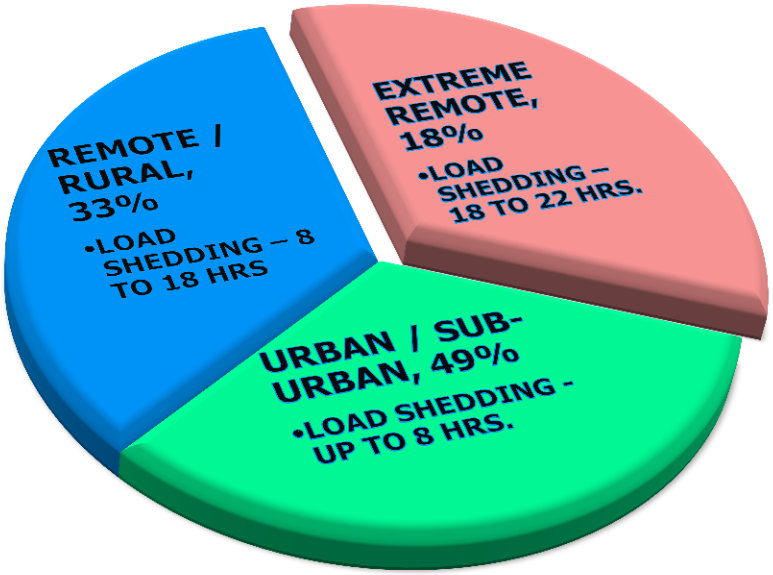
Specific Work Group (20th And 21st August 2013)

