



STORIES TO WATCH

INDIA 2022

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2021

A Year of Loss and Recovery

A traumatic second wave

The second wave wreaked havoc, claiming more than 330,000 lives

Overwhelmed Infrastructure



Overwhelmed Infrastructure

Medical, para-medical personnel and other frontline workers rose to the occasion



WRI INDIA

Help from community



Extreme weather events






Cyclone Tauktae



Cyclone Gulab

A woman in a red sari is the central figure, carrying a large white sack of rice balanced on her head. She holds a clear plastic bag of 'Mama' brand instant noodles in her hands. She is standing in a line of people, some of whom are also carrying sacks, suggesting a distribution of relief supplies. In the background, there is a two-story building with yellow walls and red accents, and a group of people waiting. The scene is outdoors under a clear sky.

Destruction in Odisha,
West Bengal, Andhra,
Assam, Goa, Maharashtra,
Uttarakhand and more

Impacts of climate change



Net Zero Commitment

31 OCT - 12 NOV 2021

GLASGOW

COP26

IN PARTNERSHIP WITH ITALY



Largest vaccination drive

A large outdoor vaccination drive is taking place under several red tents. A long queue of people, mostly women wearing colorful saris and headscarves, are standing on a green and red carpeted path. Many are wearing face masks. In the foreground, a man in a plaid shirt and red face paint is seated at a table with a laptop, likely managing the registration process. Other people are seated in the background under the tents. The scene is busy and organized.

About **Billion people** received one dose of the vaccine and over **700 million** received both doses



Extended vaccination program to:

- teenagers
- start booster doses, and
- send vaccines to South Asia and Africa

Assembly elections



Repeal of farm laws



A close-up, profile view of a male worker in a white checkered shirt and a white cap, looking down at a black smartphone he is holding with both hands. He is standing at a factory assembly line. In the background, other workers in white uniforms are visible, working at similar stations. The assembly line has a green surface and various cables and equipment. A yellow cable is prominent in the foreground. The text "Unicorn hub" is overlaid in the top left, and "India third largest unicorn hub after US and China" is overlaid in the bottom left.

Unicorn hub

India third largest
unicorn hub after
US and China

Growth in Economy



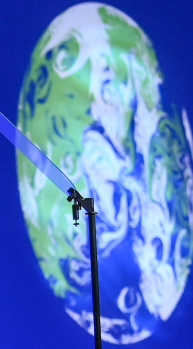


INDIA'S **NET ZERO** COMMITMENT

Net Zero by 2070



United Nations
Climate Change



UN CLIMATE CHANGE
CONFERENCE UK 2021
IN PARTNERSHIP WITH ITALY



Net Zero by 2070

Targets for 2030 include:

- Installing generation capacity of **500 GW** for non-fossil fuel energy,
- **50% electricity** requirement from Renewable energy
- Reducing **1 billion tons** of projected emissions
- Reduction of **45% carbon intensity** compared to 2005 levels.



