



**SteuerBoard
Energie**

Governance Mechanisms
in a Future Polycentric
Energy System

FINANCIAL PARTICIPATION OF CITIZENS

Najam Memon

Energy Governance in Pakistan

31st AUGUST 2023

PROJECTPARTNERS



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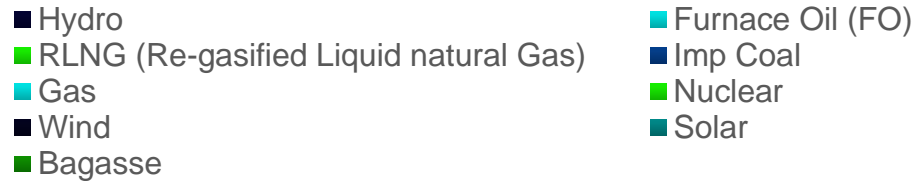
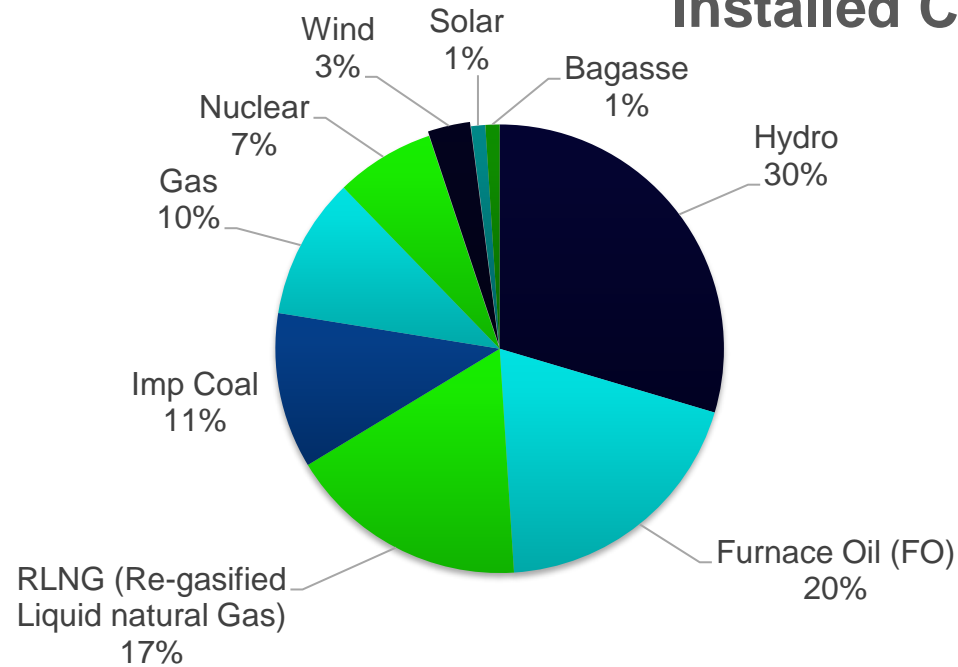
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AGENDA

