



WRI INDIA

## Renewables to the Rescue during COVID 19 pandemic: A Clean Energy Story

**Track:** COVID-19 Impact – Rebounding from COVID-19 with Integrated Solutions (Session 2.1)

**Session Topic:** Impacts on Energy and Environment by COVID-19

Date: June 15, 2-3.30 PM (Manila time)

**Presentation by:**  
Sandhya Sundararagavan  
Lead (Energy Transitions)

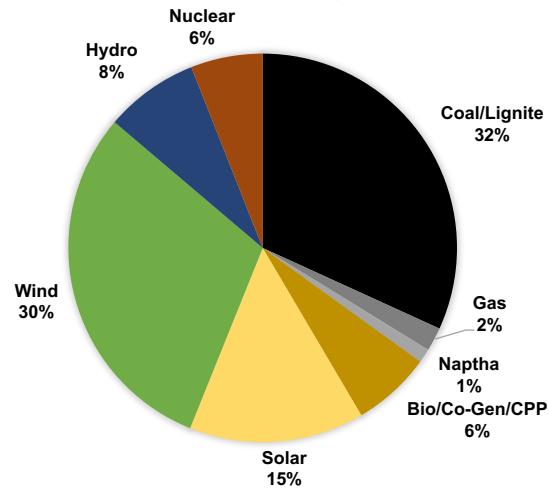


# RATIONALE

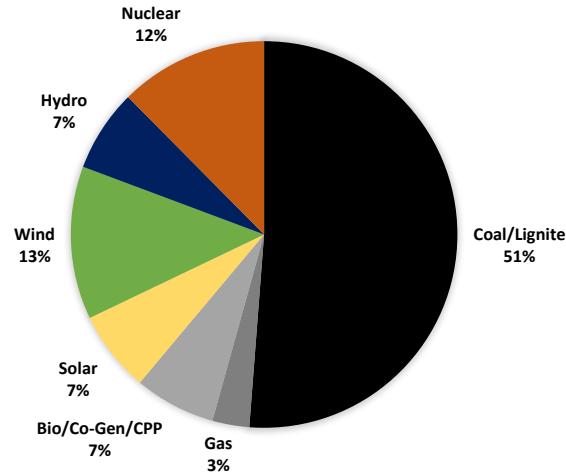
- Several policies and schemes at the national level
- Need to know how India's energy transition has played out at state level
- Complement efforts at national level with state level
- Implementation at state level becomes critical
- Focused on high RE-rich state – Tamil Nadu

# WHERE IS TAMILNADU STATE NOW?

INSTALLED CAPACITY SHARE (AS OF MARCH 2021)