**A change by everyone,
for everyone**



Greater sensitivity to ensuring justice



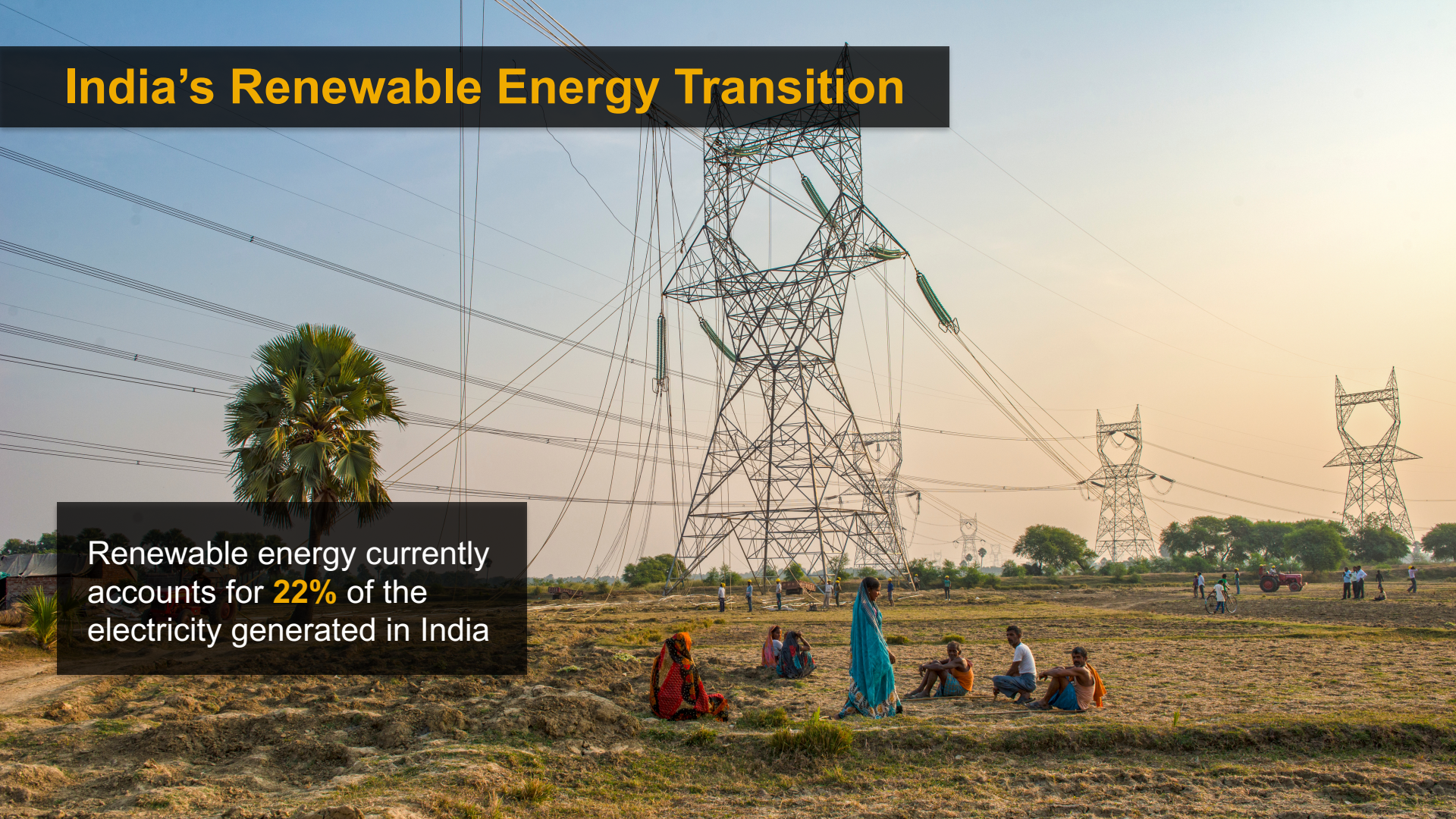
An aerial photograph showing a large-scale solar panel installation on a corrugated metal roof. Several workers in orange safety vests and hard hats are visible, working on the roof. Solar panels are being laid out in rows, with some already installed and others being prepared. The roof is surrounded by green trees, and the overall scene depicts a significant renewable energy project.

RENEWABLE ENERGY

Transition At An Unprecedented Scale

India's Renewable Energy Transition

Renewable energy currently accounts for **22%** of the electricity generated in India




India's Renewable Energy Transition

The goal is to reach **50%** of installed renewable energy capacity by 2030.



A photograph of several offshore wind turbines silhouetted against a sunset sky. The sun is low on the horizon, creating a bright orange glow and a reflection on the water. The sky is filled with soft, white clouds. The water in the foreground is dark with some ripples.