1. Introduction
2. Energy Governance in Pakistan
3. Regulatory Framework
4. Challenges



Installed Capacity in MW



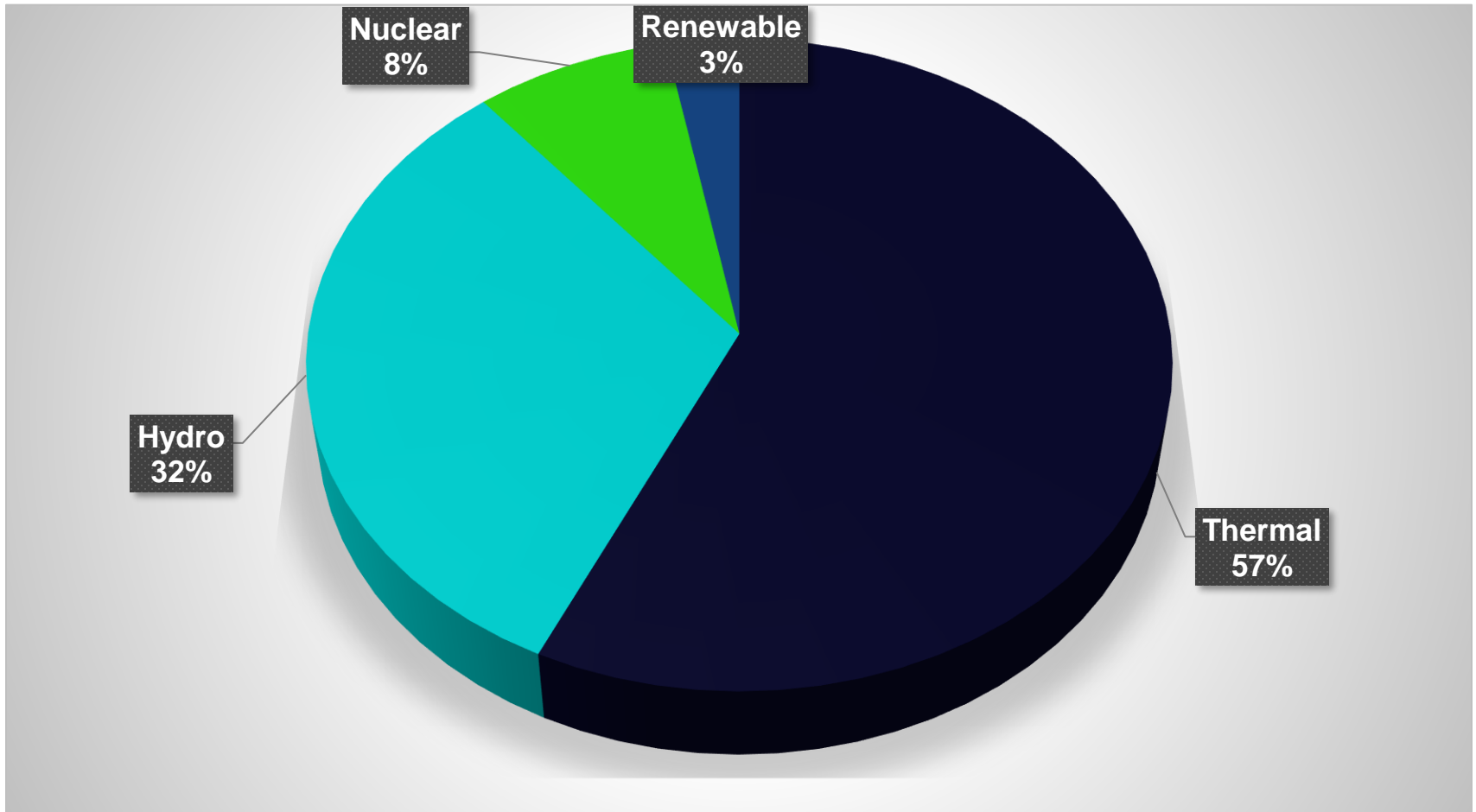
Indicative Generation Capacity Expansion Plan (IGCEP-2021)



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Electricity Mix (GWh), 2019-20



IGCEP-2021



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UNIVERSAL ACCESS TO ELECTRICITY

