

Energy Efficiency Initiatives in Nepal

International Seminar on Energy Efficiency

18-04-2011- 19-04-2011

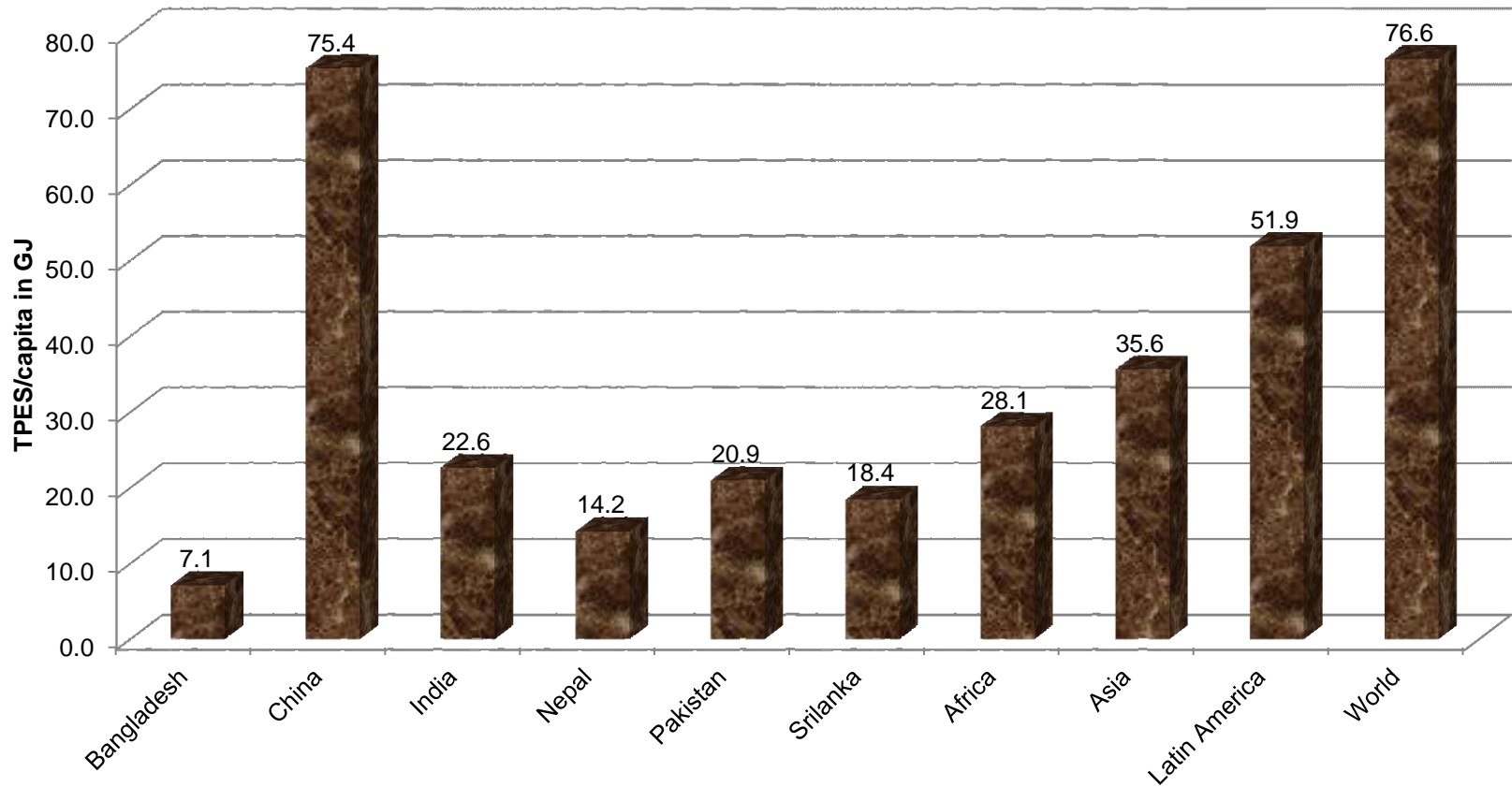
Lalitpur, Nepal

Deepak Kharal,
Senior Energy Officer
Water and Energy Commission Secretariat

Contents

- Energy Supply in Selected Countries
- Need of Energy Efficiency in Nepal
- Past Initiatives on Energy Efficiency
- Present Initiatives on Energy Efficiency
- Potential initiatives in Near Future