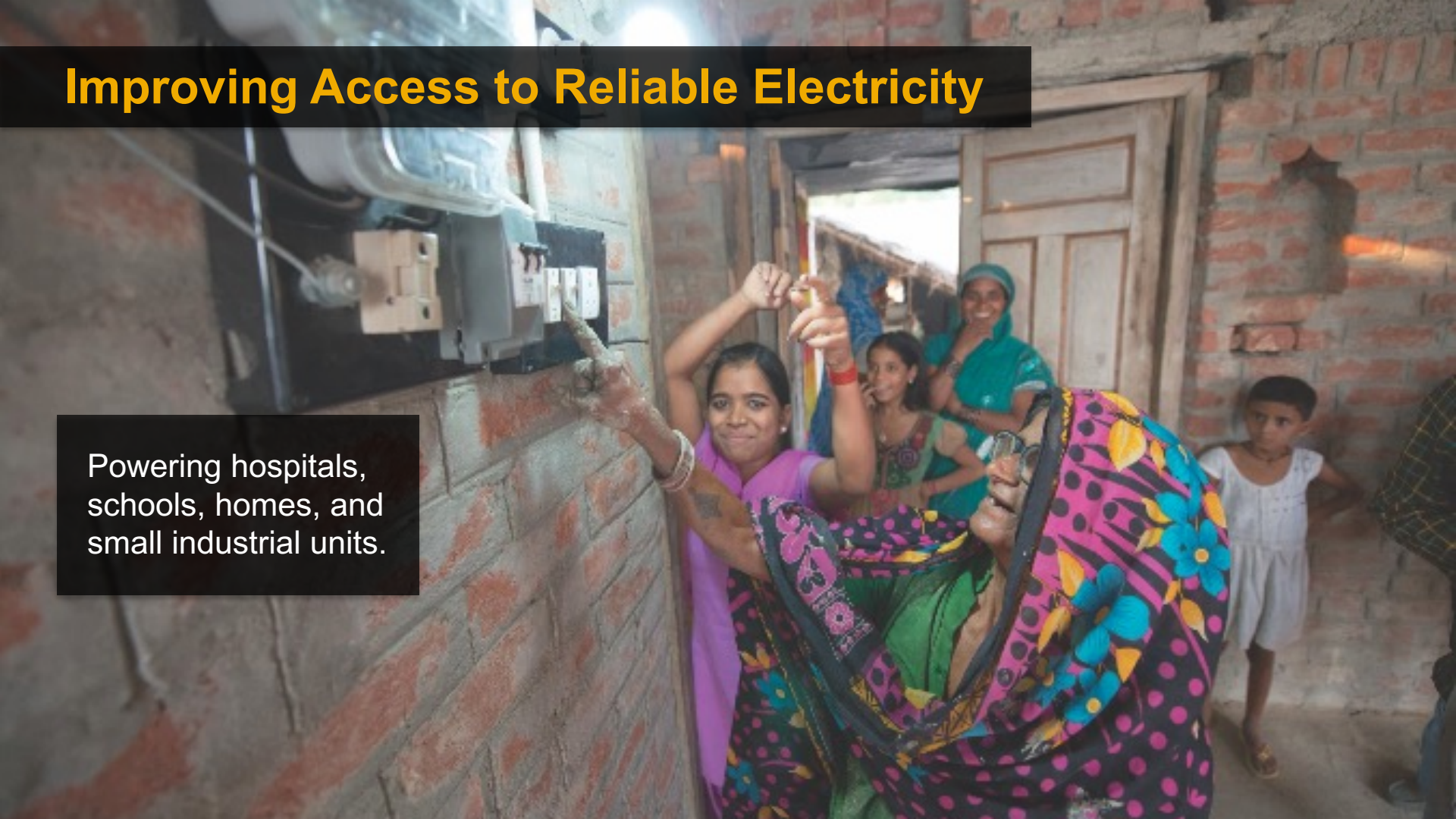
India has offshore wind energy potential with a **coastline of 7,600 kms.**

An aerial photograph of a village scene. In the center, a large blue solar panel array is mounted on a stand, surrounded by a group of people. To the right, a two-story building is under construction with grey brick walls and a roof made of woven reeds. To the left, there are several smaller, traditional dwellings with thatched roofs. The ground is dry and dusty, and there are some trees in the background.

