Coal and Carbon transition

Why in news?

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India has made a push towards a low carbon economic transition by expanding its renewable energy capacity by 350% over the past 13 years.

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What is the importance of the issue?

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- Both China and India have taken positive steps to curb national carbon emissions, and are well ahead of the goals set under the Paris Agreement.
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- While its push towards renewable energy is important, India must continue to take a holistic approach towards climate change.
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- In addition to investing in solar and wind projects, it should also look at investing in clean coal plants, developing alternative energy sources, and managing its upcoming urban transition in order to curtail carbon emissions while achieving its economic goals.
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What are issues with Indian Energy sector?

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Coal based Projects:

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- Coal will continue to dominate the Indian power sector, with best case scenarios showing that coal will be responsible for 60% of electricity generated in 2040.
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- **Domestic Indian coal happens to be of a poorer quality** than

comparable international varieties.
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- Coal plants in India are extremely inefficient; India is currently ranked third worst in the world in coal-plant efficiency.
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- These circumstances lead to larger volumes of coal being burned to produce necessary energy benchmarks, which consequently lead to excessive carbon emissions.
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Nuclear Energy:

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- The nuclear energy sector also has some barriers for entry in India.
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- The recent **bankruptcy of Finland and France** has created an uncertain climate for international nuclear energy corporations.
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- Combined with the disincentives provided by Indian liability laws and the difficulties in conducting business faced by foreign firms.
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- India has to rely on domestic capabilities for its nuclear energy needs. Here, the problem is that India currently l**acks the materials, expertise, and supply chain** needed to commission enough reactors to make a significant impact on the country's energy mix.
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Natural gas based Projects:

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- Natural gas makes up 1-2% of Indian energy demands, but has **not yet been able to gain a significant foothold** in India's power sector.
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- The main issue in this industry is **lack of domestic infrastructure.**
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- India currently has a natural gas pipeline network of 15,000km, most of which has been developed in the northern and western parts of the country.
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- To put this in context, the US has a natural gas pipeline of 500,000 km. Thus, there is no way for natural gas to reach its intended consumers in India.

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What will be the way forward?

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- In order to curb its reliance on coal and fulfil its obligations under the Paris accord, India must look into further developing alternative energy sources.
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- **Investments in its natural gas infrastructure and its domestic nuclear energy manufacturing capacity** could hold the key for a carbon-free future.
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- When talking about climate change, the focus tends to be only on the power sector.
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- The emission sources are the urban centres in which much of the world tends to live. It is here that India has another prime opportunity to reduce carbon emissions.
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Source: Live Mint

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