

Nepal

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Nepal



Mount Everest- Highest Mountain –8848m



Pashupati Nath Temple- Holy place for Hindu



Birth place of Lord Buddha - Lumbini

Nepal

TIBET, CHINA

INDIA

Nepalgunj

Pokhara

Kathmandu

Birganj

Janakpur

Dharan

Biratnagar

Khaptad NP

Rara NP

Shey-
Phoksundo
NP

Dhorpatan
Hunting
Reserve

Annapurna

Langtang NP

Sagarmatha NP

Mt. Everest

Koshi

Arun

Royal Chitwan NP

Karnali

Gandaki

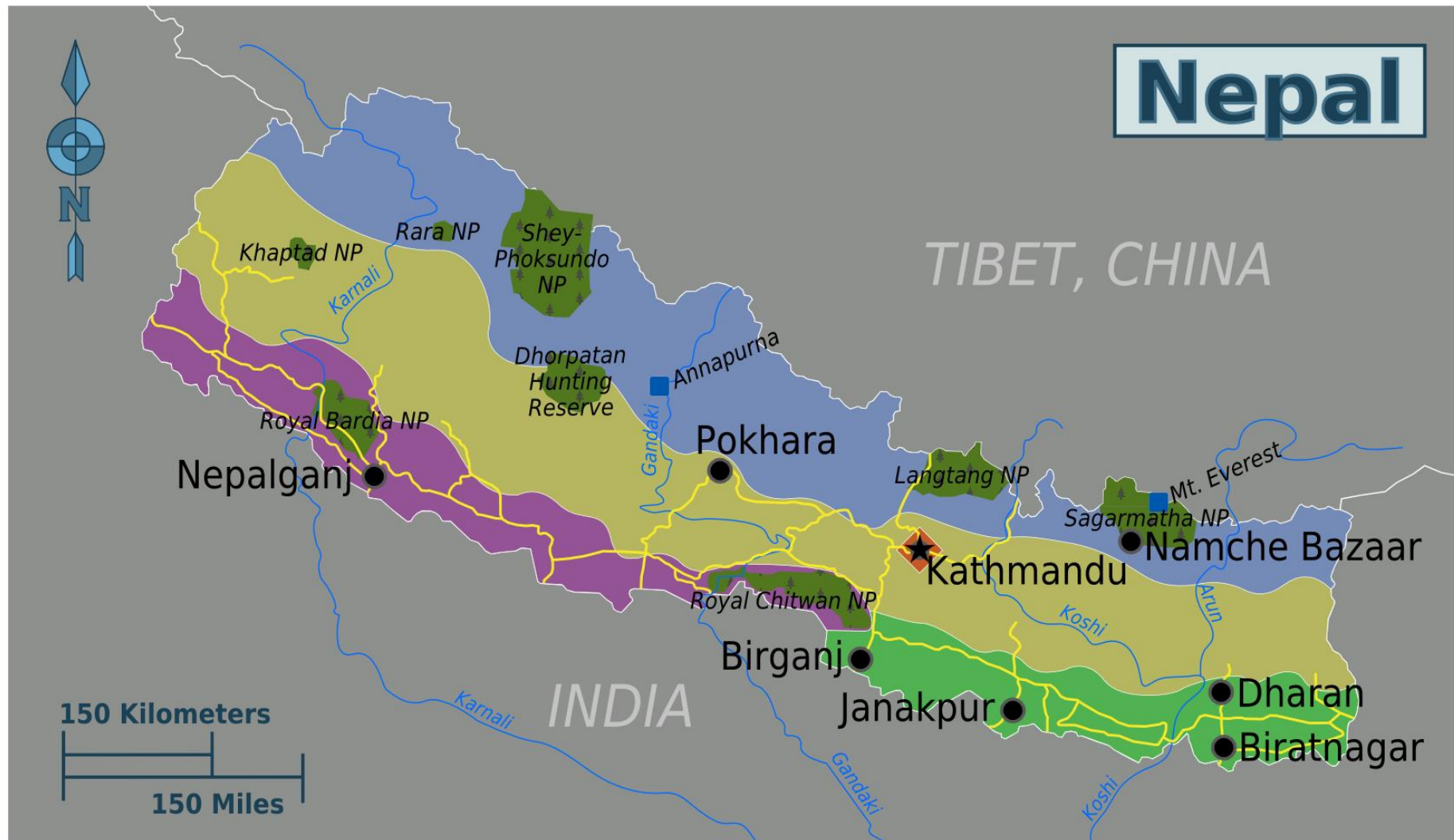
Karnali

Gandaki

Koshi

150 Kilometers

150 Miles

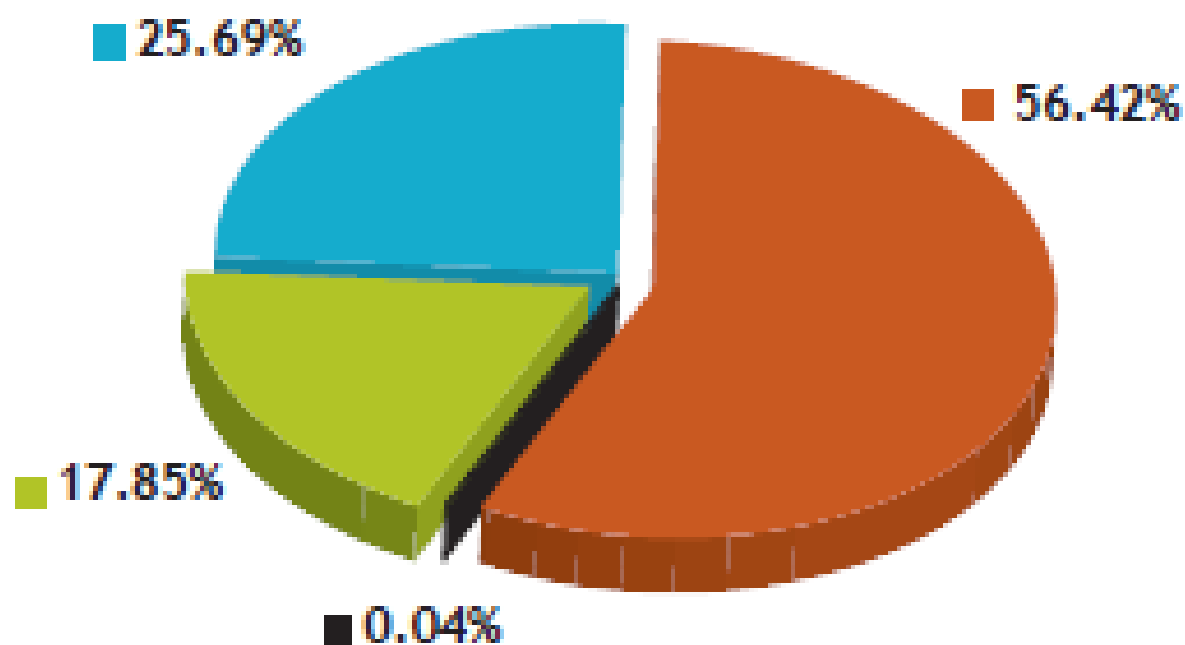


History- Nepal

Pharping, the first Hydroelectric Power Plant of Nepal(500kW), started generating electricity in 1911 and Distribution within Kathmandu Valley



AVAILABILITY OF ENERGY FY 2011/12



Hydro Thermal Purchase India Purchase Nepal

Introduction

Nepalese Power generation and Distribution system

- **Two Furnace oil/Diesel based plant-14.41 MW, is located at Hetauda, 39 MW in Biratnagar.**
- **Nepal Electricity Authority (NEA)- Generation, Transmission & distribution – National Grid**
- **Butwal Power Company(BPC)- Three districts- IPP with power plants**
- **Off grid Micro hydro's- More than 22 MW**

