

Gas can accelerate Renewable Energy Shift

What is the issue?

Gas power can partner and integrate more renewables into the national grid.

What are the problems in moving towards renewable energy?

- India's target of reaching net-zero emission by 2070, as well as 500 GW of non-fossil fuel capacity and fulfilling 50% of energy requirement from renewable energy sources by 2030 requires development of robust infrastructure.
- However, increasing penetration of wind and solar energy will make the Indian grid susceptible to frequency and voltage fluctuations.
- This is due to unanticipated sudden loss of power generation, leading to reduced system inertia.
- These natural and anthropogenic events may also lead to grid instability and blackouts.
- Additionally, according to IEA, India has a higher requirement for flexibility in its power system than almost any other country in the world.
- Therefore it is prudent for grid operators to identify the correct technology that will help manage the grid and support their long-term needs.
- Hence, Gas-based hybrid power plants may just be an apt technological solution to aid and accelerate India's renewable energy transition.
- They can partner and integrate more renewable into the national grid.
- It can also meet seasonal and peak power demand

Why coal is unsuitable?

- The governments around the world are deciding against any big investments in building new coal-based power plants, while marching towards meeting their respective emission reduction commitments.
- However some of India's policy actions continue to promote high carbon emitting fuel types for power generation.
- This is because they consider only the weighted average tariff as the criteria.
- The environmental and systemic attributes of technology are not

considered.

- To ensure a successful renewable transition, wind and solar need a right partner which can offset their disadvantages and help in the smooth operation of the grid.
- Gas-based power generation is perfectly suitable in this situation.

Is gas power the right alternative?

- It has been a lost decade for gas power, mainly due to questions on availability and affordability of gas.
- However, the value proposition that gas power is able to offer owing to flexibility, quick start-up, deeper turn down levels and faster ramp rates is a key enabler to integrate more renewables into the national grid and meet seasonal and peak power demand.
- Gas turbine technology-based power generation can balance grid and supply power at competitive prices both in standalone generation as well as when bundled with RE power.
- Green hydrogen is attracting a lot of interest lately and there is a strong push to bring down its cost of generation and make it affordable.

How to make gas power a viable alternative?

- **Infrastructure** - Investments in building gas pipeline network and new gas import facilities to link all States with the currently operational six gas terminals will address the availability concerns.
- **Shorter PPA** - Gas contracts today are not available for a 25-year horizon, and going for long-term contracts risks the build-up of more uncertainty in the pricing which impacts the final cost of electricity.
- Shorter power purchase agreement (PPA) term aligning gas a contract is needed to enable gas power plant developers to procure gas at reasonable prices.
- It would be reasonable to link CERC escalation index, to reflect market and benchmark, with least volatile sources like Henry Hub.
- **Regulation** - Gas infrastructure is available and underutilised. It would be encouraging if regulatory and policy interventions can help incentivise utilisation of this infrastructure.

Reference

1. <https://www.thehindubusinessline.com/opinion/gas-can-accelerate-renewable-energy-shift/article37775465.ece>