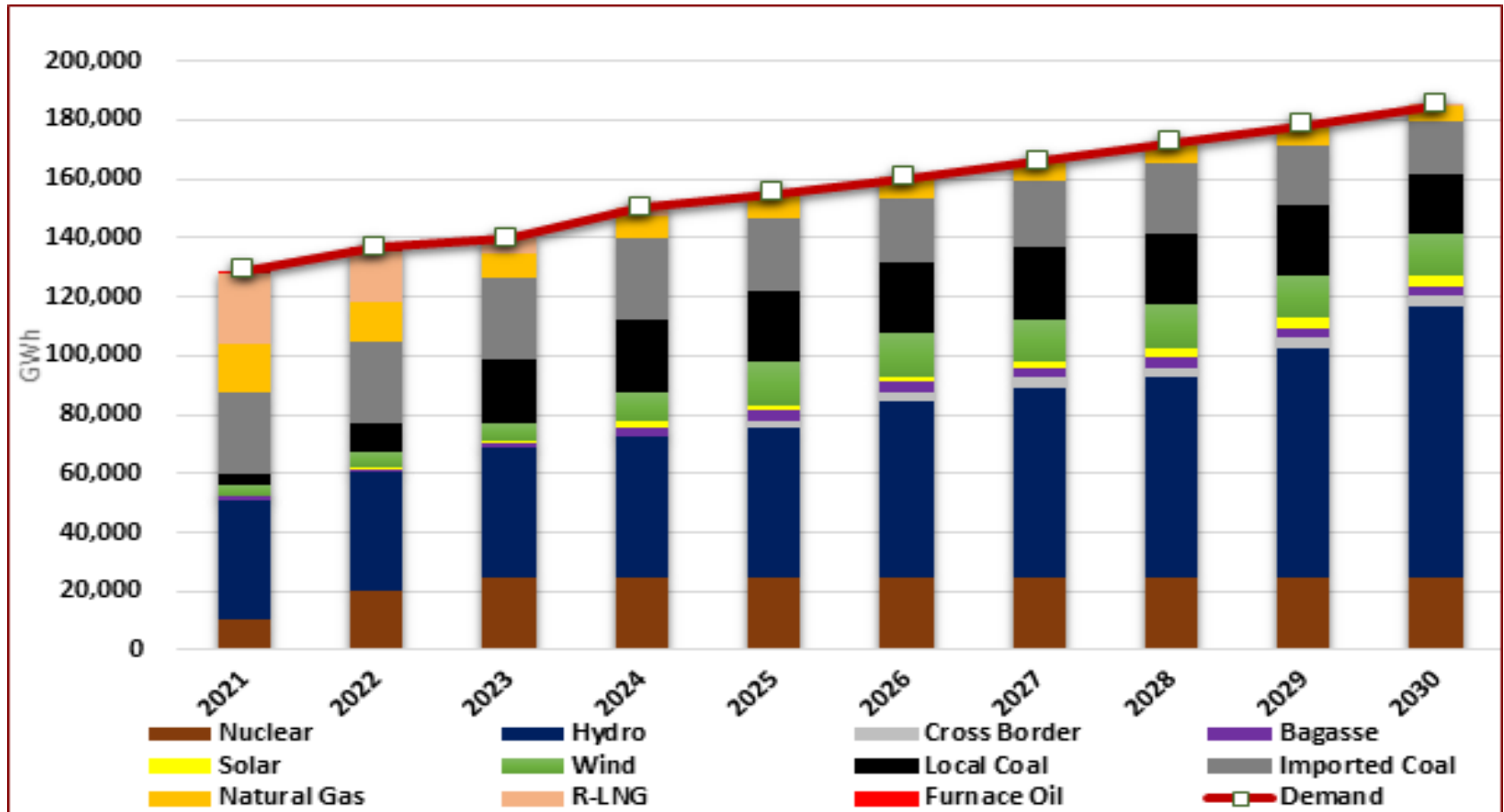
- _ Universal access to electricity
 - _ On-grid electricity
 - _ Off-grid electricity
- _ Total installed capacity: 41,000 MW (65% fossil fuels)
- _ Energy generation: 34,100 MW
- _ Peak demand: 24,106 MW

https://www.finance.gov.pk/survey_2023.html

IGCEP-2021



ANNUAL ENERGY GENERATION VS ANNUAL ENERGY DEMAND (GWh) 2021-30 (PLEXO)