Decentralized generation
and possible use of
smaller **local grids**

Improving Access to Reliable Electricity

Powering hospitals,
schools, homes, and
small industrial units.



A man with dark hair and a light beard, wearing a white long-sleeved shirt and an orange shawl draped over his shoulders, is crouching in a greenhouse. He is focused on a small, round, green and white striped melon growing on a vine. The greenhouse structure is visible in the background, with translucent plastic covering and metal supports. Large green leaves of the plant are in the foreground, slightly out of focus.

AGRICULTURE

Food Biodiversity and the Restoration Economy

Most Climate Vulnerable Sector



Three broad issues

Farmer's
Income

Nutritional
Security

Resource efficiency
and environment
friendly

Production
Distribution
Consumption
Ecosystem for food

Diversifying the Food Basket

Can **minimum support prices** be an effective mechanism to boost crop diversity?



A man in a light blue shirt and a white shawl is harvesting millet in a field. He is holding a millet stalk in his right hand and using a sickle in his left hand to cut it. The field is filled with tall millet plants, and a utility pole is visible in the background under a clear blue sky.

International Year of Millets, 2023

Will we see more states adopting policies that **alter food habits** and improve consumer support for **sustainable agriculture**?

Landscape Restoration

How will utility-scale solar, and plantations for sequestration take into consideration the **livelihoods of people who own, or depend on the land?**



Agroforestry


The background image shows a dense grove of large, mature trees with thick, dark trunks and lush green foliage. The ground is covered with a thick layer of dry, brown leaves and some small green plants. The scene is brightly lit, suggesting a sunny day. The trees are arranged in a somewhat regular pattern, creating a sense of a managed agroforestry system.

How will the governments initiatives to promote agroforestry take shape, and what will their impact be?

Organic Farming



Food Loss and Waste



- What levers can be used **across the supply chain** to achieve this?
- What measures can be implemented, beyond the use of clean energy, **for farm-level processing, storage, and transport?**
- How can India encourage **investment and entrepreneurship** to tackle food loss?

A high-speed train, possibly a Shinkansen, is shown traveling on an elevated concrete track at night. The train is white with blue accents and has its headlights on. The track curves through a cityscape, with various buildings and streetlights visible in the background. The sky is a mix of dark blue and orange, suggesting dusk or dawn. In the foreground, there are some construction materials and a road with light trails from vehicles.