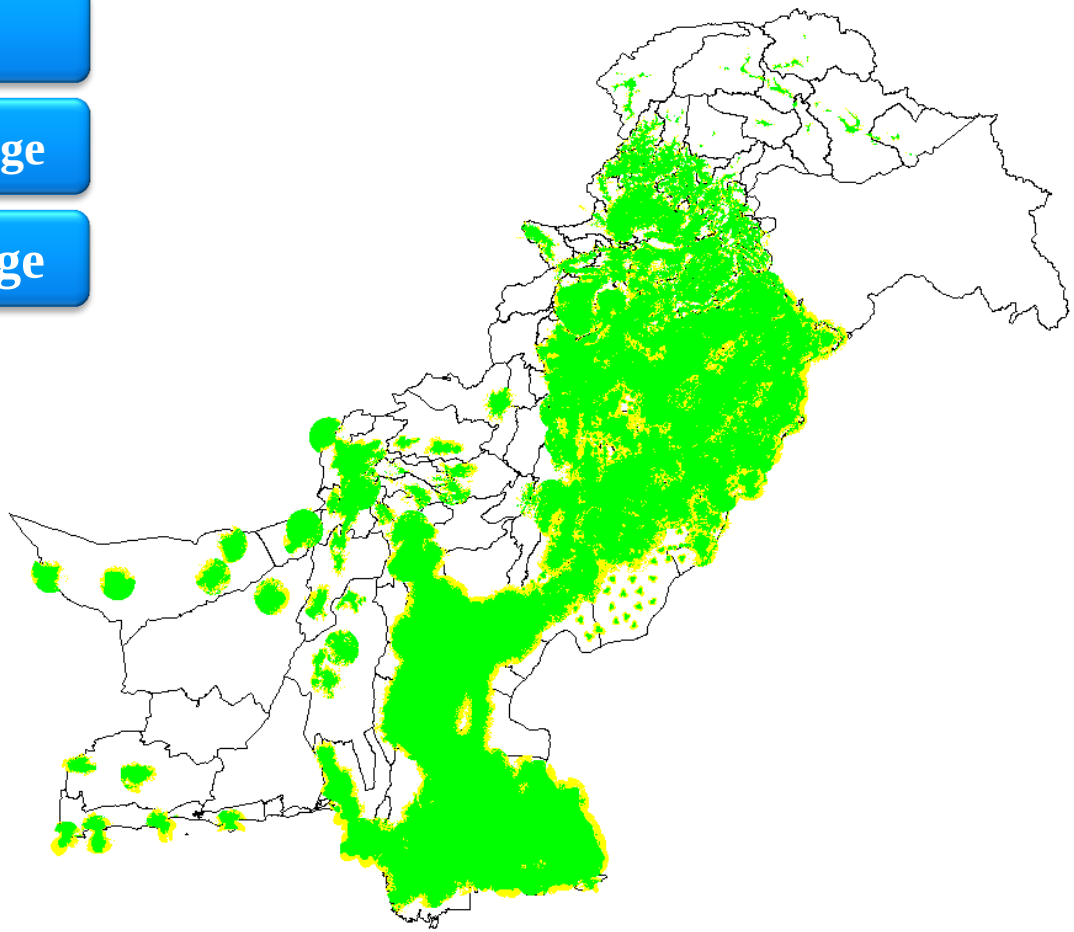
Telenor Network - Summary

7650 BTS Sites

45.2 % Geographical Coverage

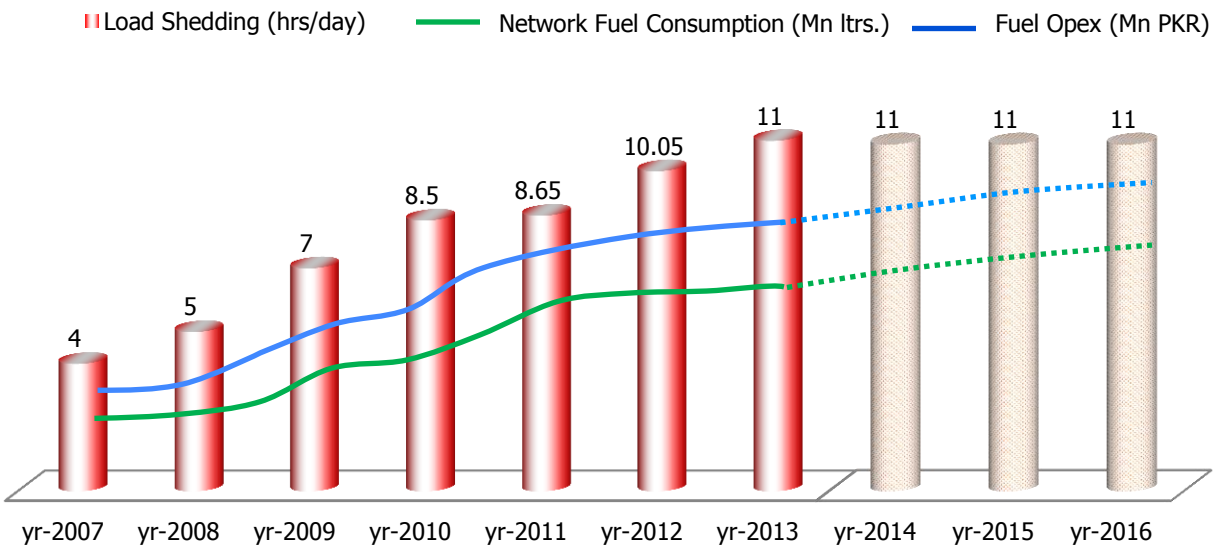
75.0% Population Coverage

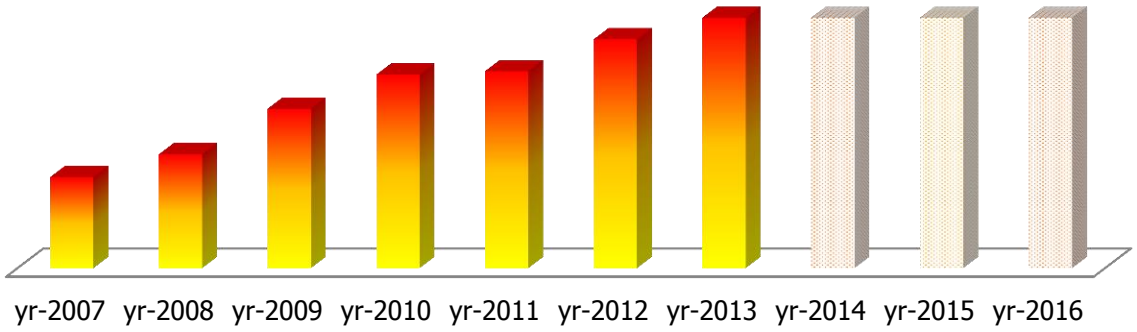




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Energy Challenges





CO2 Emissions (Tons)

Rising Grid Unavailability

Increased GENSET Utility

Rising Energy Cost

Expanding Carbon Footprint

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Telenor (Long Term) Energy Management Roadmap

Energy Efficiency

- Outdoor BTS Solution
- Energy Efficient Infrastructure Design
- Site Colocation
- Solar System Deployment

Fuel Efficiency

- Battery Backup Enhancement
- Commercial Power Fault Correction
- Real-time Energy Management

