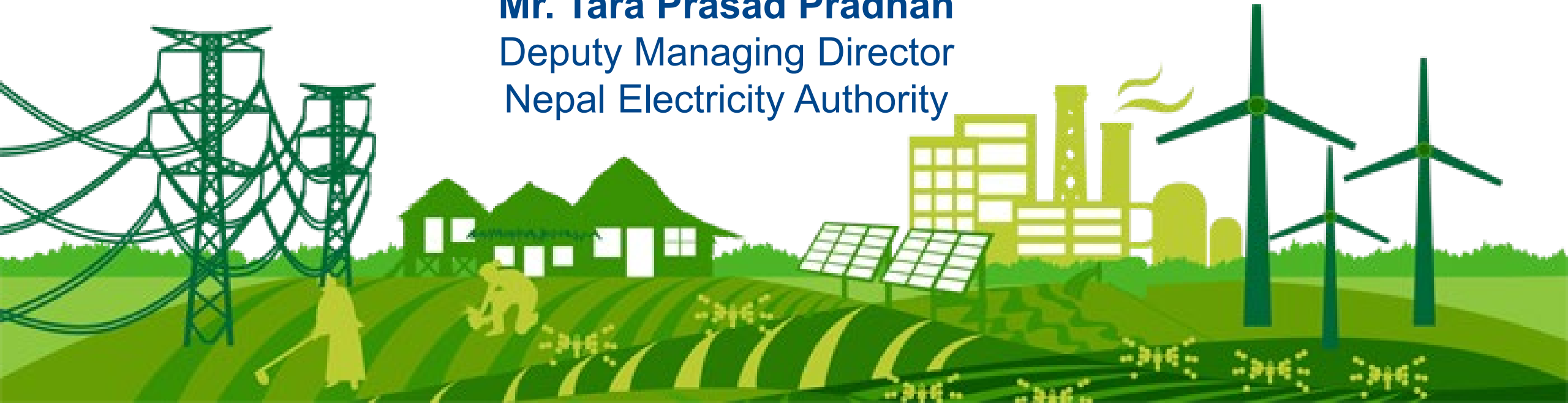


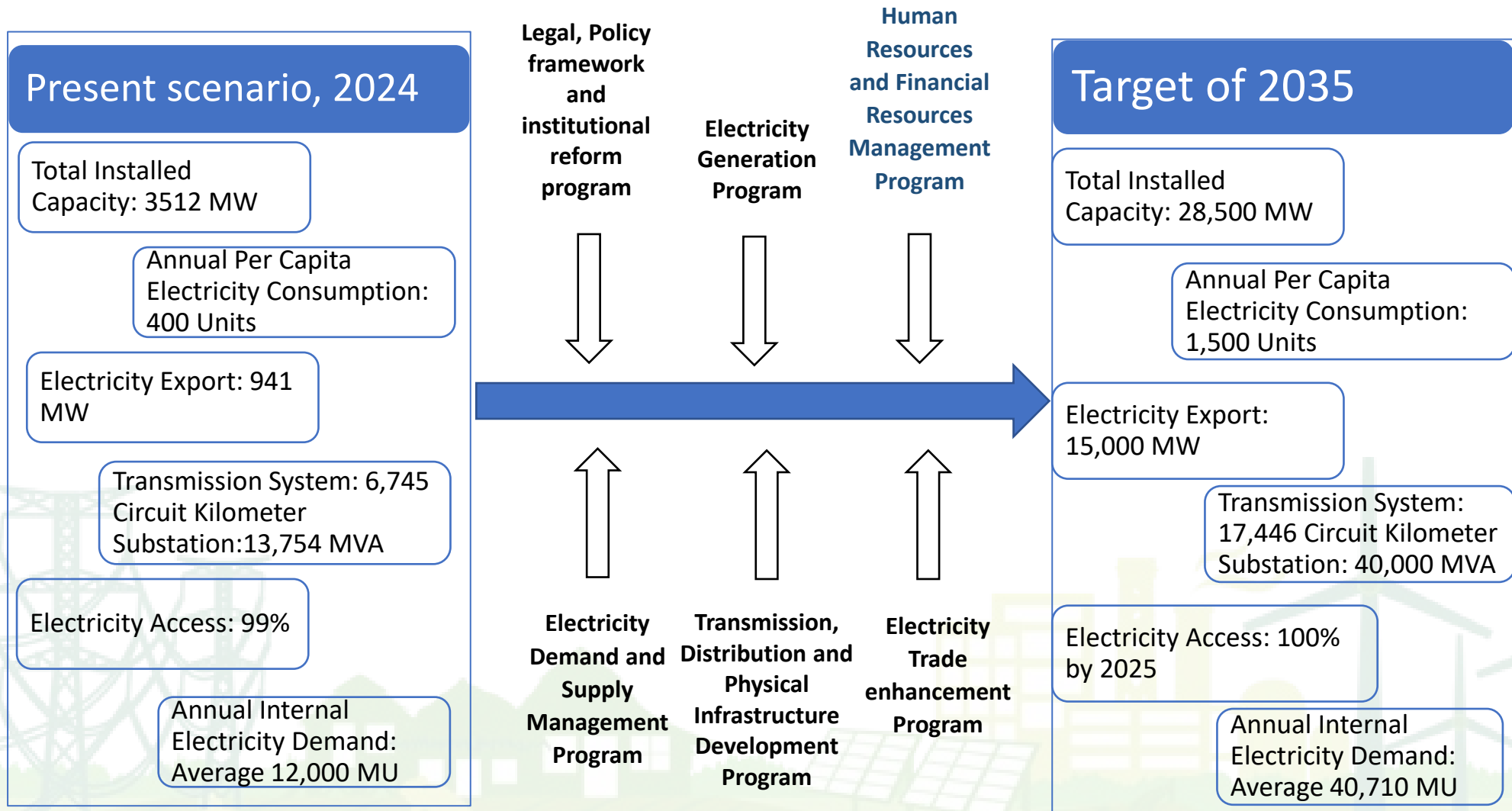
SOUTH ASIA SUBREGIONAL WORKSHOP

Nepal: Emerging Green Industries: Policies