India GHG Program

The India GHG Program is a voluntary industry-led partnership to measure and manage greenhouse gas emissions. The Program was recognised in India’s INDCs.

The Program provides:
- Internationally recognised, locally relevant GHG measurement and accounting tools
- Customised training and capacity building initiatives
ABOUT WRI India | WRI India is a research organization that turns big ideas into action at the nexus of environment, economic opportunity and human well-being.

OUR MISSION | To move human society to live in ways that protect Earth's environment and its capacity to provide for the needs and aspirations of current and future generations.
OUR approach

1. Collect data
2. Analyze findings
3. Propose solutions
4. Influence decision makers
5. Leverage partnerships
27 policies/actions in 20 countries/cities
Regional GHG Programs

Mexico

U.S.A.

Brazil

India

Malaysia
# Objectives of GHG Programmes

<table>
<thead>
<tr>
<th>Programme Objectives</th>
<th>Australia</th>
<th>California</th>
<th>Canada</th>
<th>European Union</th>
<th>France</th>
<th>Japan</th>
<th>United Kingdom</th>
<th>United States</th>
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<tbody>
<tr>
<td>Support GHG management and mitigation</td>
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<td>Improve data quality &amp; consistency</td>
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<td>Inform existing policies, market mechanisms and national inventories</td>
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<td>Provide information to stakeholders</td>
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</table>
India GHG Program

Program Pillars – Working with Non-state actors

- Trainings and Capacity Building
- Sectoral Tools and Guidance development
- Benchmarking Peer Interactions Best Practices
- Policy Dialogue
Why Programme for Non-state actors

Decoupling Emissions from Growth

Integral to the NDC Elements

80%
India's total emissions come in from Energy & Industrial sectors – both being key areas of Business.

41%
India's total installed power generation capacity with the private sector.

*Total Green House Gas (GHG) emissions excluding land-use change and forestry (MtCO2e).
The various GDP growth assumptions are a constant annual average for 2016-30.

Source: IMF, World Resources Institute (WRI) and Mint calculations.
Corporate Stewardship on Low Carbon Measures

Increasingly Businesses in India have been scaling-up action towards low carbon operations and growth.

- **10+** Businesses working increasing RE in their energy mix by >50%
- **100+** Businesses formally measuring their emissions using GHG Protocol
- **49+** Businesses formally reporting to CDP on Climate Change
- **40+** Businesses working on an Internal Carbon Price
- **6+** Large Businesses Incorporated Science Based Targets to drive ambitious ER
- On an average, the Indian Industry reduces ~ 150-165 million tCO$_2$e per year compared to business as usual
Member Companies Demography

North & West Region
- GAIL (India) Limited
- Delhi Indira Gandhi International Airport
- Shree Cement Limited
- IndusInd Bank
- JK Tyre & Industries Ltd
- Mahindra Rise

East Region
- NTPC
- Tata Teleservices
- Tata Chemicals Limited
- Indian Oil
- Yes Bank
- Ambuja Cement
- ACC Limited
- Godrej & Boyce

South Region
- Seshasayee Paper and Boards Limited
- Forbes Marshall
- susten by marmana
- Infosys
- GVK
- Bengaluru International Airport
- CLP India
- HCC

04-Oct-17
indiaghgp.org
Driving Ambitious Corporate Actions

Indian Railways
50% Reductions in transport related emissions by 2030

Mahindra & Mahindra
$10 / tonne Carbon Price
Achieve 25% reductions in emissions

Godrej & Boyce
Carbon Neutrality
By 2020-21
Driving Ambitious Corporate Actions

**Infosys**

- **100% RE**
- Reduce emissions intensity of operations by 55.4% per employee by 2018

**Delhi Airport**

- Achieved Carbon Neutrality in 2016

**Tata Chemicals**

- Internal Carbon Price
- Adopted Internal Carbon Price in 2016
**Milestones**

**PROGRAM LAUNCHED WITH 25 FOUNDER MEMBERS**
Jul-2013 2014

**INDIAN RAILWAYS JOINS IGHGP**

**SCOPE 3 TOOL FOR BUILDINGS**

**POWER TOOL LAUNCHED**
January to December 2015 2016

**SME TOOL DEVELOPED**

**SCOPE 2 GUIDANCE LAUNCHED AT BSE**

**250+ TRAINED PROFESSIONALS**

**400+ TRAINED PROFESSIONALS**

**WORKING GROUPS LAUNCHED**
1. Oil & Gas
2. Chlor-Alkali
3. Power
4. Buildings
5. Heavy Engineering

**ANNUAL EVENT PUBLICATIONS**

1. Aviation Best Practice Manual
2. Transport Emission Factors

**FORMAL RECOGNITION IN INDIA’S INDC**

**POLICY DIALOGUES**
• Mobilizing Climate Finance
• Pre-COP22 Roundtable
• Industry Roundtable on Climate Finance

**400+ TRAINED PROFESSIONALS**
What is Global Warming?

Most of this radiation is absorbed by the Earth and therefore **warms** it.