Hydro Power Generation

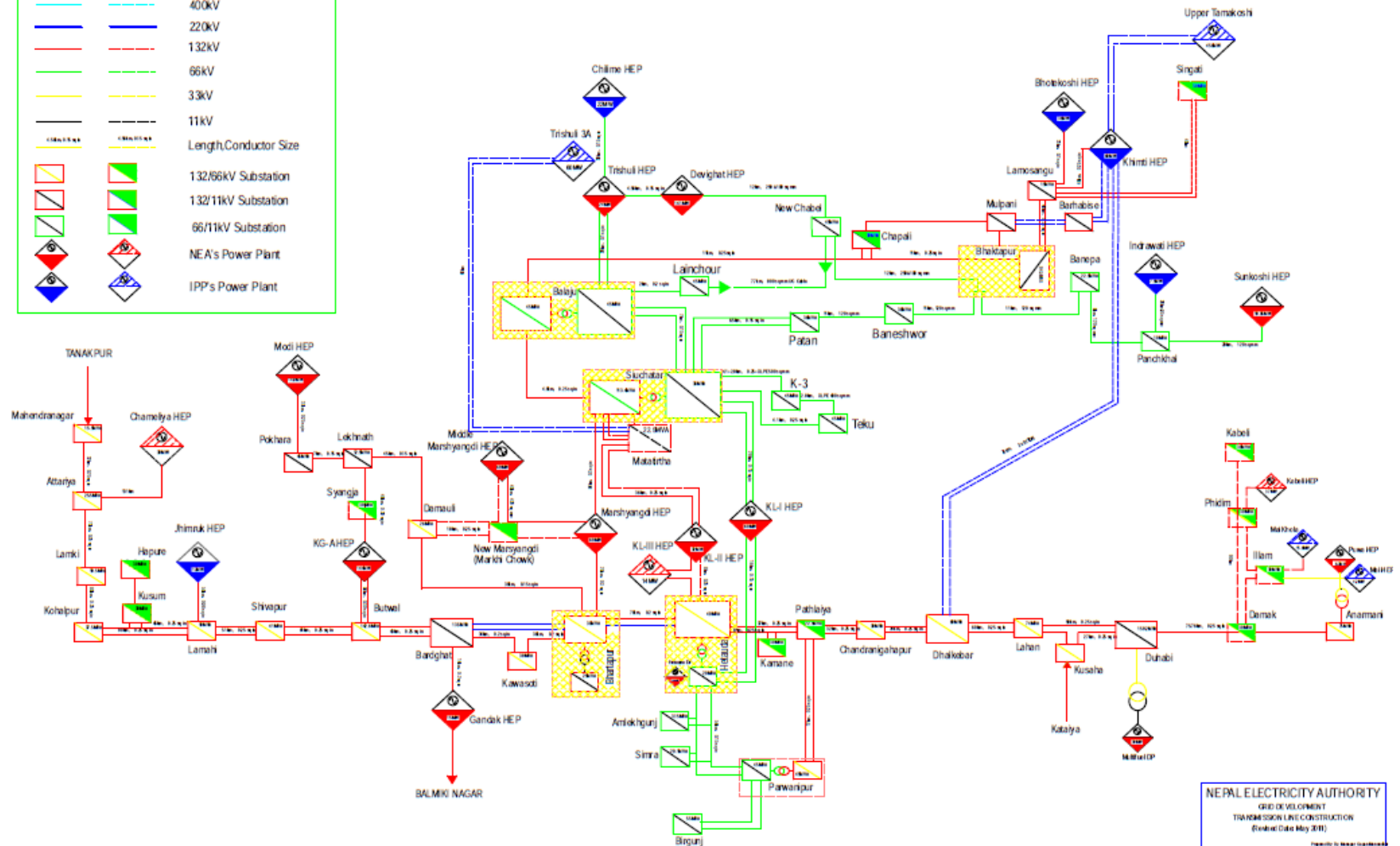
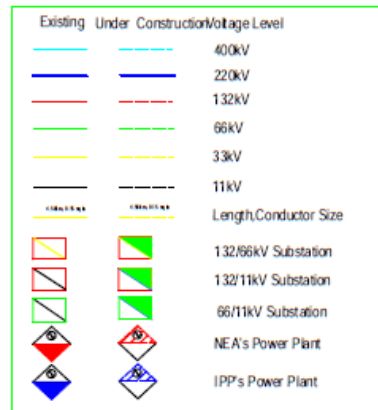
Total Major Hydro (NEA) - Grid Connected	472,994	kW
Total Small Hydro (NEA) - Isolated	4,536	kW
Total Hydro (NEA)	477,530	kW
Total Hydro (IPP)	187,581	kW
Total Hydro (Nepal)	477,530	kW
Total Thermal (NEA)	53,410	kW
Total Solar (NEA)	100	kW
Total Installed Capacity (Including Private & Others)	718,621	kW

Source: NEA

Under Construction			
1	Upper Tamakoshi	456,000	kW
2	Chamelia	30,000	kW
3	Kulekhani III	14,000	kW
4	Upper Trishuli 3"A"	60000	kW
5	Rahughat	32000	kW
6	Gamgad	400	kW
Total		592,400	kW

(Existing & Under Construction Transmission Line Projects)
(Last Revision: July 2012)

Legend:

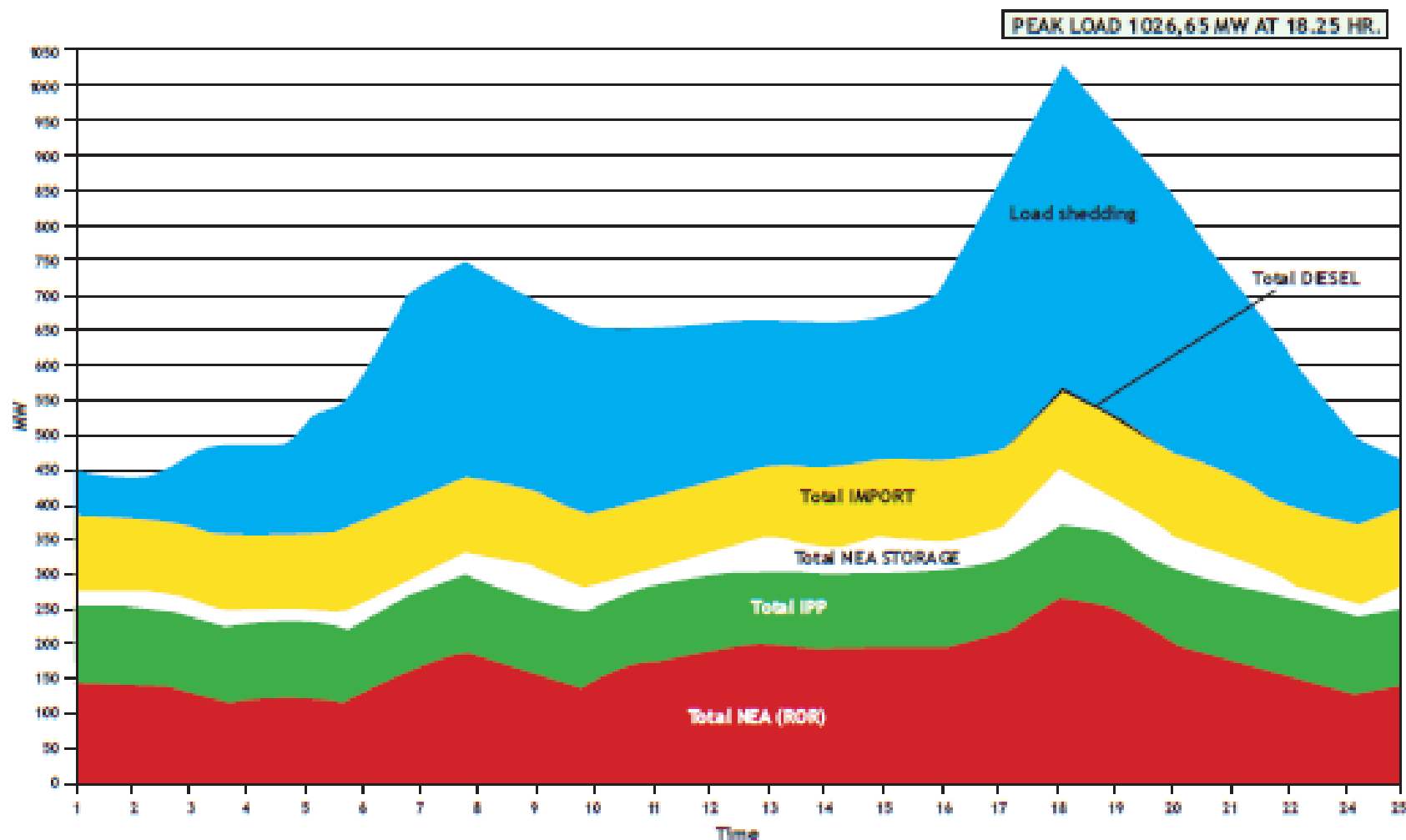


Transmission system

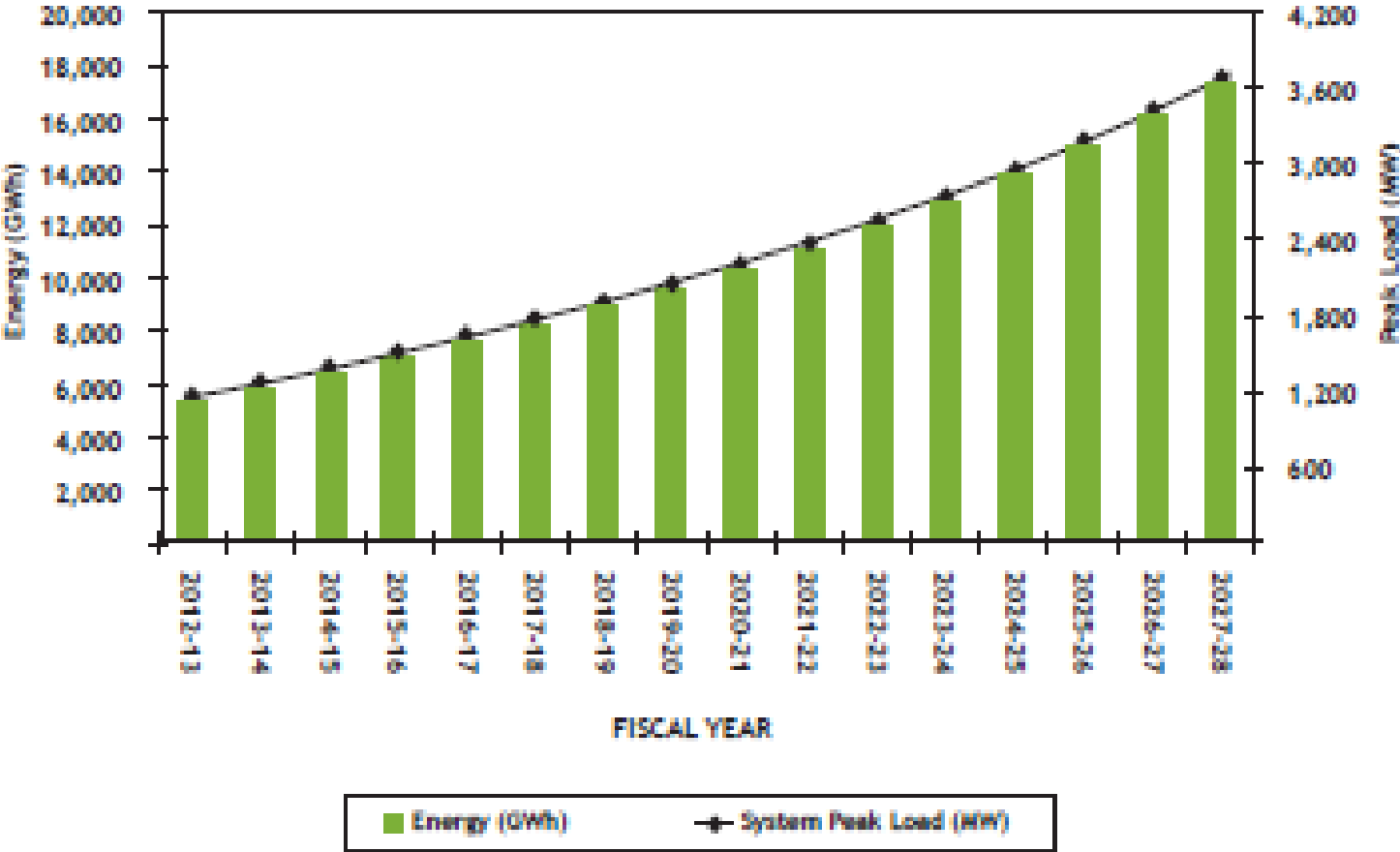
- 220 kV –Double ckts- 446km
- 132 kV- Double/Single ckts- 2922 km
- 66 kV- 511.16 km
- 132 kV substations – 463.75 MVA

System Load Curve of Peak Load Day

Poush 29, 2068 (Jan 13, 2012 Friday)



Load Forecast



Historical Background

- **EE Interventions:**
 - World bank: Energy Efficiency Project- 1993-98
 - UNIDO : 5 pilot industrial sector 1993-97
 - ESPS-DANIDA: 1999-2005
 - NEA Energy Efficiency- ADB
 - Demand Side, NEA- ADB
 - FINIDA: Eastern Development Regions
 - 2000 -2011 Phase I and II, Phase – III under preparation.
 - GIZ, Nepal Energy Efficiency Programme- 2010

Nepalese Industrial scenario

CONTEXT

- Nepalese Industries – Security Issue & employment issues
- Electricity reliability – productivity loss by 40%
- Expensive fuel ~ over Rs.26/unit cost- Diesel generating sets(DGs)
- Aged technology
- Limited technical knowledge- world technology

Context of Energy Efficiency in Industries

- Industrial level awareness bandwidth is wide.
- Resistance to change
- Policy & Enforcement!!
- Lack of local suppliers- supplier knowledge
- Poor Instrumentation and measurements
- Lack of standardization and labeling on equipments/ devices
- Break Down maintenance- No preventive maintenance
- Incentives!!
- Low EE : loss of market competitive edge.

EE context in the Household level

- No leveling in household appliances- Rice cookers, Refrigerators, water pumps and other electronics devices.
- High number of inverters(low cost- low efficiency)- due to unreliable power.
- CFL being widely used.. Health issues- LED is coming on
- LPG operated cooking

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A close-up photograph of a vibrant green leaf, possibly a maple leaf, covered in numerous small, glistening water droplets. The leaf is set against a dark, blurred background. The text "Thank you" is superimposed in the center of the leaf in a large, black, sans-serif font.

Thank you

Conserve oil