

POWER FINANCE CORPORATION LIMITED

(A Maharatna CPSE)

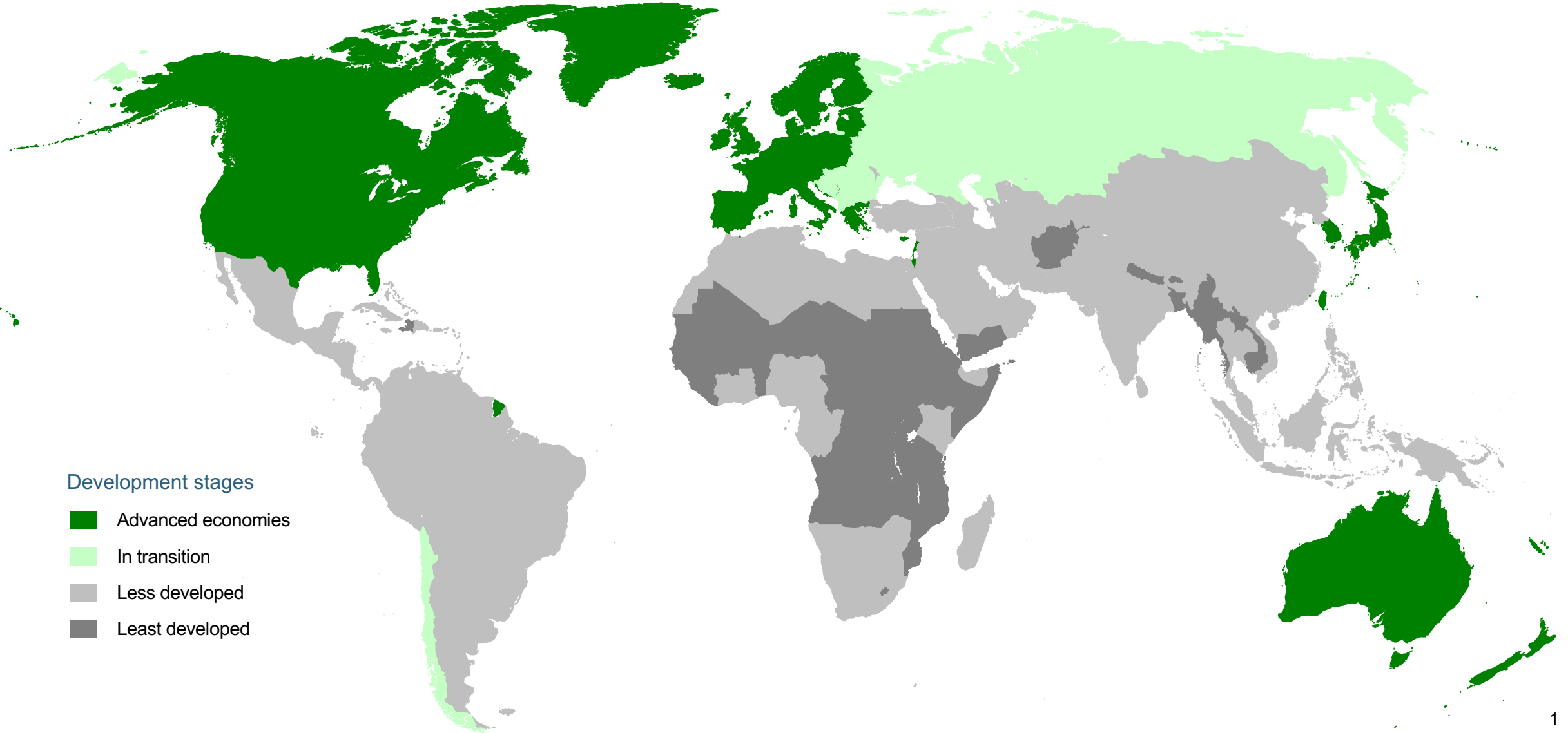


ICEF: Innovative Finance





Presentation by PFC

10 October, 2024

Countries, based on their development stage, face unique challenges that define their priorities