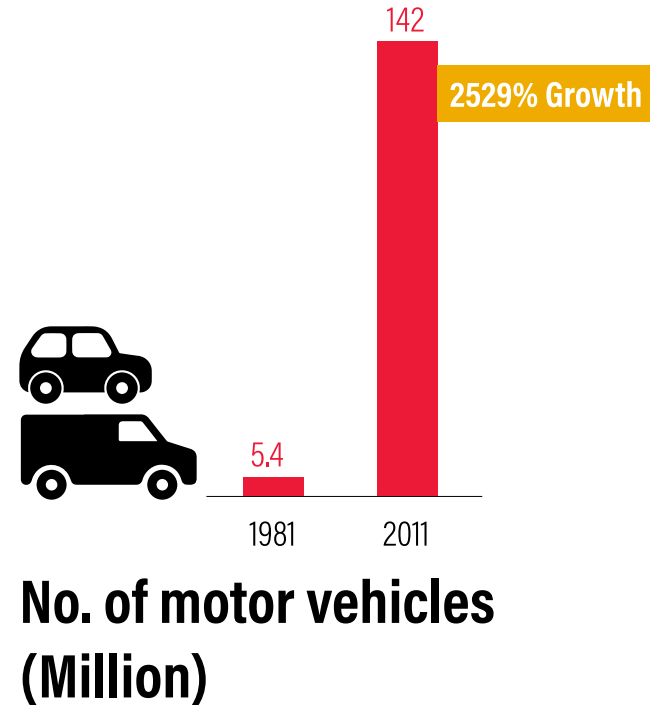
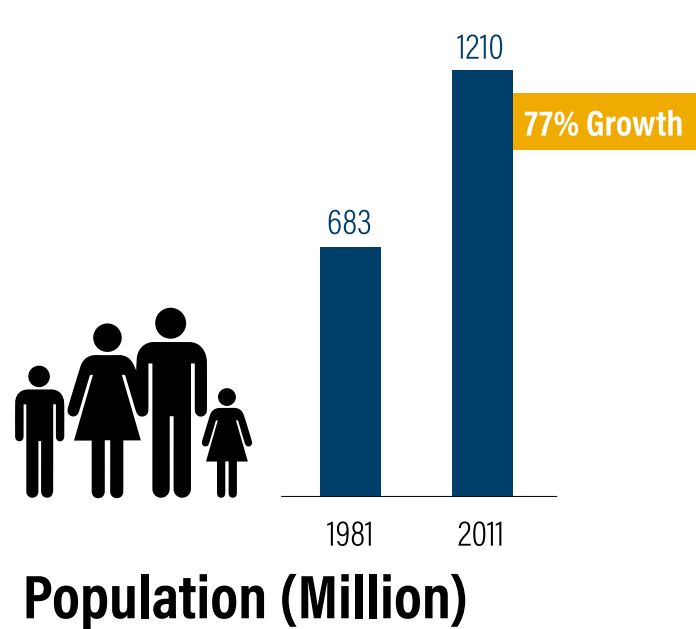
TRANSPORT

A Case for Integration and Technology Shifts

An aerial photograph of a densely populated urban street, likely in a developing country. The street is filled with a variety of vehicles, including yellow taxis, white cars, and large buses. Pedestrians are walking along the sidewalks, and there are many small shops and buildings lining the street. The scene is captured from a high angle, showing the layout of the road and the surrounding urban environment. A text box is overlaid on the left side of the image.

Transport contributes around
13.5% of the energy-related
GHG emissions in the country

Growth of Motorisation is outpacing population growth



Policies Decided across 5 National Ministries

Road


Transport and
Highways

Railways

Ports and
Shipping

Civil
Aviation

Housing and
Urban Affairs



**90% emissions from
road transport** sector and
demand must be channelled
towards cleaner options like
rail and water

'Gati Shakti' program for integrated approach



An aerial photograph of a densely populated city at sunset. The sun is low on the horizon, casting a warm, golden glow over the urban landscape. The city is filled with numerous high-rise apartment buildings and commercial structures. In the background, a large body of water is visible, and distant mountains rise on the horizon. The sky transitions from a deep blue at the top to a soft orange near the horizon.

GROWING CITIES

At the Center of Climate Action



Urban population to grow
from **400 million** to over 800
million by 2050



WRI INDIA

Towards a
10 trillion dollar
economy

Most of
future GHG
emissions
in cities

COVID
demonstrated
challenge of high
density population

New approach to planning

- High level committee for urban planning
- Integrated land-use
- Green bonds for urban infrastructure



Blue green cover

How can cities work not just on mitigation but on **ecosystem-based adaptation?**



WRI INDIA

A person is walking on a bridge over a river at dusk. The river is calm, reflecting the sky and the distant city skyline. The sky is a deep blue, and the city lights are visible in the background. The person is walking away from the camera, towards the right side of the frame. The bridge has a metal railing. The overall mood is serene and contemplative.