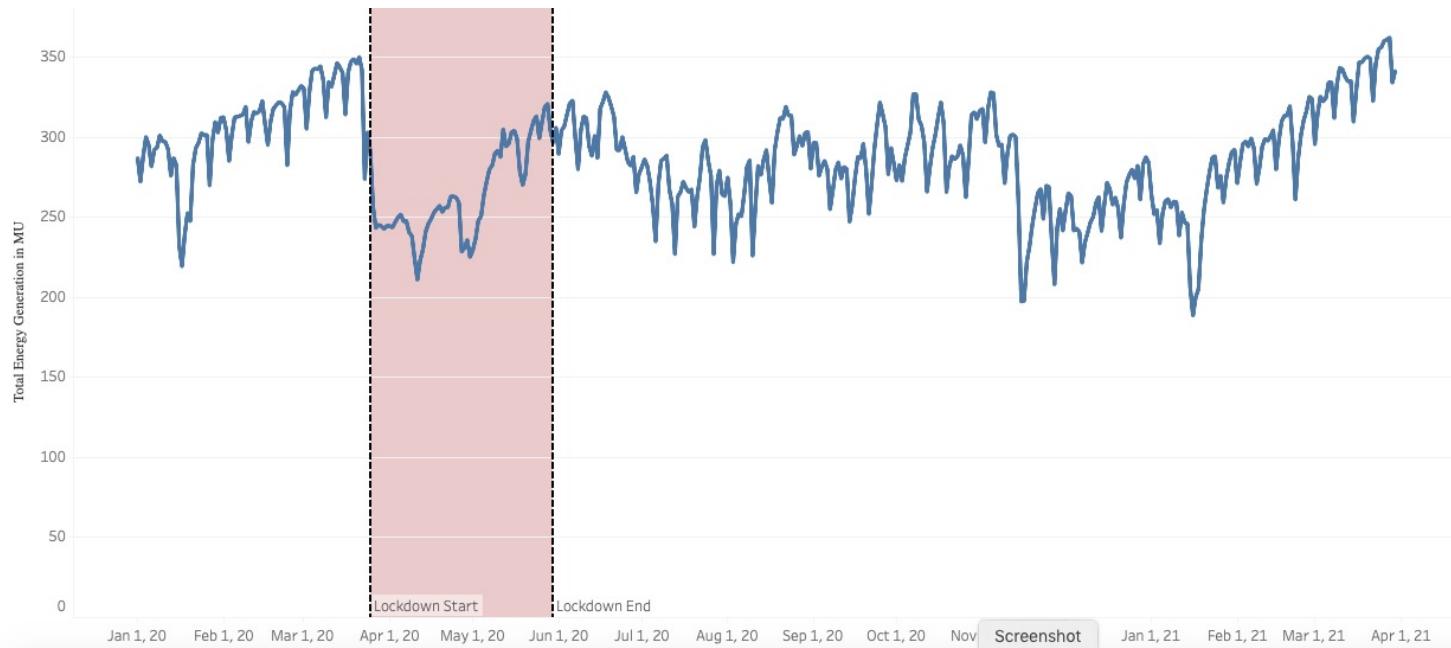
GENERATION SHARE (APRIL 2020 - MARCH 2021)