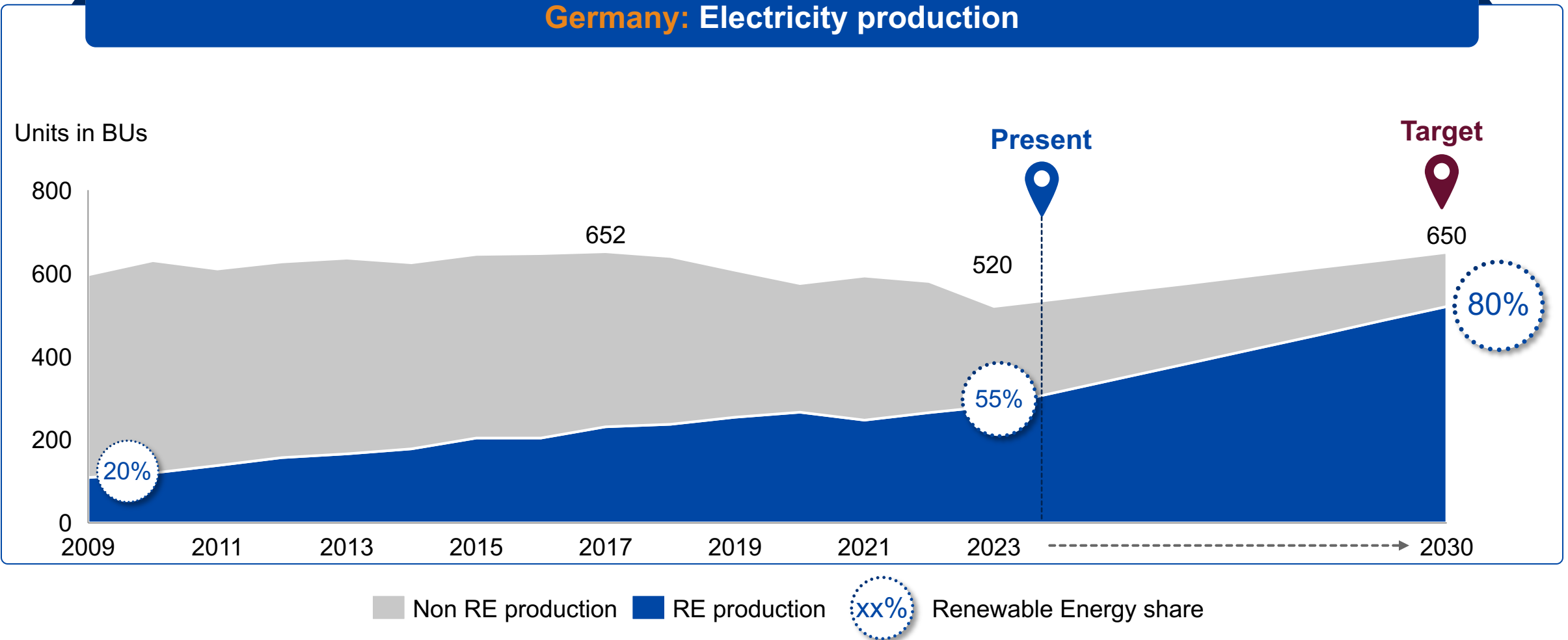
Development stages

-  Advanced economies
-  In transition
-  Less developed
-  Least developed

Advanced economies like Germany have been focusing on securing a greener energy mix