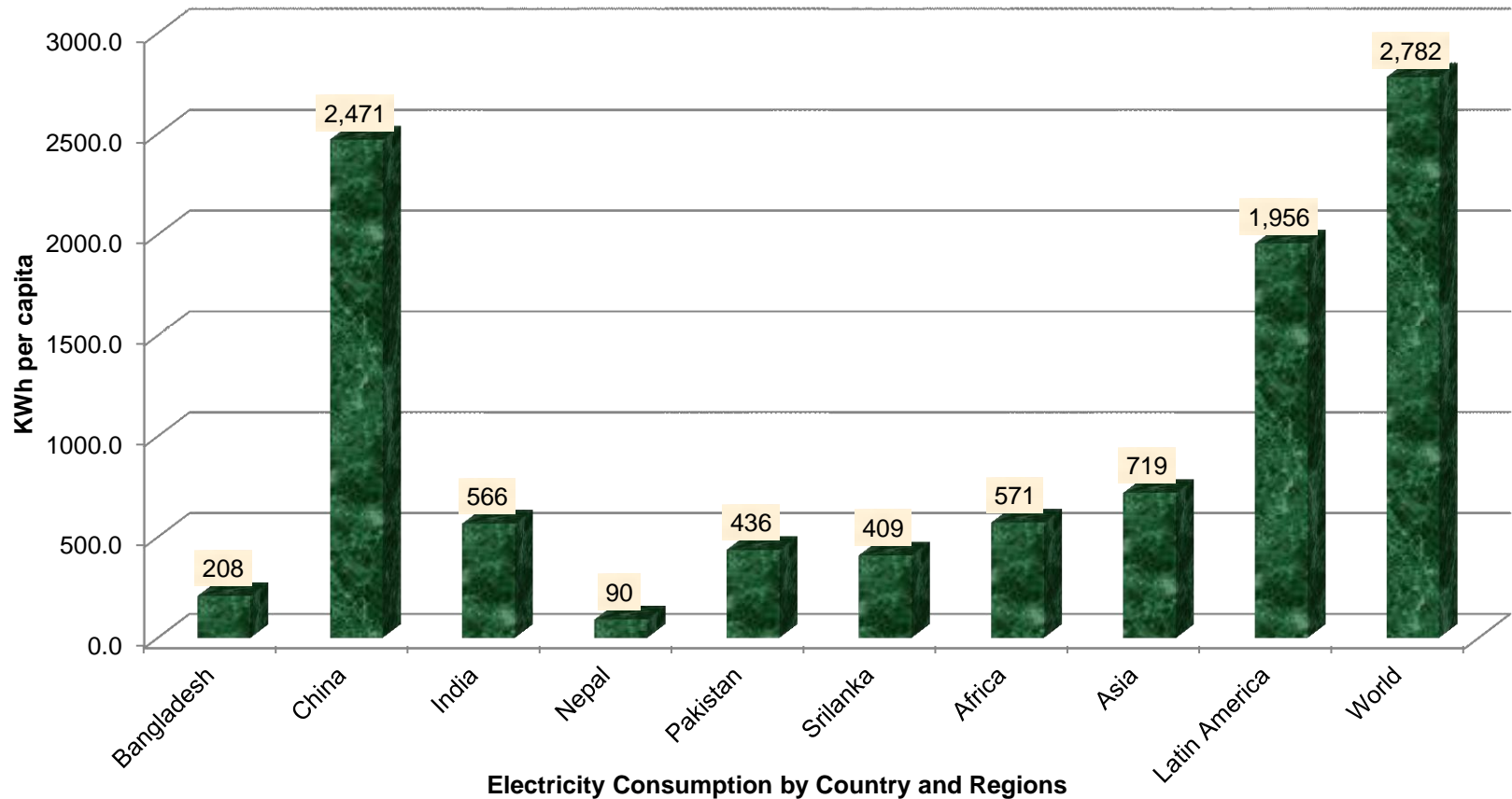
Per capita total primary energy supply by selected countries