Total installed capacity: 28,469 MW

Total generation (FY 21): 69,313 MU

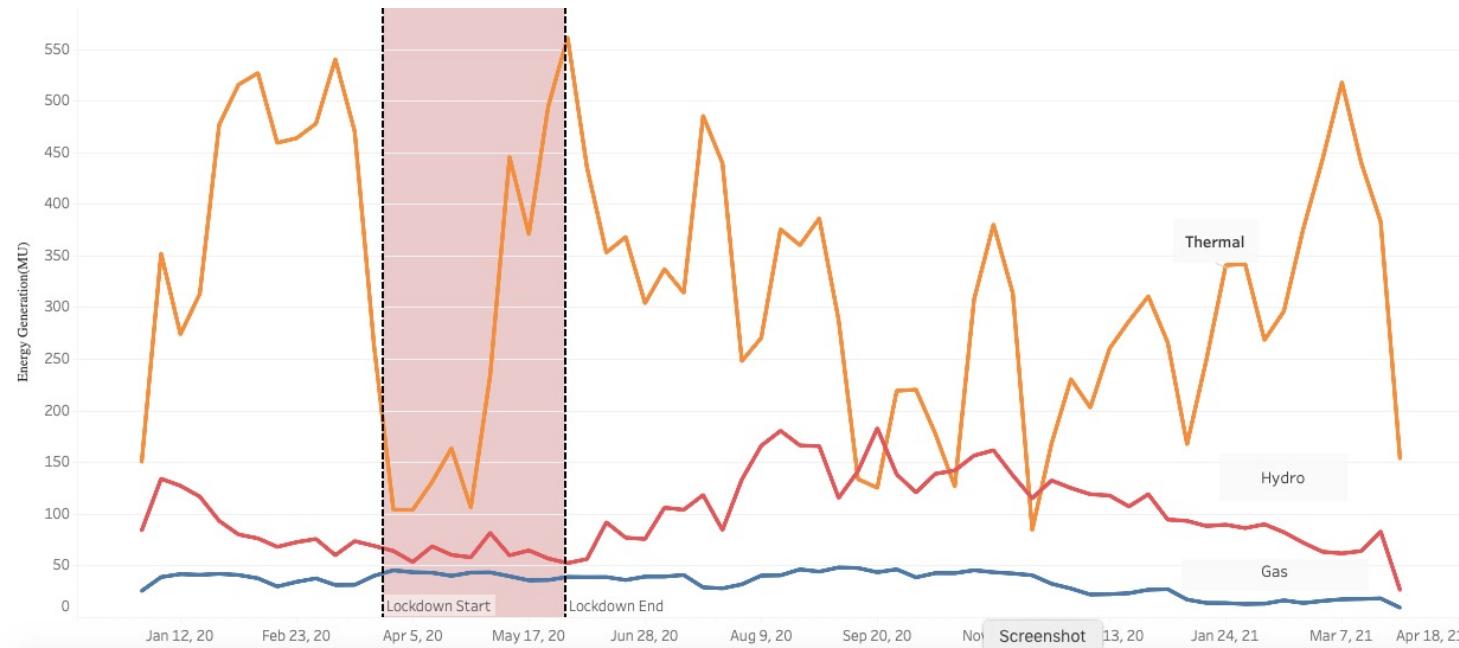
# MONTHLY ENERGY GENERATION DURING 2020



Year-on-year India's total power consumption declined 23.2% in April throughout India; 40% reduction from March to April during 2020 in TN