for Human Resource Preparation

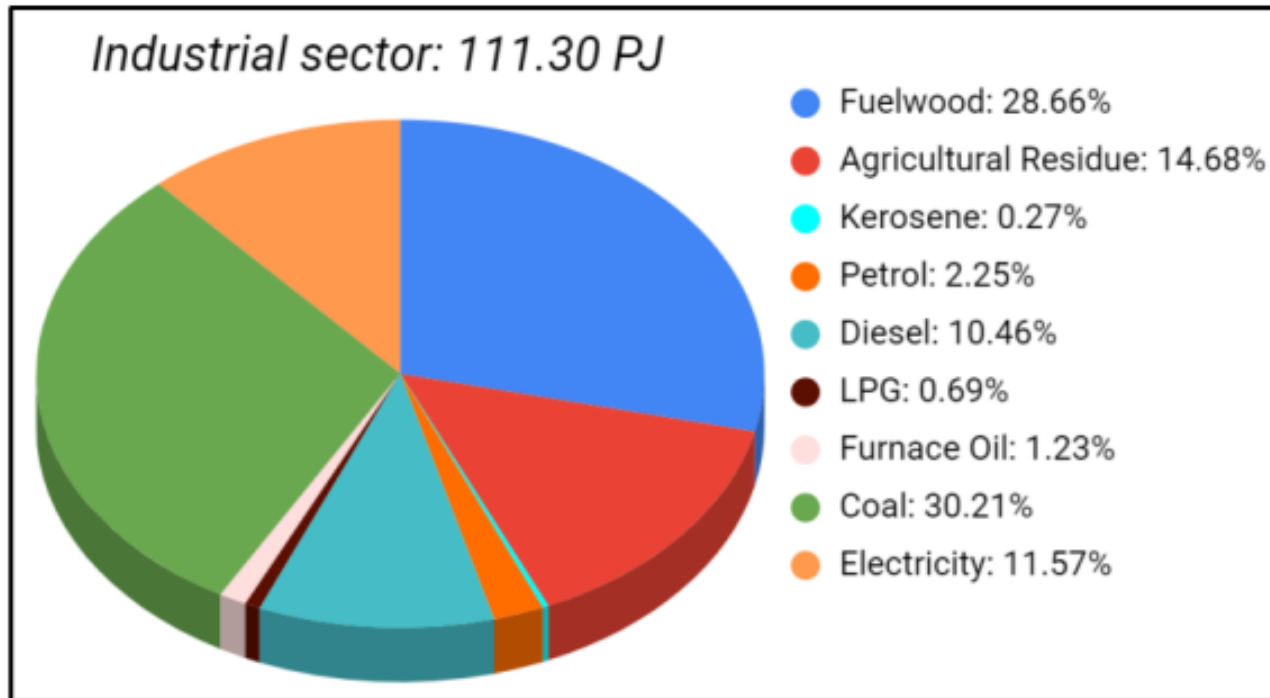
Mr. Tara Prasad Pradhan
Deputy Managing Director
Nepal Electricity Authority