WATER

The Most Urgent Climate Crisis

Rapidly emerging water crisis


A photograph of a concrete-lined canal or drainage system. The water level is very low, revealing the wide, flat concrete bed of the canal. The water that remains is still and reflects the clear blue sky. The concrete walls of the canal are sloped and show signs of weathering and some sparse vegetation growing along the top edges. In the background, there is a line of trees and a utility pole under a bright, clear sky.

**If climate change
were a shark, water
problems are the
teeth of that shark.**

Code Red for Humanity

Extreme rainfall will intensify by **7%** for each additional degree of global heating.





Chennai floods

An aerial photograph capturing a severe flooding event in Chennai. The street is completely submerged in murky, brown water. Several people are seen wading through the floodwaters, some carrying items on their heads. Two motorcyclists are visible in the foreground, navigating the deep water. A yellow and black striped traffic pole stands in the middle of the flooded road. To the left, a dense line of green trees borders the street, with a blue sign partially visible. On the right, a multi-story building with a sign that reads 'OVERSEAS' is partially visible, along with a black billboard and a fence. The overall scene depicts the impact of heavy rainfall on urban infrastructure.

Implications on vulnerable population



Implications on vulnerable population

4% of the freshwater resources, despite having **18% of the world's population**, efficient water management will be a critical need.