Germany: Electricity production

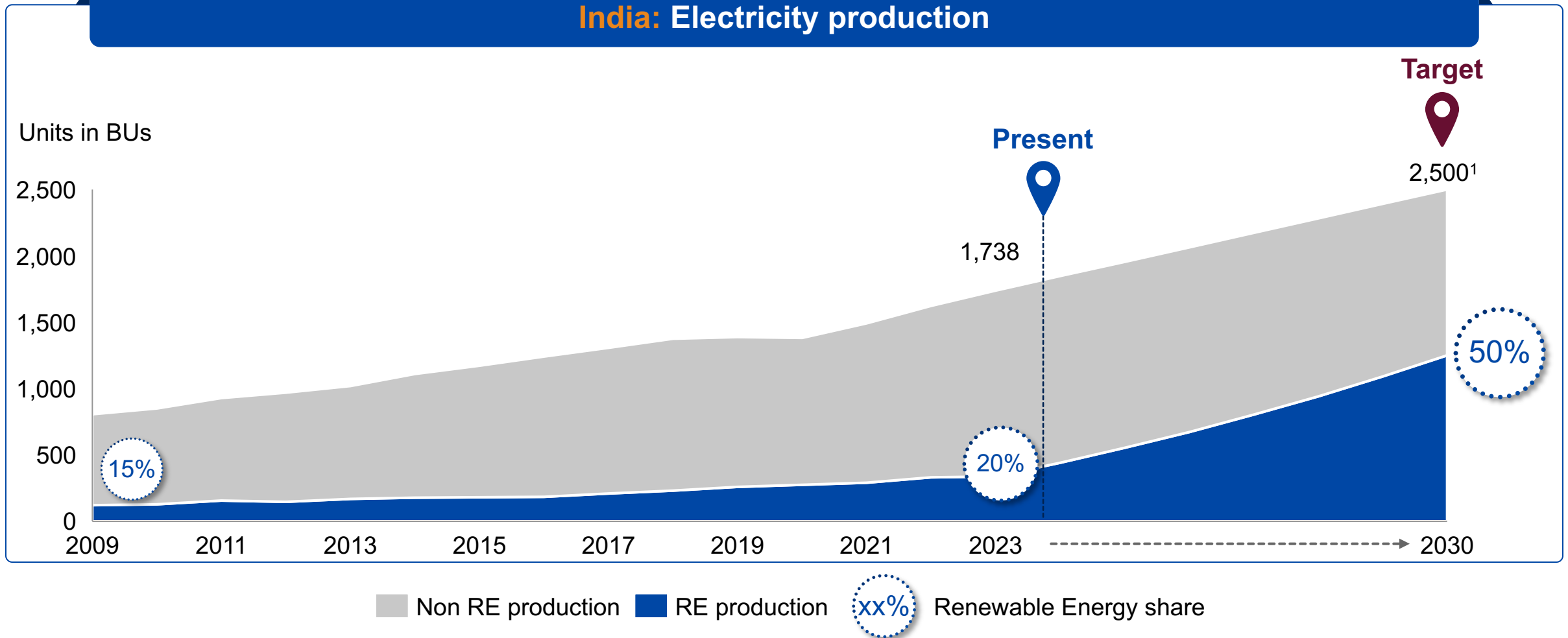


Source: International Energy Agency, BCG analysis

While developing nations, like India, must balance growing energy demand with sustainability



India: Electricity production



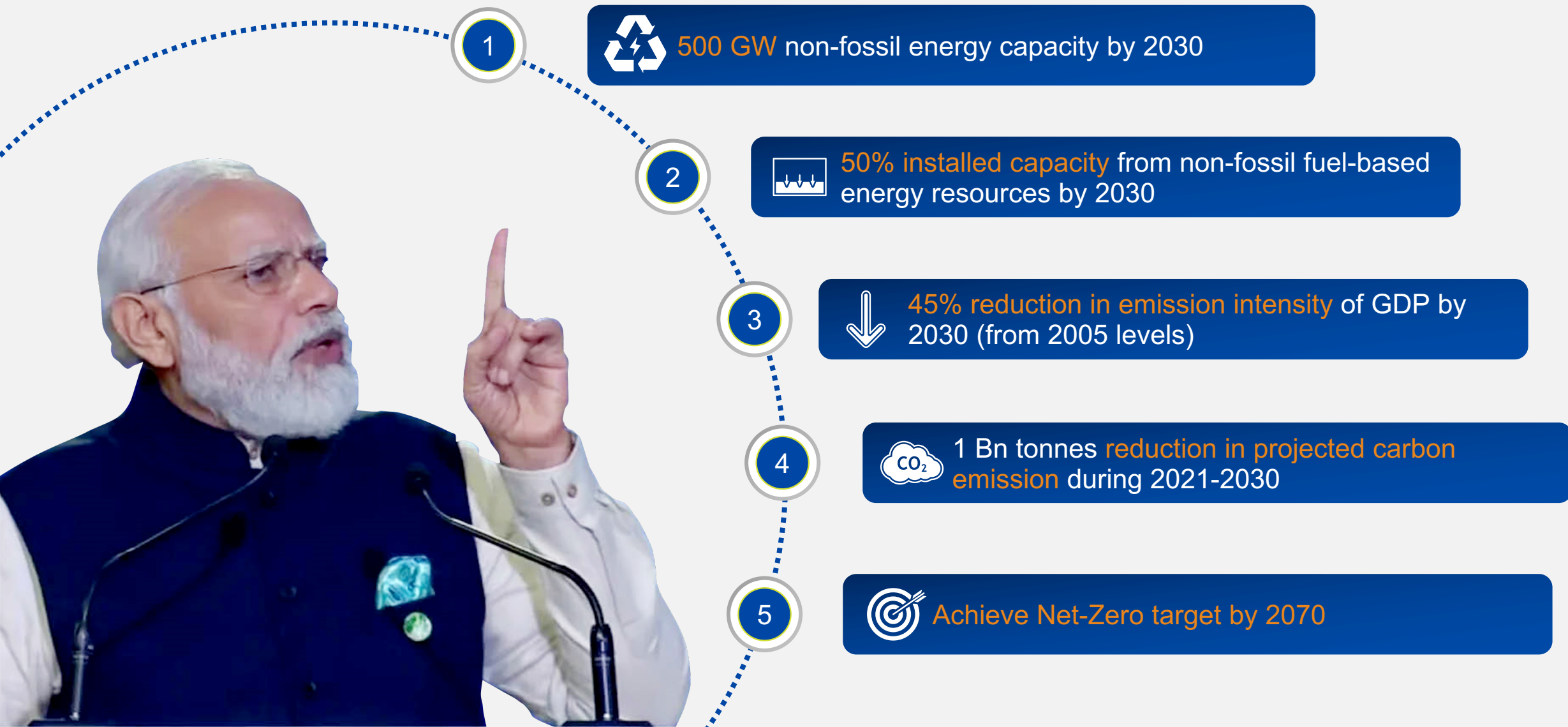
Source: CEA, International Energy Agency, BCG analysis

