Meeting Green Targets through Biomass

What is the issue?

Biomass can be an effective means to raise the green footprint but there are some issues that need to be resolved.

Why Biomass?

- Green energy is not only about solar and wind, but about biomass too.
- Biomass today is an important fuel in many countries, especially for cooking and heating in developing countries
- Over the years, its use as fuel for transportation and electricity generation has been increasing.
- India's focus on this segment of green energy comes from the statements made by the Prime Minister at the recently held COP26 summit "India will reach its non-fossil energy capacity to 500 GW by 2030."

What does the government policy say?

- **Old policy (2017)-** Earlier, the government had issued a policy on biomass utilization for power generation through co-firing in coal-based power plants.
- The government had advised coal-based thermal power plants, (except ball and tube mill, power generation) to endeavor to use a 5-10% blend of biomass pellets.
- Primarily the pellets are made of agro residue along with coal after assessing the technical feasibility and safety aspect.
- **Modified policy (2021) –** Earlier policy was revised because it was an advisory without any mandatory use of biomass.
- However the government now pushes for mandatory use of biomass co-firing.
- But concerns remain on successful implementation since it is a policy and not a regulation. Making it mandatory may not mean much.

What does the revised policy recommend?

- Mandating all thermal power plants to use 5% blend of biomass pellets made, primarily, of agro residue along with coal with effect from one year of the date of issue of this guideline.
- This will increase to 7% (except for those having Ball & Tube mill the use of biomass remain 5 percent) with effect from two years after the date of issue

of this order and thereafter.
- Minimum contract period for procurement of biomass pellets by generating utilities shall be for 7 years
- This helps in avoiding delays in awarding contracts to generating companies every year and also to build up a long-term supply chain.
- Provisions related to tariff determination and scheduling:
    - For projects set up under Section 62 of the Electricity Act 2003, the increase in cost due to co-firing of biomass pellets shall be passed through in Energy Charge Rate (ECR).
    - **Energy Charge** means a charge levied on the consumer based on the quantity of electricity
    - For projects set up under Section 63 of the Electricity Act 2003, the increase in ECR due to biomass co-firing can be claimed under Change in Law provisions.
    - Such additional impact on ECR shall not be considered in deciding Merit Order Despatch (MOD) of the power plant.
    - Obligated Entities such as Discoms can meet their Renewable Purchase Obligations (RPO) by buying such generation of co-firing.

What are the advantages of utilizing biomass for power generation?

- **Curtail Stubble burning –** The Power Ministry has already set up the National Mission on the use of Biomass in coal-based thermal power plants, to address the issue of stubble burning and to reduce carbon footprints of thermal power generation.
- Around 53,000 tonnes of biomass was utilized as green fuel in power plants so far.
- This is expected to curtail air pollution in northwest India as well as prevent loss of fertility of agricultural land and provide a sustainable income source for farmers, suppliers, and biomass fuel manufacturers.
- The current availability of biomass in India is estimated at 750 million tonne annually. The estimated surplus biomass availability is at about 230 million tonne annually covering agricultural residues.

What hinders its successful implementation?

- It will be successful only if it finds full acceptance among the stakeholders, particularly power generation companies and distributors.
- **Price of biomass -** Procurement of biomass, as well as right price and quality, are the most critical aspect.
- State power generation companies will be able to manage the increase in cost due to biomass pellet co-firing by claiming under Change in Law provisions.

- For Independent power producers a clarity on the regulatory mechanism of pass-through for open capacity is needed.
- **Supply chain –** There is a need to establish a proper supply chain and ensure the adequacy of stock to achieve the 5% requirement
- The requirement increases to 7% from the second year.
- **Cash flow** –The Independent power producers (IPPs) are already under stress due to distribution utilities defaulting on payments. Due to this transition, IPPs will face an additional cash flow burden
- **Legal backup** - Electricity is de-licensed and the Union Power Ministry without the backing of any Act may not have the necessary means to enforce mandatory use of biomass.
- Only the Central Pollution Control Board or the Bureau of Energy Efficiency have power/supporting acts that could enable them to put a mandatory condition.

What needs to be done?

- A mandatory condition in Energy Conservation Act amendment which the Power Ministry is planning for.
- The Ministry will need to issue a model agreement for the procurement of biomass and create a procurement portal.
- Till all the issues are resolved, the fear is that this effort also may end up being just another initiative of the government.

Reference

1. https://www.thehindubusinessline.com/opinion/meeting-green-targets-through-biomass/article37927318.ece

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