Source: IEA, 2010

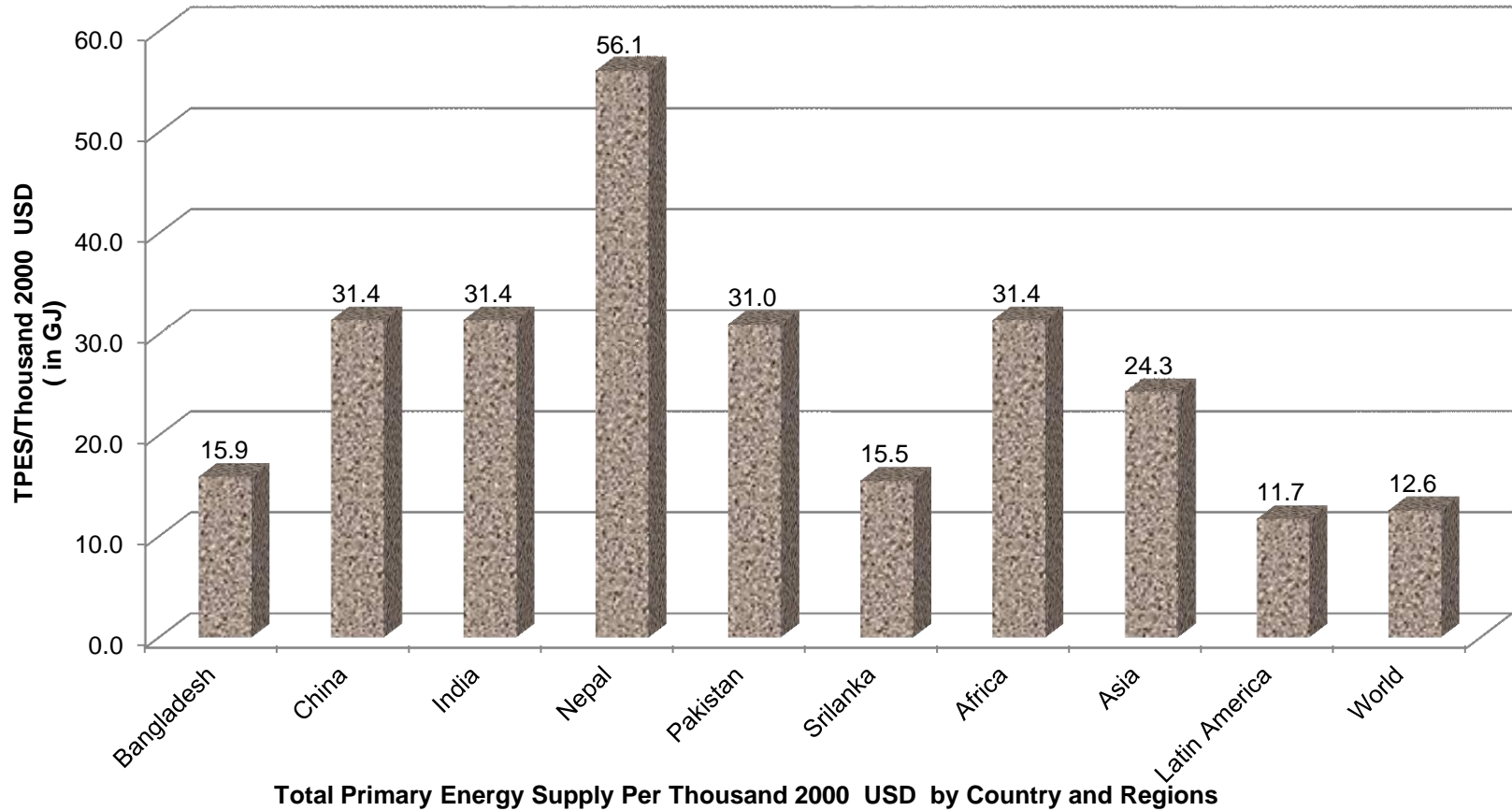
Per Capita Total Primary Energy Supply by Country and Regions