Green Energy

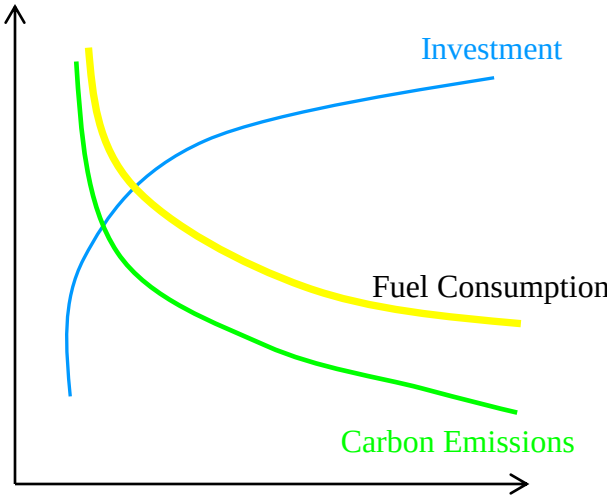
- Solar System
- Wind Power System
- Fuel Cell & Other Solutions







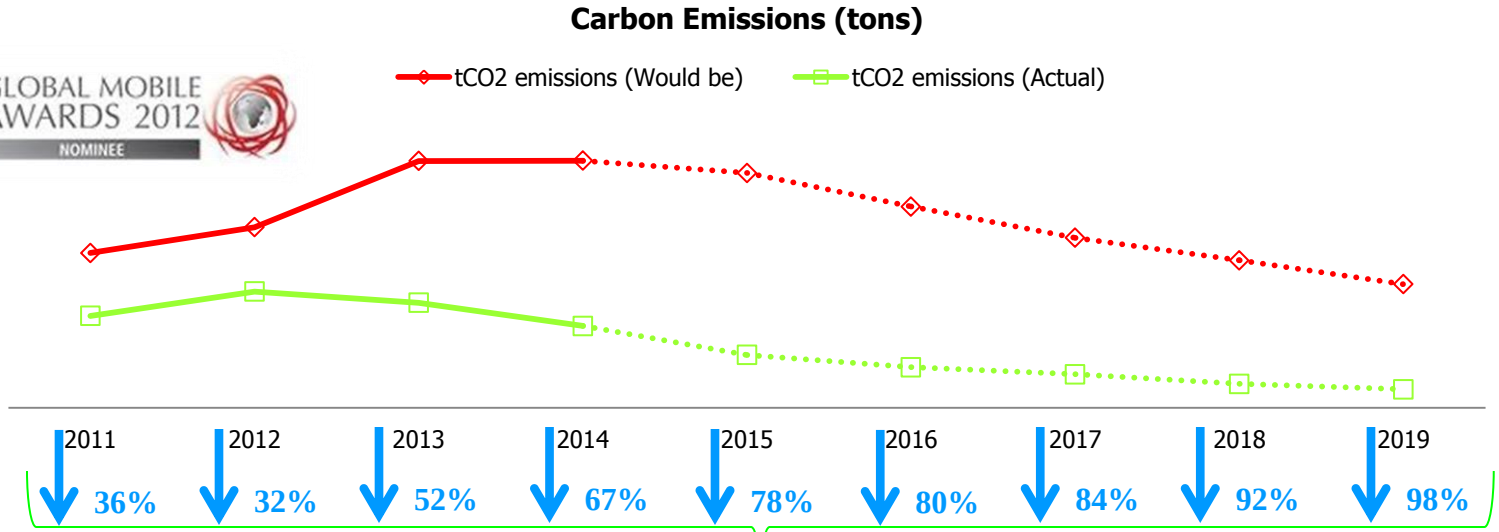




Telenor Pakistan was nominated by GSMA for the Green Mobile Award 2012

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Energy Management Initiatives - Green Energy Drive



~70% Reduction in CO2 Emissions

Conventional Power Source	Energy Efficiency Solution	Hybrid Energy Solution	Green Energy
Commercial Power	Enhanced Battery Backup	Solar + Genset Solution	Genset Less Operations
Genset Backup	Commercial Power Fault Correction	Wind + Genset Solution	
	Power Efficiency Improvement		
	Real-time Energy Management		

Green Energy Transition – Telenor Way



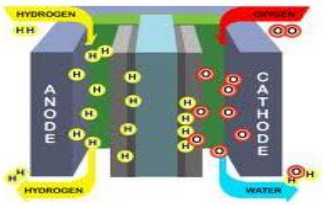
Transition to Green Energy – Challenges



- Heavy CAPEX Requirement
- Managing Energy Efficiency vs Space Efficiency
- Mass Deployment Challenges



- limited & Narrow Wind Corridors
- Unavailability of Skilled Maintenance Workforce
- Heavy Dependency on Weather