Source: IGCEP-2021



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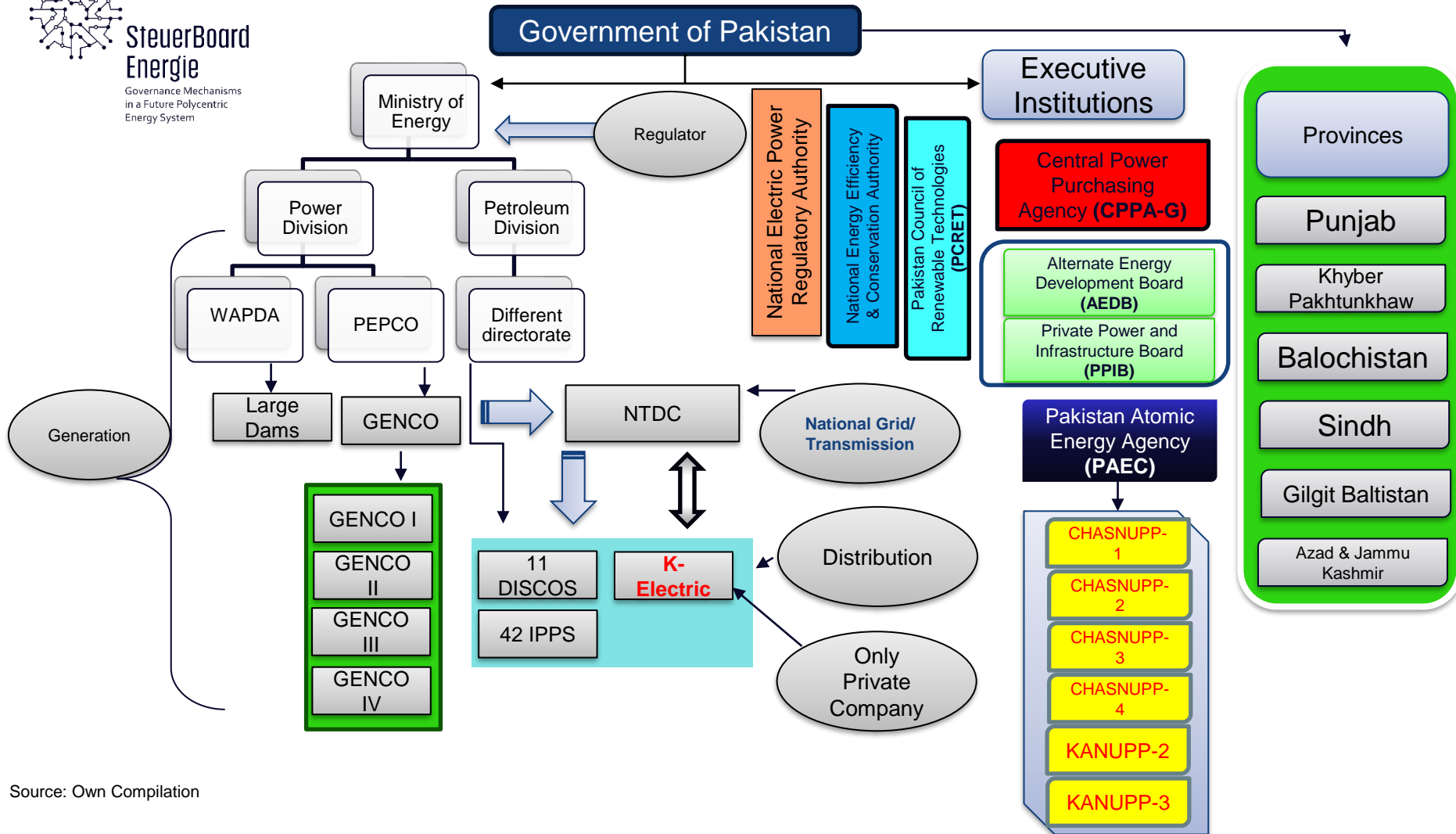
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Source: Own Compilation

CHASNUPP = Chashma Nuclear Power Complex
Disco = Distribution Companies
Genco = Generation Companies
IPP = Independent Power Producers
KANUPP = Karachi Nuclear Power Complex
K-Electric = Karachi Electric
NTDC = National Transmission and Dispatch Company
PEPCO = Pakistan Electric Power Company

