Meeting India's energy needs

What is the issue?

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Amidst the growing need for electricity, India needs to strategise its electricity production, focusing more on low-carbon energy options.

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What is the current scenario?

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- **Consumption** - In comparison with many global nations, India has a much lower per capita energy consumption.
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- International Energy Agency data reveals that the average **global per capita** electricity consumption is 3030 kWh (units).
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- In contrast **India's** figure stands at mere 805 units which is much lower than the OECD nations as well as many countries in the Asian region.
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- **Generation** - The cumulative average growth rate of electricity generation in India for the period 2006-07 to 2015-16 was close to 6%.
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- This translates to a total generation of about 1,410 BU(Billion Units) and per capita generation of 1,100 units which is realtively low.
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How does the future look?

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Despite the current low numbers on consumption, India's energy demand is expected to increase, given the following factors -

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- India’s **population** is likely to be about 1.6 billion by around 2050.
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- The percentage share of **electricity** in total energy **consumption** is increasing.
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- The **Government's policy initiatives** are sure to push the electricity demand furthermore. This include
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1. electricity and housing for all
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2. accelerated infrastructure development
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3. Make in India
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4. electrification of transport, etc.
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- Moreover the burgeoning sophisticated lifestyle of young and aspirational Indians are creating new demands for the use of power consuming gadgets and equipments.
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- Meeting all these translates to an ambitious target of generating about 8,600 Billion Units (BU) to provide 5,000 units per capita per annum to Indian citizens.
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- It implies that electricity generation projected for 2050 is six times the total generation at present.
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What lies before the government?

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- Much more **investment** is needed to increase the use of **low-carbon energy sources** i.e. hydropower, variable renewable energy (VRE), and nuclear power.
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- This is because, a quarter of the projected requirement of 8,600 BU can best

be met by total possible generation from hydropower and VRE.
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- Also, generation from solar and wind energy has to be increased to tap India's full potential on this.
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- The share of electricity generated by nuclear power must be ramped up to cater to the increasing needs.
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- Large investments must be made in **research and development,** and in **electricity storage technologies** to derive full benefit from VRE sources.
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- Besides these, energy consumption can be rationalised through energy conservation and by improving energy efficiency of industry and household gadgets.
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Source: The Hindu

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