- Limited fuel supply chain

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Transition to Green Energy – Way Forward



Operator

- Support on Roadmap development
- Active Participation in Transition



Supplier

- Local workforce skill set development
- Alternate Fuel Supply Chain development
- Sustained O & M Support

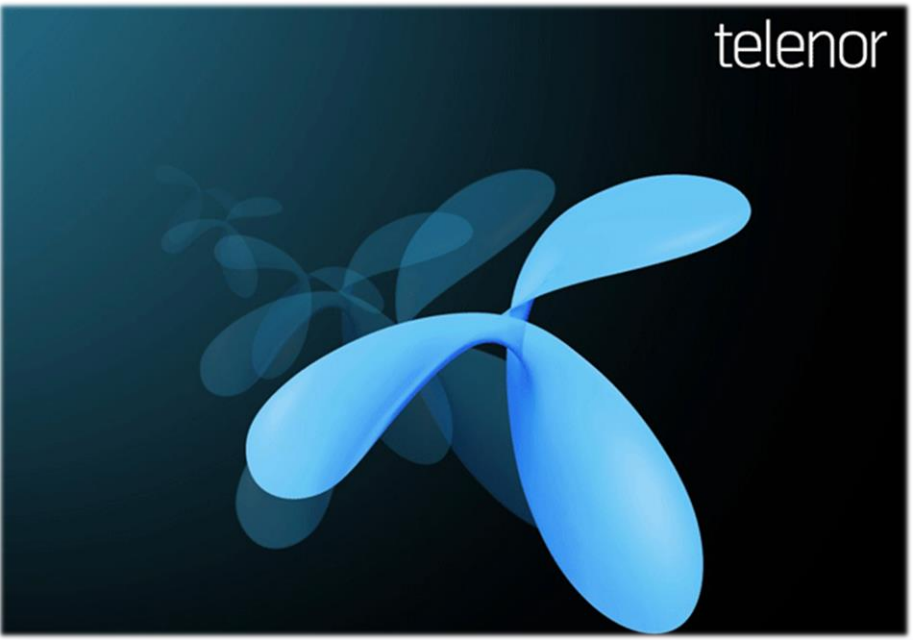
Government

- Country Level Roadmap
- Engaging Multiple Industries in Collaboration
- Subsidy on Green Energy Solutions

eco SYSTEM

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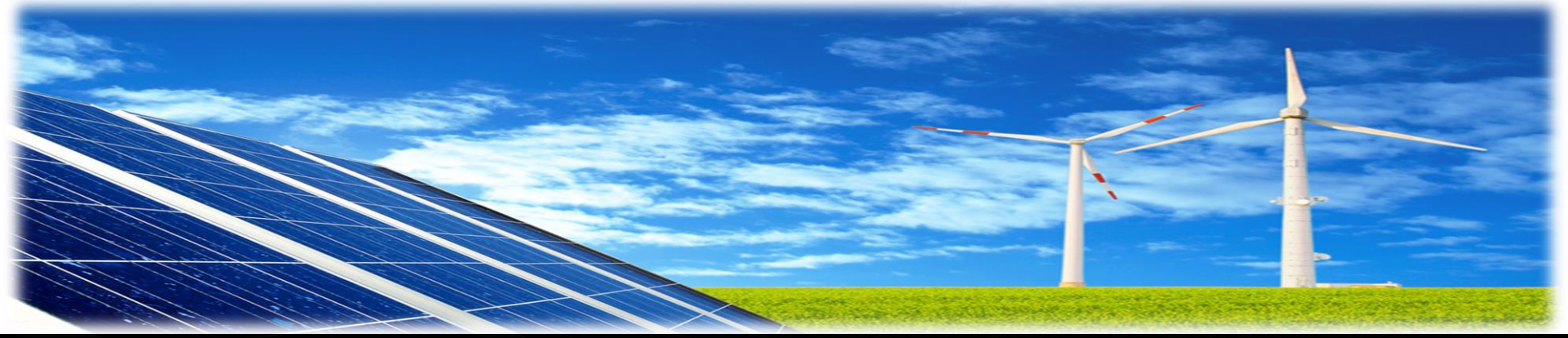
Conclusion



Telenor resolves to further its ambitions in Green Energy Drive and make strategic business investment in Renewable Energy Efficient Solutions as it has in the past.

Telenor Pakistan actively seeks support from Green Energy Solution Suppliers to identify ways to facilitate quicker transition to Greener Energy.

Telenor Pakistan would continue to collaborate with government for development of a sustainable Green Energy roadmap.



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Thank You!

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