Per capita electricity consumption by selected countries



Source: IEA, 2010

Total primary energy supply per GDP



Source: IEA, 2010

Need of Energy Efficiency in Nepal

- Huge potential of energy conservation in residential cooking, industrial thermal application and commercial enterprises.
- Poor management of energy utilization in all sectors.
- Huge energy deficit specially the electricity all around the year
- Energy efficiency for saving foreign currency towards better economy and environment.
- Energy efficiency for energy conservation and energy security

Past Initiatives on Energy Efficiency

1. Office of the Energy Efficiency Services

- Establishment of Office of the Energy Efficiency Services in the Dept of Industry in 1995.
- Three years project outputs were:
 - Detailed energy efficiency audits in some industries and hotels
 - Energy efficiency study on boilers
 - Awareness program in energy efficiency
 - Training for energy auditors

2. Environmental Sector Support Programme

- Started Environment Sector Program Support (2000 -2005) to reduce the pollution from the industrial sector, achieve better efficiency in production and energy and waste management. Outcomes:
 - Energy efficiency activities in various industries and commercial organizations.
 - Cleaner production intervention in industries.
 - Construction of waste water treatment plant.
 - Preparation of generic standards for waste water in sugar, paper, dairy, ghee, leather and fermentation

Present Status
on
Energy Efficiency

1. Present Status

- Fairly new activities in Nepal.
- No energy conservation/efficiency policy.
- No legislative mechanism including specific institutional arrangement.
- No mandatory energy audits.

Some Policy/Planning Initiatives on Energy Efficiency

- Hydropower Development Policy (2001)
- Rural Energy Policy (2006)
- Electricity Crisis Resolution Action Plan (2007)
- Petroleum Quality Standard By-rules (2008)
- Ten Years Hydropower Development Plan (2008)
- Twenty Years Hydropower Development Plan (2009)
- Three Years Plan (Approach Paper-2010)
- Climate Change Policy (2011)

Some Regulatory Initiatives on Energy Efficiency

- Electricity Act (1992) and Regulation(1993)
- Electricity Leakage Control Act (2002)
- Electricity Tariff Fixation Rules

Three Years Plan (Approach Paper 2010)

- Recommended to implement 38 Point Electricity Crisis Resolution Action Plan
- Control in Electricity Leakages
- Implementation of Alternative and Renewable Energy Development Programme
 - ICS
 - Biogas
 - Solar power
 - Biobriquettes
 - Microhydro
 - Wind power

Way Forward on Energy Efficiency

- Approval and Implementation of National Energy Strategy (2010)
- Implementation of Nepal Energy Efficiency Program (2010)
- Energy Conservation/Energy Efficiency Policy/strategy
- Energy Conservation Action Plan
- Energy Conservation Acts and Regulation?
- Energy Conservation Authority?

Draft National Energy Strategy of Nepal

- Strategic vision includes energy efficiency as a tool of energy conservation towards sustainability.
- NES has defined energy efficiency as a tool of environmental protection in its objective.
- NES has identified energy efficiency program to be implemented specially in residential, industries and business sectors.

Some Energy Efficiency Activities as per NES

- Replace traditional biomass technology with the new biomass technology.
 - Traditional cook stove to Improved Cook Stove
 - Loose biomass to biomass densification
 - Introduce biomass gasification technology
- Replace fossil fuel technologies by modern technologies.
 - Introduce electric cars
 - Introduce hybrid cars/vehicles
 - Introduce electric train for mass transportation
- Substitute fossil fuels
 - Mix ethanol in petrol and diesel
 - Promote biodiesel in transportation sector
- Implement energy audit

Nepal Energy Efficiency Program

- NEEP Program as per National Energy Strategy of Nepal
- Components under NEEP are:
 - Energy policy and awareness
 - Energy conservation in household sector
 - Energy conservation in industry sector

Nepal Energy Efficiency Program

- Major activities under NEEP
 - Develop Biomass Energy Strategy as per NES
 - Establish Energy Efficiency Centre
 - Support energy policy development
 - Support awareness raising
 - Study on labeling and standardization of major household electric appliances

Thank you