Note 1: As per various sources, the estimated electricity generation ranges between 2200-2700 BUs



Amidst its multiple development priorities, **India** is forging a powerful path toward sustainability

Hon'ble PM's vision of Panchamrit is a bold step to meet India's climate targets



Achieving the ambitious goal requires addressing the Energy Trilemma



Energy Trilemma



Security:

Ensuring a reliable and adequate supply of energy

Build storage infra to ensure uninterrupted availability of energy



Sustainability:

Decarbonize quickly to meet climate targets

Utilize abundant RE resources and reduce emissions



Affordability:

Keep renewable energy affordable for all

Make RE affordable by sufficient & affordable finance mobilization



However, thermal power remains crucial for India's growing energy needs since:

- Rising base and peak load demands
- RE lacks storage & reliability
- Coal plants' MTL limits ramp down below 50-55%

Indian Government is navigating the Energy Trilemma through innovative policy revamps



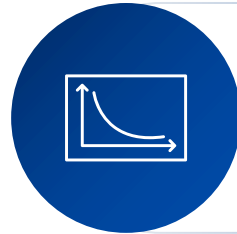
Renewable Purchase Obligation

Discoms to purchase a minimum % of energy needs through RE sources



Energy Storage Obligation

Energy producers to integrate energy storage systems with RE projects to ensure reliable energy supply



RTC Power and FDRE Power

Bids run to meet peak power demand and supply consistent, dispatchable power



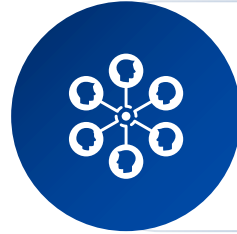
Viability Gap Funding for BESS

Initial outlay of >\$1 Bn to develop BESS, reducing capex cost for investors, making such projects viable

... and many more such impactful interventions

BESS stands for Battery Energy Storage Systems

PFC Group has been a pioneer in India's clean energy financing space



India's largest NBFC group

Managing a loan book of ~\$123 bn, including ~\$12 bn in RE (largest in India)



Leading renewable energy developer

Supported 68 GW of RE capacity in India (More than 1/3rd of India's total RE capacity)



Forging major clean energy partnerships

Signed MoUs worth \$28 bn with 20 companies for RE projects during the G20 Summit in 2023



Pioneering uncharted territories

Led innovative financing for EVs (e.g., BluSmart) and India's first off-river PSP project with Greenko

While PFC has made great progress in supporting India's green transition ...