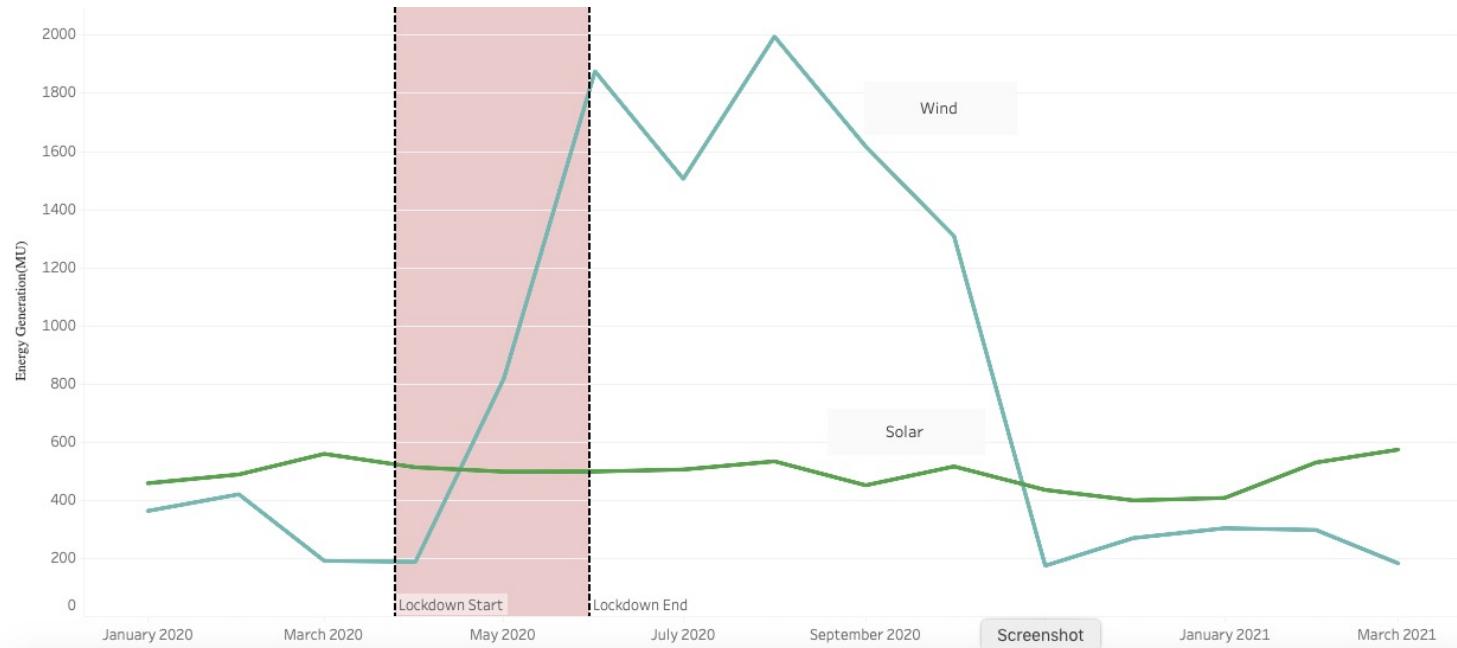
Source: SRLDC data and WRI Analysis

# FUEL WISE GENERATION DURING 2020



Four-fold decrease in production from thermal plants during lockdown

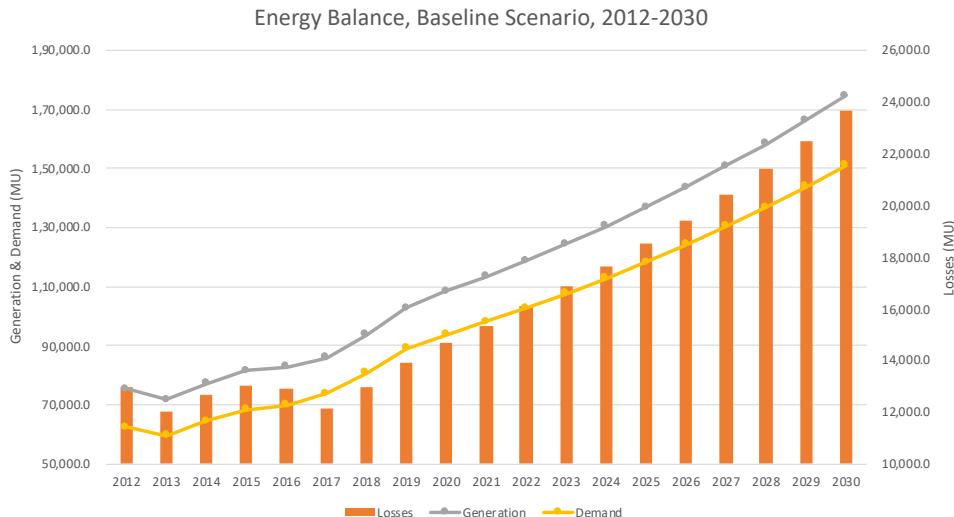
# RENEWABLES CAME TO THE RESCUE DURING 2020



Wind energy peaked in August (38%); Solar was a consistent source with 80% increase in generation compared to 2017

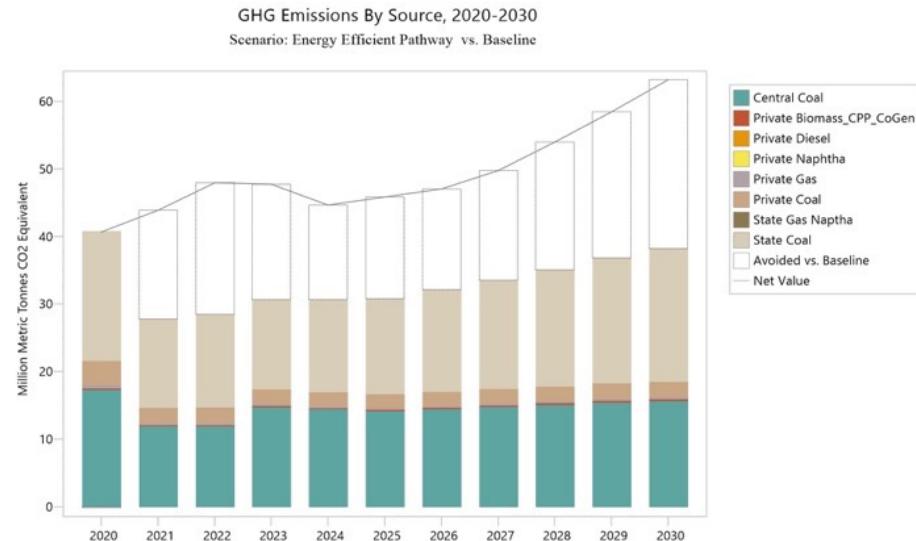
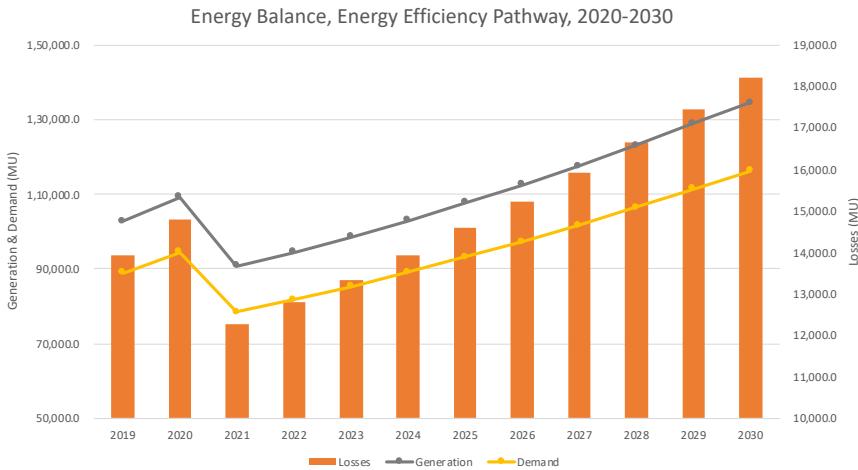
# ROLE OF RE IN STATE'S FUTURE ENERGY MIX

