

Regional Cooperation for Energy Security in South and South West Asia

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High Level Policy Dialogue on
Regional Cooperation and Inclusive
development

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The Energy and Resources Institute

Energy Security Concerns of the Sub Region

□ Energy and Poverty (Issues of access)

- **for cooking**

2.7 b people (Global) without access to clean cooking facilities; 840 m (India) > 100 m in Bangladesh and Pakistan each.

- **For lighting**

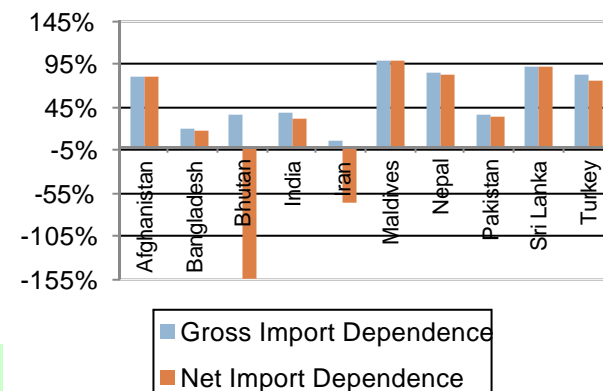
Globally, 1.3 b people are without access to electricity. 289 (India) and 96 m (Bangladesh) and (64m) Pakistan.

□ Energy and growth (availability & affordability)

- inability to meet energy demand required for growth;
- high import dependence,
- high and volatile prices;

□ Energy and Environment (sustainability)

- Depleting resources
- Not in my backyard concerns
- Regulatory and enforcement deficits around resource development
- Rising carbon emissions



Source: (UN, 2012)

Outline

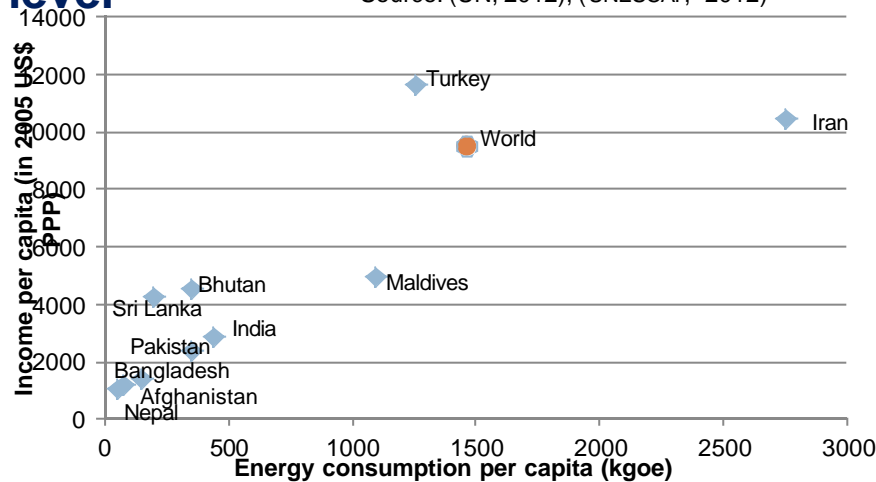


- I. Energy contexts of the Sub Region
- II. Domains for enhanced cooperation
- III. Key messages and mechanisms for energy cooperation

I Sub Regional (SSWA) Energy Characteristics

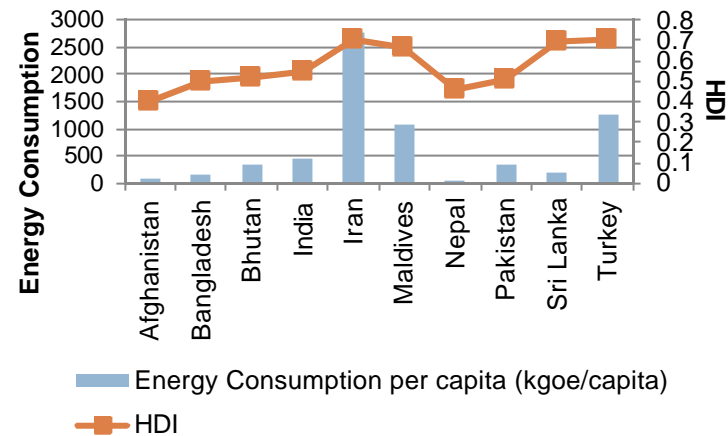
Energy consumption vis-à-vis income level

Source: (UN, 2012), (UNESCAP, 2012)