Energy Development Roadmap, 2023

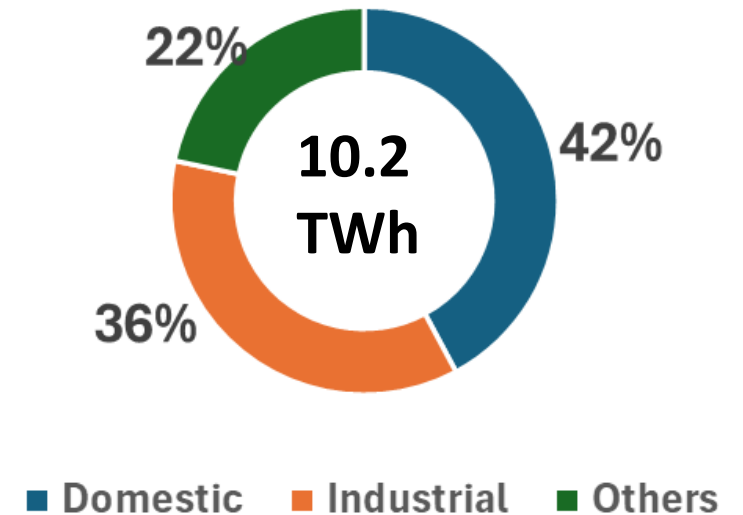


Industrial Energy Consumption in Nepal



Source: WECS, 2024

Electricity Consumption of Nepal, 2024



Source: NEA, 2024

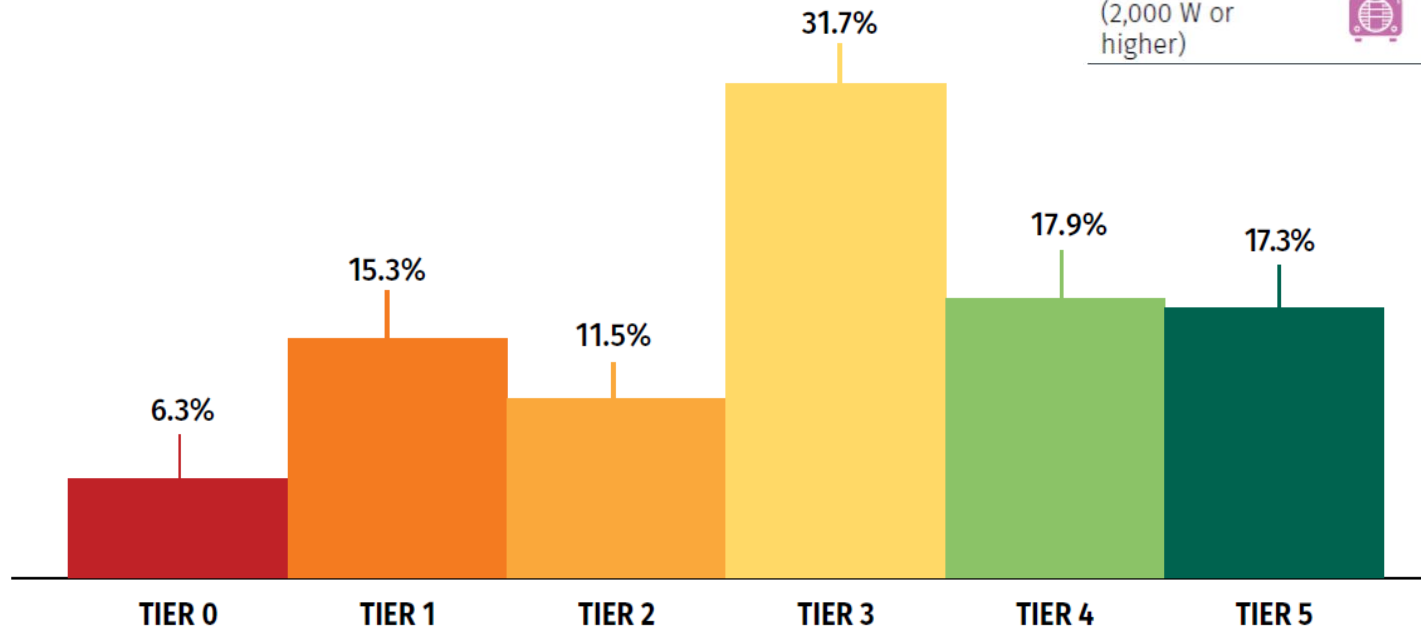
- Major Industries
 - Steel
 - Spinning mill
 - Cement
- Green Urea - Planned

- Greening the industries will require technological advancements, infrastructure expansion and human resource preparation

Electricity Access and MTF Aggregate Tier Distribution

- Access to Electricity in 2024 – 99%
- Access to NEA Grid – 97%
- In 2017 more than 30% population had access to below Tier 3 electricity

Load level	Indicative electric appliances		Capacity tier typically needed to power the load
Very low (3–49 W)		Task lighting, phone charging, radio	TIER 1
Low (50–199 W)		Multipoint general lighting, television, computer, printer, fan	TIER 2
Medium (200–799 W)		Air cooler, refrigerator, freezer, food processor, water pump, rice cooker	TIER 3
High load (800–1,999 W)		Washing machine, iron, hair dryer, toaster, microwave	TIER 4
Very high load (2,000 W or higher)		Air conditioner, space heater, vacuum cleaner, water heater, electric cookstove	TIER 5



Source:

Nepal Beyond Connections Energy Access Diagnostic Report Based on the Multi-Tier Framework, World Bank Group, 2019

Energy Transition in Nepalese Context

Generation and Storage

- Increased Hydropower
- Energy Mix with Solar
- BESS and Pumped Hydro Storage

Demand