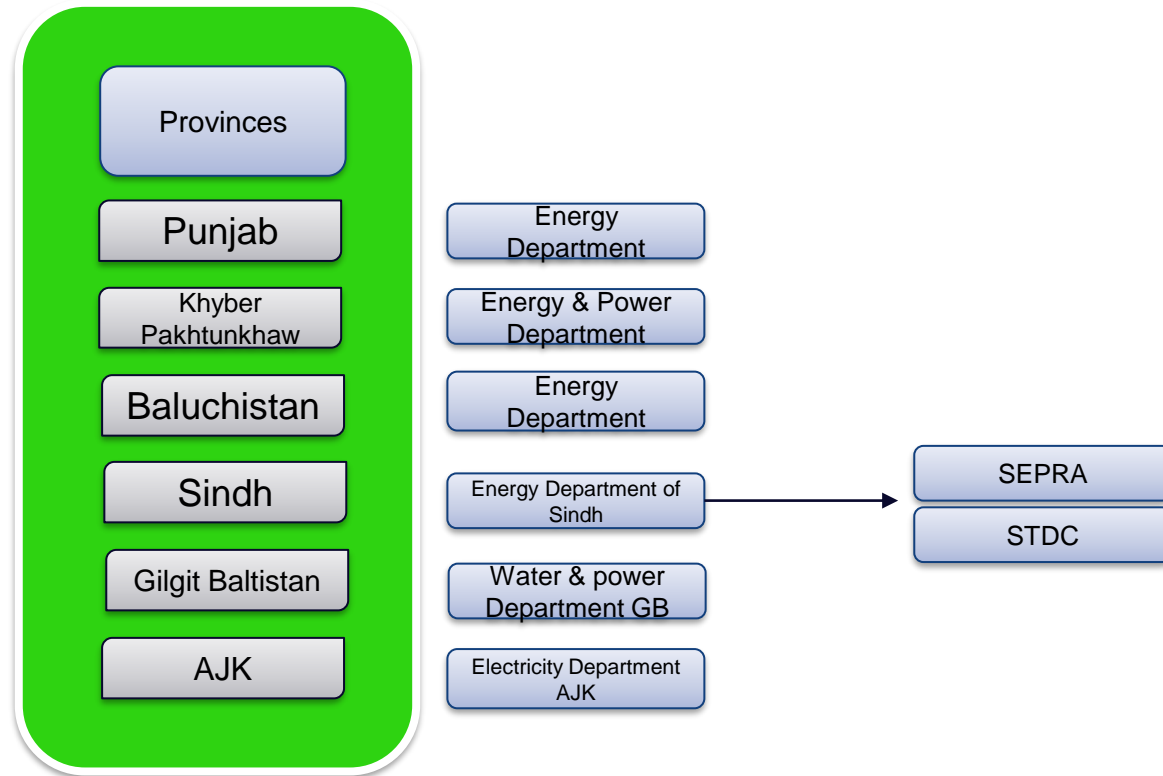
DEVOLUTION- PROVINCIAL ENERGY DEPARTMENTS

_Devolution w.e.f 18th Constitutional Amendment

_Article 157: allows provinces to freely decide on generation, transmission, distribution and deciding tariffs for electricity.

_Federal government may in any province construct or cause to be constructed hydro-electric or thermal power installations or grid stations for the generation of electricity and lay or cause to be laid inter-provincial transmission lines

_In case of disputes matters will be brought to the “**Council of Common Interests**”



Own Compilation

SEPRA = Sindh Electric Power Regulatory Authority
STDC = Sindh Transmission & Dispatch Company Pvt. Ltd



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REGULATORY FRAMEWORK

_Net-Metering (2015)

_1kW to 1 MW

_3 Phase connection

_Alternate and Renewable Energy Policy- AEDB (2019)

_25% RE till 2025, but till now less than 5%

_Competitive bidding process for procurement of RE, announced by „AEDB“

_Focus on mini-grids, micro-grids, localized energy solutions

_NEPRA; inclusion of Corporate Social Responsibility (2020-2021)

_ Vision „**Power to Prosperity**“



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CHALLENGES IN ENERGY SECTOR

- _Devolution: lack of participatory governance (negligent role of municipalities)
- _Lack of financial mechanisms
- _Reliance on imported fossil fuels
- _Grid instability: distribution and transmission losses
- _High generation cost of national grid
- _Limited knowledge and lack of expertise
- _Regulatory uncertainty
- _Seasonal variability
- _Power theft
- _Extremely high cost of grid expansion
- _Lack of community engagement, especially in off-grid areas



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Thank you.

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