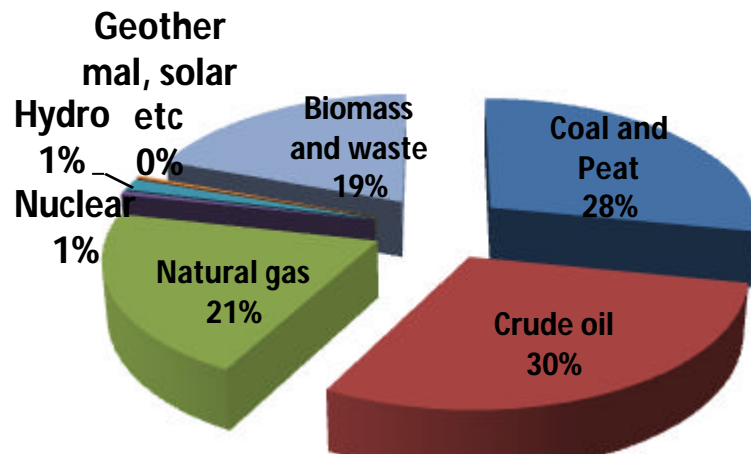


Per capita energy consumption and HDI

Source: (UNDP, 2011) and (UN, 2012)

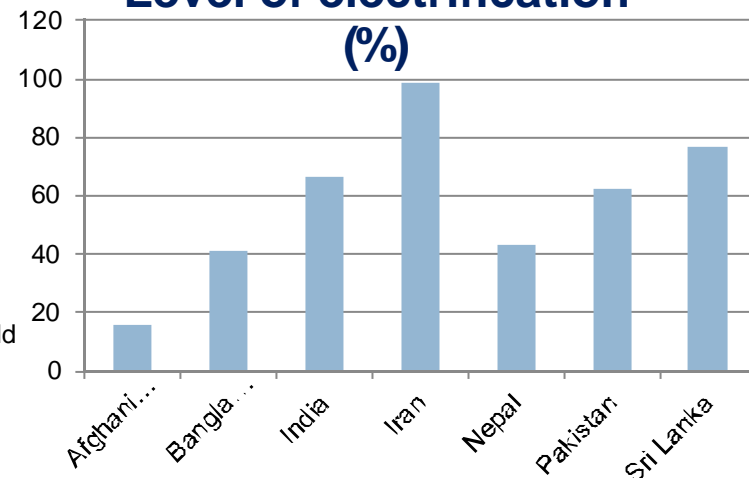


The sub-region's energy mix



Level of electrification (%)

Source: World Bank (2009)



Ongoing energy trade



- Oil and gas: Iran is a significant exporter; impact of extra-regional politics needs to be factored in
- Petroleum products: India, a subregional refining hub
- Trade in power: Bhutan and Nepal offer substantial surplus hydro-electricity;

Existing and emerging regional interconnections

Country	Regional interconnections
Afghanistan	Power system is fragmented. Externally is interconnected with and imports from Iran and Central Asia
Bangladesh	Interconnection with India under construction
Bhutan	Externally interconnected with India, exports power to India. Some small imports from India as well.
India	Externally interconnected with Nepal (exports power to) and Bhutan (imports power from); sub-sea interconnection with Sri Lanka for export of power under development; lines with Bangladesh under development
Iran	Interconnected with Afghanistan, Pakistan and Turkey to export power
Maldives	Not interconnected
Nepal	Interconnected with India, imports power in limited quantities
Pakistan	Interconnection for imports of power between Central Asia (via Afghanistan) under discussion
Sri Lanka	Interconnection with India for import of power under development
Turkey	Interconnected with Iran for import. Interconnection between Central Asia (via Afghanistan) under discussion

Source: Adapted from Gippner (2010)

II Domains for enhanced cooperation:

1. Harnessing complementarities better : resources, uses, capacities

□ Resource distribution

- Oil (Sri Lanka), Natural gas (Bangladesh, India), Coal (India, Pakistan), Hydro resources (Bhutan, Nepal), Renewables.

□ Seasonal complementarities in consumption

- in power production and demand (Summer monsoons in Nepal and India) and economies of scale.

□ Technical and financial capacities:

- project design and engineering services, construction supervision for projects, and finance. Bhutan's hydropower development with India's assistance presents a good example.

2. Scaling up use of renewable energy

❑ Biomass:

- Cleaner use of traditional fuels is a policy priority in most sub regional countries; India's lead in development of clean cookstoves and gasifiers provides an opportunity for technology dissemination.

❑ Solar and wind:

- India and Bangladesh's manufacturing base in solar PV modules, and solar thermal systems, can be employed for RE advancement in the region.



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https://www.yunbaogao.cn/report/index/report?reportId=5_6222