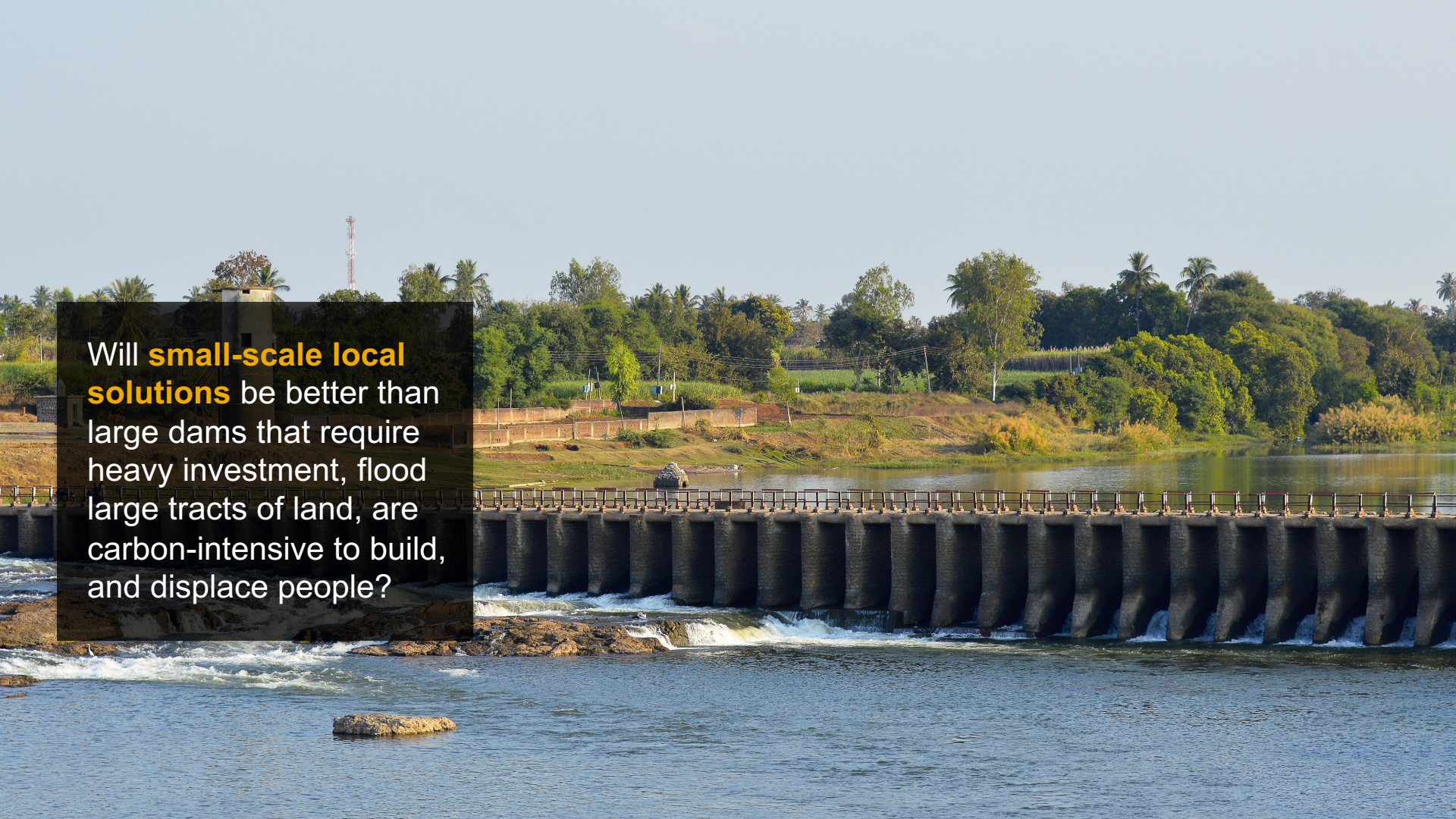


What will it take to make
water and sanitation
services more accessible
to communities that are
facing the brunt of these
challenges?

Access to water and sanitation

- The 15th Finance Commission recommended **Rs 1.4-trillion grant** to rural bodies over the next five years.
- **AMRUT 2.0 mission** to increase access to clean water and sanitation for urban households.





Will **small-scale local solutions** be better than large dams that require heavy investment, flood large tracts of land, are carbon-intensive to build, and displace people?

A person wearing a light-colored tank top, jeans, and a blue headscarf stands in a hazy, dusty environment. They are holding a bag in their left hand and a string or rope in their right hand. The background is filled with dust or smoke, and there are power lines visible in the distance. The overall scene suggests a landfill or a similar industrial waste site.

AIR QUALITY

The Need for an Airshed Approach

Re-occurring challenge

Acute situation
in New Delhi



Re-occurring challenge

Stubble burning
not the only
reason



A satellite image of a mountainous region, likely the Himalayas, with a large, semi-transparent grey airshed overlay covering a significant portion of the landscape. The airshed is defined by a complex network of lines, possibly representing wind patterns or administrative boundaries. The background shows rugged terrain with snow-capped peaks and green valleys. A small blue icon is visible in the top right corner of the image.

Need for Air-shed Approach

An airshed approach will **recognise political and administrative boundaries**.
Will we see a scaling up of efforts?