- Clean Cooking Intervention
- Electrification of Transport
- Greening the Industrial Processes

Just Transition

- Environment and Social Safeguards
- GESI
- Improved Livelihood

Power Grids

- Transmission and Distribution Network Expansion
- Grid Modernization/Automation
- Resilient Grid Infrastructure

Energy Efficiency

- Efficiency in Buildings, Industries and Transport

Information Technology

- Digitization of administrative procedures
- EV Charging and Digital payments
- Infrastructures, Data Centers, Cloud and Cyber Security
- Artificial Intelligence

Human Resource Preparation Needs

Policy Needs

Policy Makers

Utilities

Private Sectors

Financial
Institutions

- Expanded education and training:
- Reskilling and upskilling programs
- Certification and accreditation
- Collaboration between education, industry, and government
- Access to Green Funds

KEY TAKEAWAYS

- Energy transition will require technological advancements, infrastructure expansion and human resource preparation.
- Power system will be bigger and more complex bringing challenges to power utilities
- Human resource should be prepared to plan, implement, operate and maintain the complex energy infrastructures
- Human resource requirement in energy transition is multidisciplinary and cross-sectoral.
- Human resource adaptation to rapidly evolving IT is crucial for effective governance and administration.
- Policy actions required well in advance for skill expansion and upskilling.

Thank You