- Critical to analyze what will be the future of RE transition in the short, medium and long term
- Need to visualize, strategize, and plan for resilient, clean and sustainable energy transformation
- Undertook scenario analysis to evaluate suitable energy mix and emission levels looking at a 2030 timeframe for three scenarios
  - Energy Efficiency (50% RE)
  - Low RE (60% RE)
  - High RE (70% RE)



Source: Using Low Emissions Analysis Platform (LEAP), Data from TN utility documents and WRI Analysis

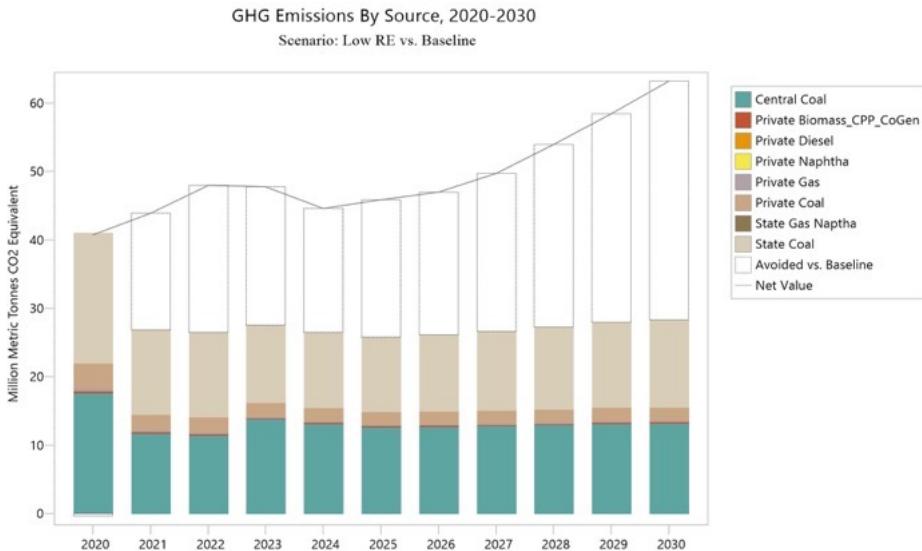
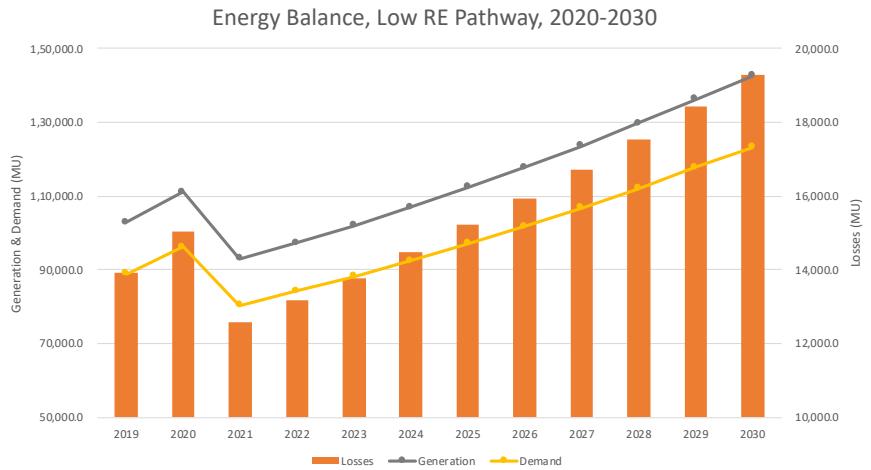
# ENERGY EFFICIENCY PATHWAY (50% RE)



