Clean Energy for Rural Economy

What is the issue?

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- Lack of access to electricity remains a huge barrier for rural businesses.
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- It is high time that the potential for clean energy innovations is tapped effectively.
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What is the dire need?

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- The rural economy is underserved by existing electricity sources.
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- It relies on human labour or fossil fuels such as diesel.
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- It thus affects livelihood through various income-generation opportunities.
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- Clean energy innovations for agriculture and non-farm micro-enterprises could help.
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- It can complement the government’s electrification strategy which is more household-oriented.
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- This can be achieved by leveraging distributed renewables coupled with energy efficiency.
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What are the concerns in agriculture?

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- About 40% of the agriculture produce is wasted before reaching consumers.
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- The market value of the produce does not get reflected in the farmer’s revenues.
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- Moreover, their real incomes remain low because of rising cost of agri-inputs.
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- These include seeds, fertilisers, pesticides, irrigation equipment and services, among others.
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- These issues are amplified in the case of small and marginal farmers (86% of cultivators in India).
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- The fragile economic condition makes them more vulnerable to the effects of climate change.
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How can clean energy help?

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- Innovative technologies could reduce input costs and deliver higher farm outputs, better market opportunity.
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- These may include clean energy-based cold chain, seed sowing, fertiliser application, pesticide spraying, or irrigation.
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- This will also aid innovations such as solar-powered milking machines, and charkhas (spinning wheels).
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- In this context, just 3 activities have a total market potential of about $40 billion.
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- These are pesticide spraying, rice transplanting, and harvesting of grain crops.
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How is the non-farm sector?

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- The non-farm sector also suffers from lack of reliable electricity access.
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- The enterprises include that on custom tailoring, food processing, poultry and livestock rearing, and hairdressing, etc.
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- Lack of electricity has limited the number of non-farm activities undertaken in rural areas.
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- These are indicative of the latent demand in India’s rural non-farm economy.
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- Clean energy-driven and energy-efficient machines could help meet existing demand.
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- It can as well offer hope for addressing latent demand.
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- The rural population could find more viable non-farm activities to supplement farm incomes.
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What are the lacunae?

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- Billions of dollars worth of market opportunities remain untapped.
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- The path from concept to commercialisation faces technical failure and market failure.
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- The deployment of these innovations at scale continues to be plagued by
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i. high upfront cost of distributed renewables
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ii. low and fragmented rural demand
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iii. paucity of long-term debt to end-consumers
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iv. missing incentives to adopt energy efficient practices
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What lies ahead?

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- Council on Energy, Environment and Water (CEEW) is planning to build an ecosystem for clean energy innovations for rural economy.
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- The platform would provide
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i. affordable market intelligence to enterprises
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ii. facilitate strategic pilots
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iii. enable enterprise and consumer financing
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iv. connect with MSMEs to help manufacture and distribute at scale
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v. engage with policymakers to improve technology transfer
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- The commercial deployment of clean energy innovations needs partnerships.
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- It must include the public institutions, philanthropic foundations, private firms, and the international development community.
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Source: Business Standard

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