ELECTRIC MOBILITY

Accelerating the Shift



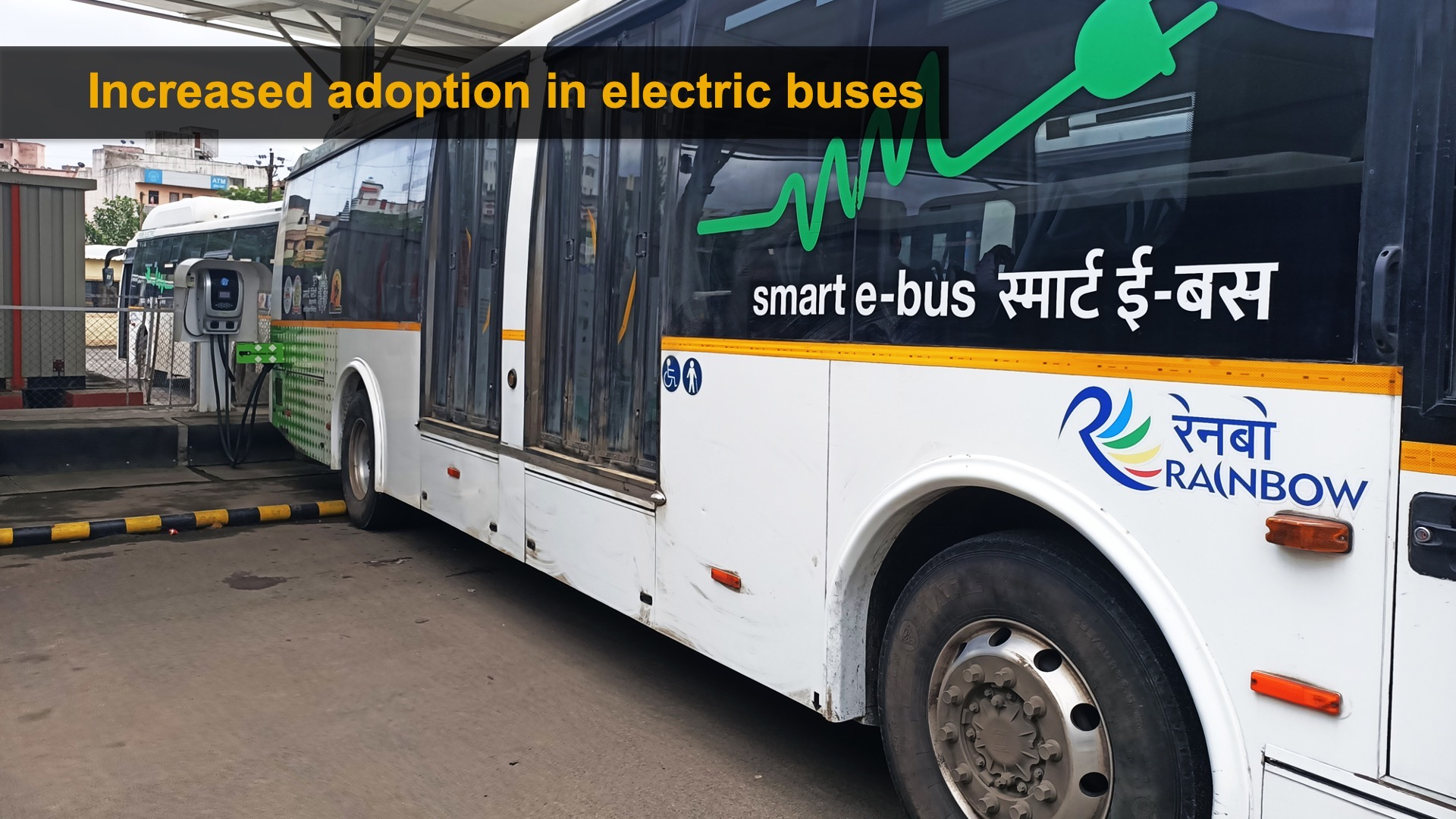
Boost in EV manufacturing and sales

Billions of dollars invested in EV start-ups

18 manufacturers of electric 2-wheeler and 3-wheeler



Increased adoption in electric buses



smart e-bus स्मार्ट ई-बस

रेनबो
RAINBOW

Charging infrastructure network



Will a growing charging infrastructure network **boost consumer demand** for EVs?

EV
CHARGING

EV
PARKING
ONLY

Battery swapping

A large pile of old, worn-out black batteries with yellow terminals, some stacked and some leaning against each other. The batteries are arranged in a somewhat haphazard manner, with some standing upright and others tilted. The background is a dark, textured surface, possibly a pile of scrap or a storage area.

Plan for a battery swapping
policy included in the recent
budget

EV manufacturing hubs

How can we increase the
manufacturing of batteries?

New job opportunities

There needs to be planning for workforce transition to address the loss of jobs in the auto-industry





HYDROGEN

From Grey to Green

Green Hydrogen for transport



On 15th August 2021, the PM announced a **National Hydrogen Mission**

India's first Hydrogen electrolyzer gigafactory

Is India on its way to becoming a global **manufacturing hub for green hydrogen?**