Some energy is radiated back into space by the Earth in the form of infrared waves.

Some of this outgoing infrared radiation is trapped by the Earth’s atmosphere and **warms** it.

More of this outgoing infrared radiation is trapped by the Earth’s atmosphere and **warms** it.

Solar radiation in the form of light waves passes through the atmosphere.
…….“change of climate that is attributed directly or indirectly to human activity that alters the composition of global atmosphere and which is in addition to natural climate variability observed over comparable time periods.”

Article 1, UNFCCC
What is Climate Change?

• Climate is the average weather at a given point and time of year, over a long period (typically 30 years).

• We expect the weather to change a lot from day to day, but we expect the climate to remain relatively constant.

• If the climate doesn’t remain constant, we call it climate change.

• The key question is what is a significant change – and this depends upon the underlying level of climate variability.

• Crucial to understand difference between climate change and climate variability…
Effects of Temperature Change

Source: https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_Chapter01_FINAL.pdf
Sea level rise
Global sea level rose about 17 centimetres (6.7 inches) in the last century. The rate in the last decade, however, is nearly double that of the last century.

Warming oceans
The oceans have absorbed much of this increased heat, with the top 700 meters (about 2,300 feet) of ocean showing warming of 0.302 degrees Fahrenheit since 1969.

Source: http://climate.nasa.gov/evidence/
Global temperature rise
All three major global surface temperature reconstructions show that Earth has warmed since 1880.
1. National Oceanic and Atmospheric Administration
2. Climate Research Unit and Hadley Centre
3. NASA Godard Institute for Space Studies

Shrinking ice sheets
The Greenland and Antarctic ice sheets have decreased in mass. Data show Greenland lost 150 to 250 cubic kilometers (36 to 60 cubic miles) of ice per year between 2002 and 2006, while Antarctica lost about 152 cubic kilometers (36 cubic miles) of ice between 2002 and 2005.

Source: http://climate.nasa.gov/evidence/
Mother nature

Climate Change and Risk

Climate Variables
(e.g. temperature, rainfall, etc.)

Change in Climate Variables
(e.g. more “very hot” days)

Impact
(e.g. higher electricity demand for cooling)

Risk
(e.g. inability to meet peak demands)
Responding to climate change involves a two-pronged approach:

✓ reducing and stabilizing the levels of heat-trapping greenhouse gases in the atmosphere (“mitigation”); and adapting to the climate change already in the pipeline (“adaptation”)

Companies have a role in both climate change mitigation and adaptation.

**Mitigation**
Focuses on limiting the speed and scale of climate change. It has typically received the most attention in policy circles, such as debates over carbon pricing as a mechanism to reduce GHG emissions across the economy.

**Adaptation**
Involves adjusting to actual or expected climate change effects. This includes managing risk and exploiting opportunities.
India’s INDC to UNFCCC

Key Elements in India’s INDC

- Mitigation
- Adaptation
- Finance
- Technology
- Capacity Building
India’s INDC

**Reduction in emissions intensity of GDP**

<table>
<thead>
<tr>
<th>Year</th>
<th>Emission Change</th>
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<tbody>
<tr>
<td>1990</td>
<td>Base Year</td>
</tr>
<tr>
<td>2005</td>
<td>20% to 25%</td>
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<tr>
<td>2020</td>
<td>33% to 35%</td>
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<tr>
<td>2030</td>
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**Increase the Non-fossil fuel energy share**

- Current: <15%
- 2030: 40%

**Enhancing Forest Carbon Sink**

To create additional carbon sink of 2.5 -3 billion tonnes of CO₂ equivalent through additional forest and tree cover (increase of about 680 - 817 million tonne of carbon stock)
Climate Risk Management

- Manage Climate risks like any other Business risks
- Managing may require internal capacity building
- Stakeholder engagement is essential
- Uncertainty is not a reason for inaction
What risks and opportunities does your organization face?

You cannot manage a risk if you deny it exists, or don’t see it coming.”

Jeffrey Williams,
Director, Climate Consulting,
Entergy Corporation
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