200
GW

**India's RE
capacity
today**

500
GW

**2030
Target**

... there is still a long way to go to meet country's overall renewable energy goal

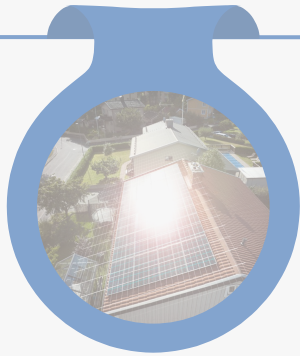
To reach 500 GW target, India must accelerate emerging technologies and bring them closer to commercial viability



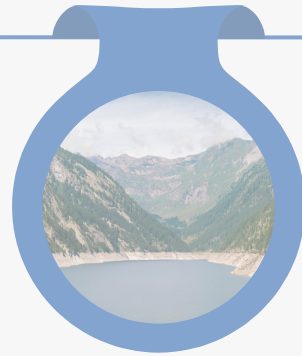
Commercially Viable technologies



Wind



Solar



Hydro

Emerging technologies not yet commercial



Battery Energy Storage Systems



Offshore Wind

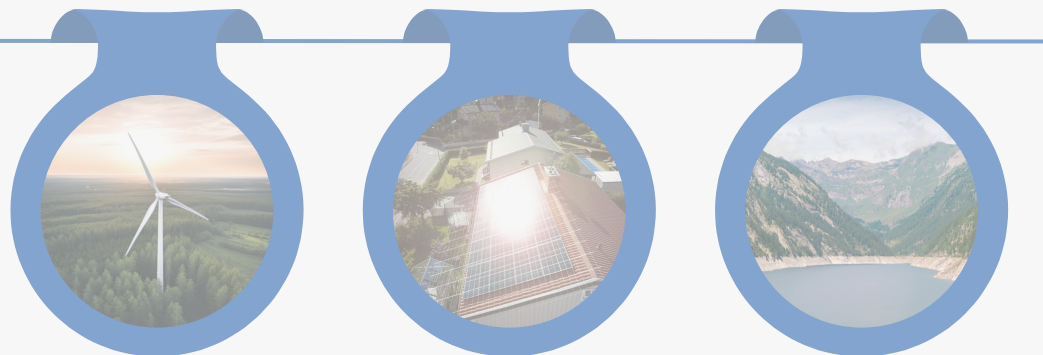


Green Hydrogen

Critical need to meet \$70Bn capex for emerging technologies and make them commercially viable



Commercially Viable technologies



Wind

Solar

Hydro

Capex required till FY30

\$130-150 Bn

Low risk sectors

Funding can be met through traditional financing mechanisms

Emerging technologies not yet commercial



Battery Energy Storage Systems

Offshore Wind

Green Hydrogen

Capex required till FY30

\$60-70 Bn

High risk sectors,
Innovating financing models essential to bridge funding gap

While Govt supports emerging technologies through VGF and PLI, private sector must drive **innovative financing models**



India launches schemes worth Rs 17,490 crore to drive electrolyser, Green Hydrogen

India has introduced a National Green Hydrogen Mission to foster domestic production of green hydrogen to fossil fuel.

India has introduced a manufacturing of the Strategic Green Hydrogen (SIGHT) project.

Why the government is betting on battery energy storage

Government intends to continue thermal capacity until sufficient energy facilities for renewable energy are available.

Even as the share of installed renewable energy capacity has increased in the last 10 years to 43% from 31%, the actual RE generation still only accounts for some 25% of the total electricity generation because of the intermittent nature of the renewable energy sources.

Why battery storage? Even as the share of installed renewable energy capacity has increased in the last 10 years to 43% from 31%, the actual RE generation still only accounts for some 25% of the total electricity generation because of the intermittent nature of the renewable energy sources.

CHARGED UP ■ Development of 4,000 MWh of projects by 2030-31, with a VGF of up to 40% of the capital cost.

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Cabinet Approves Rs. 7453 Crore Scheme For Offshore Wind Energy Projects



is the BESS scheme? ■ Battery Energy Storage System scheme envisages development of 4,000 MWh of projects by 2030-31, with a VGF of up to 40% of the capital cost. The initial outlay of the scheme is ₹9,400 crore, with a budgetary support of ₹1,000 crore. It targets to achieve a levelised cost of storage ranging from ₹3.50-6.60 per kilowatt-hour, making stored RE a viable option for managing peak power demand. The VGF shall be distributed in three years and projects shall be approved in three years.

- The viability-gap will be disbursed in five years.
- The scheme looks to address the energy storage need of growing renewable energy.
- The scheme for...


The government has approved a funding scheme worth Rs. 7453 crore to support offshore wind energy projects. This includes Rs. 6853 crore for setting up 1 GW of wind energy projects, with 500 MW each off the coasts of Gujarat and Tamil Nadu. Additionally, Rs. 600 crore will be used to upgrade two ports to handle the logistics for these projects.