- By 2030, over 9,400 MW of capacity (across fuel sources) can be avoided by energy efficient technologies
- 22 million metric tons of CO<sub>2</sub>e mitigated

Source: Analyses done using Low Emissions Analysis Platform (LEAP), Data from TN utility documents and WRI Analysis

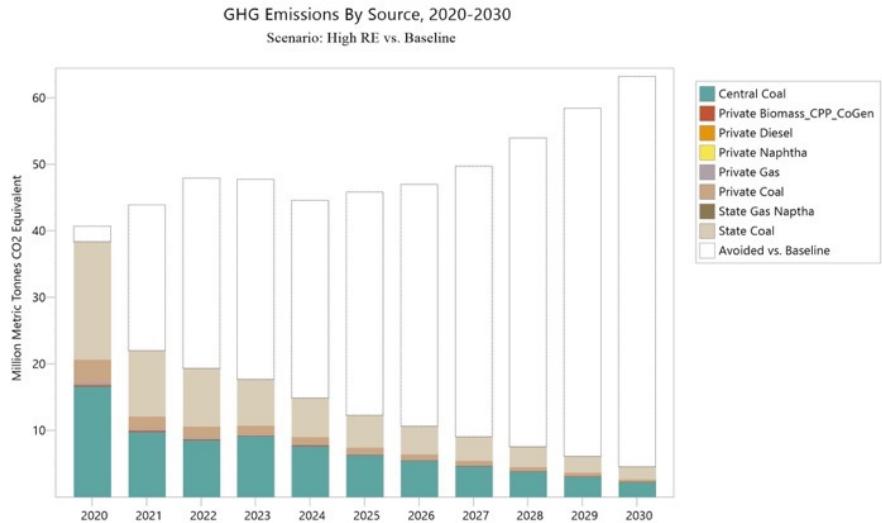
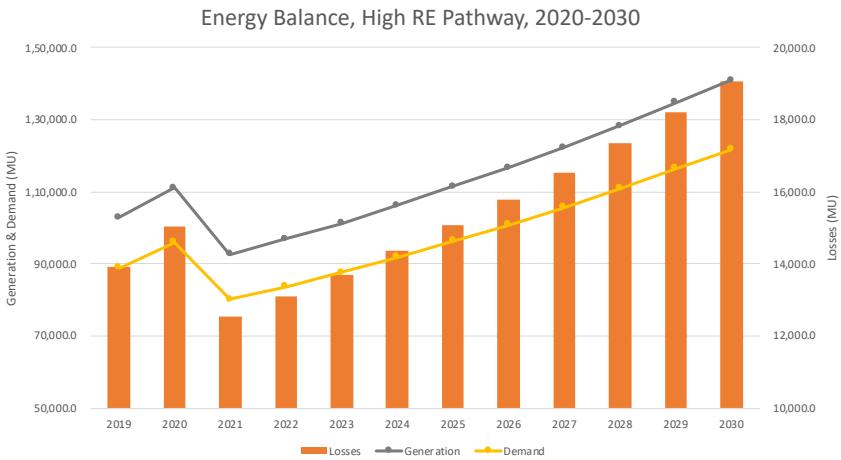
# LOW RE PATHWAY (60% RE)



- Solar and wind generation: +ve growth rates, at CAGR of 12.4% and 7.2%
- 32 million metric tons of CO<sub>2</sub>e mitigated

Source: Using Low Emissions Analysis Platform (LEAP), Data from TN utility documents and WRI Analysis

# HIGH RE PATHWAY (70% RE)



- Nine-fold increase in the share of solar and two-fold in wind generation assuming state meets its 9GW target by 2024
- 99% reduction in emission in 2030 when compared to a 7% reduction in 2020
- 54 million metric tons of CO<sub>2</sub>e mitigated

Source: Using Low Emissions Analysis Platform (LEAP), Data from TN utility documents and WRI Analysis

# SUMMARIZING

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**RE became lifeline for TN during COVID 19 lockdown**

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Clean Energy to help state **build back better**

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Need for an **integrated energy planning** approach

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**Tariff rationalization** across consumer categories

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**Fund investments** in renewable sources of power

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