The VGF scheme is a crucial step in implementing the National Offshore Wind Energy Policy, launched in 2015,

Govt introduced important measures:

 **PLI scheme of \$ 2.13 Bn to boost electrolyzer & Green Hydrogen manufacturing**

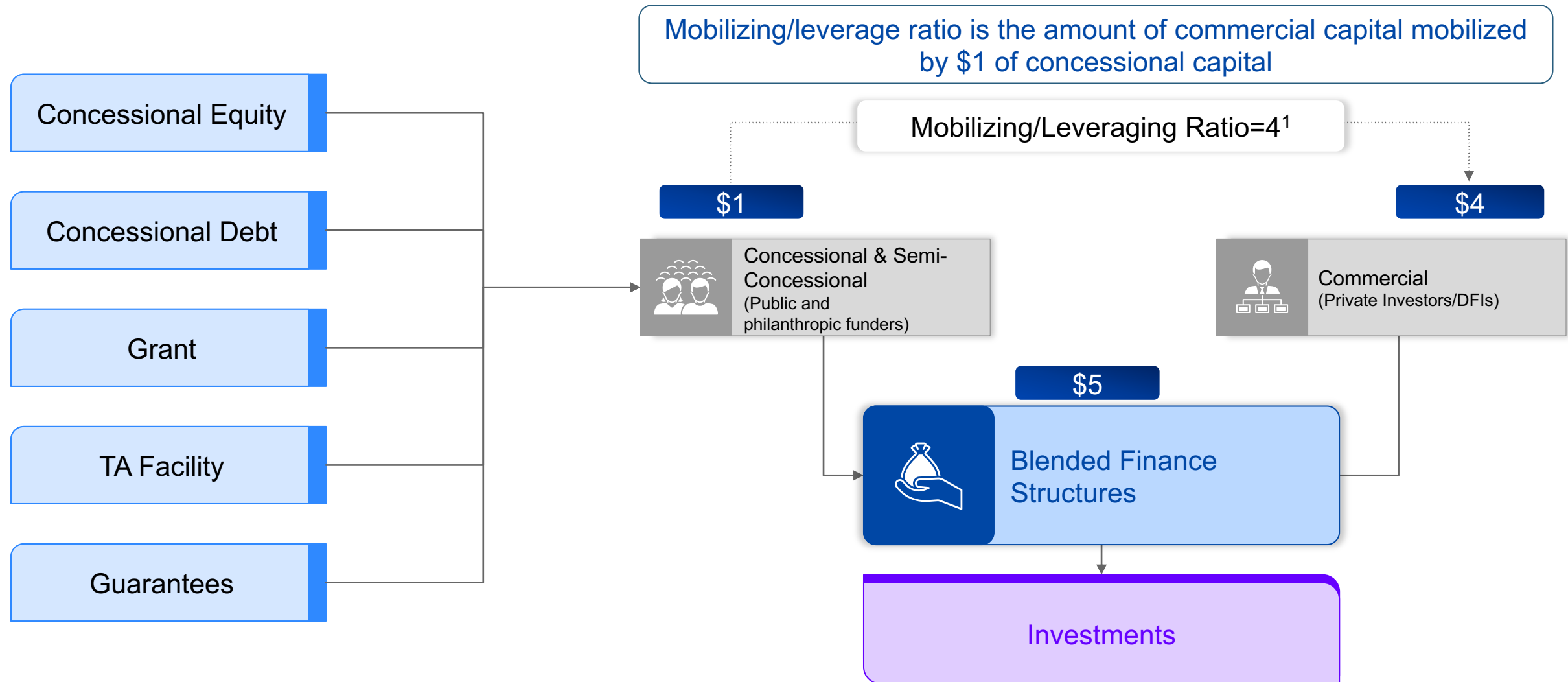
 **VGF of \$ 930 Mn for setting up offshore wind energy plants**

 **VGF for BESS, with initial outlay of \$ 1.1 Bn**



Yet a significant gap remains for emerging technologies to reach commercial parity, requiring further support from private investors

Blended finance: One such innovative financing model that leverages concessional funds to attract private investments in high risk sectors





To secure its future energy needs, India must accelerate its **renewable energy adoption**



However, India's transition to clean energy depends not only on setting ambitious energy goals, but also **on finding new and creative ways to fund them**



By using innovative financing models like **blended finance**, we can **mobilize funds** to drive this transition

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Thank You