

**SUMMARY OF THE OFFICIAL SIDE EVENT IN THE DELHI  
INTERNATIONAL RENEWABLE ENERGY CONFERENCE (DIREC)  
AND EXHIBITION, 2010**



**“Low carbon options ensuring energy security for India”**

**29<sup>th</sup> October 2010, 12.30-3PM**



**Jointly Organized by**



**In Association with**



## **I. The Delhi International Renewable Energy Conference – Background**

The Fourth of the Series of Global Ministerial Level Conferences on Renewable Energy, following the initiative taken at the World Summit on Sustainable Development in Johannesburg, 2002, The Delhi International Renewable Energy Conference, was held between the 27<sup>th</sup> and 29<sup>th</sup> October 2010 at the International Exhibition Grounds, Greater Noida in the National Capital Region of Delhi.

The event attracted over 13000 participants from across the Globe with over 250 key speakers from the “Who is Who” of the Development, Policy and Renewable Energy Circles world over, 600 plus exhibitors of Renewable Energy Products and Solutions. In addition to the main events, there were close to 30 official side events and more than a dozen parallel events.

The conference aimed to build upon the outcomes of the previous conferences held in Bonn, Beijing and Washington, by promoting pledges for concrete and innovative actions to advance renewable energy solutions world over. One of the key outcomes of the meeting was also to come up with a road map for global renewable energy progress.

The conference, in addition to discussing innovative ideas and solutions also provided an excellent opportunity to the renewable energy industry to showcase its solutions and products with the aim to foster technology partnership between and amongst renewable energy solution providers world over.

It also helped in articulating policy solutions and frameworks which are required to ensure a rapid deployment of renewable energy solutions particularly in developing countries.

The official side events which were organized had a wide range of themes ranging from Renewable Energy Law to policy framework to technology specific themes.

We in Vasudha Foundation felt the need to have an in-depth discussion on one of the most debated topics in recent times, which is on Low Carbon Pathways particularly for developing countries. The Delhi International Renewable Energy Conference (DIREC 2010) provided an ideal platform for the discussion on Low Carbon Development as the very theme of the DIREC 2010 was “Sustainable Energy Solutions for the Future”.

## **II. The Side Event – The Purpose and Objectives**

### **Purpose of the Round Table:**

A Low carbon economy or a least carbon economy seems to be the new mantra, with a number of countries inclusive of India, exploring all options of following a low carbon pathway or a least carbon pathway. India has also set up a committee under the aegis of the planning commission with the mandate of looking at the various proposals or modeling pathways that exist in order to come up with a pathway which can put India on the map of sustainable development with lesser carbon emissions.

Further, there are a number of pathways put forward by a number of organisations, agencies and departments ranging from multilateral agencies to civil society groups and each of these organisations have come up with their own perspective on what low carbon pathway could mean for India. While some of these studies or modeling are based on certain industries, some of them are fairly economy wide.

Fundamental to a low carbon economy is a low energy pathway for a country, with bulk of the emissions coming from the energy sector, for most countries, particularly, India. Bulk of India's carbon emissions come from the energy sector and the emissions from this sector is expected to grow substantially, as India tries to meet the ever increasing demand for energy, for a transition from a energy deficit economy to one where, there is universal energy access. This is indeed a major challenge for India, given that close to 45% of its population does not have access to modern energy needs.

With 67 percent of its electricity coming from coal and fossil fuels, with huge potentials for renewable energy and energy conservation and energy efficiency measures, India could change its energy pathway, which can ensure not only addressing the huge energy deficit and ensure energy access to all, but also reduce its emissions from the energy sector substantially.

However, this would require not just a shift in policy direction but also a leadership role taken by the Indian industries, whether it be implementing stringent energy efficiency measures or for furthering and ensuring a massive investment and deployment of renewable energy solutions. Furthermore, there also requires a partnership between various sectors/agencies/ministries directly or indirectly involved in urban and rural infrastructure and growth and development in the country.

The Delhi International Renewable Energy Conference which brings together representatives from the renewable energy industry, and other stakeholders from India and abroad presented a great opportunity to initiate a concerted dialogue between the CEOs of the Indian Renewable Energy, Civil Society and other key players inclusive of builders, city planners and developers,

renewable energy service providers, resident welfare associations, micro-finance, bankers and so on to hear their views and perspectives on what it entails to put India on the path for a low carbon energy economy. It also provides a platform to hear the views and perspectives from people from other countries on their experience/s towards propelling their respective countries on a low carbon pathway.

Using this opportunity, Vasudha Foundation along with other multi-partners organized this side event as a dialogue between the various stakeholders groups ranging from the CEO of RE industry, Policy practitioners, Policy makers, Civil Society etc with the theme of the round table discussion being ***“Low Carbon Options Ensuring Energy Security for India”***

#### **The objectives of the Round Table:**

- a) Understand the various stakeholders views and perspectives of Low carbon options ensuring energy security for India
- b) Bring together and the first steps of initiating a platform which can bring together all the stakeholder groups with the ultimate objective being in the creation of a permanent multi-stakeholder lobby platform for Renewable energy in India

### **III. The Design of the Side Event**

Within the broad theme of ***“Low Carbon Options Ensuring Energy Security for India”***, a few critical issues for discussion was identified with the design of the round table being in the form of a moderated panel discussion, with each of the panelists identifying one or more of the identified issues to give their perspective on the same. The workshop was an interactive one, with sufficient space given to the non-panelists to not just raise questions and issues but also give out their perspective on the issue. To ensure a focused discussion, the organizers also prepared a very rough “draft discussion paper” on “Challenges and Opportunities for Low Carbon Options for India”, a copy of the presentation of which is annexed in this report.

The key Issues identified for Discussion were:

- How feasible is a low carbon plan for poor economies
- Risks and Opportunities from a Industry perspective for Low carbon economy
- Linking low carbon energy with development and energy access to all
- Embedding RE policy and energy access for all in energy and infrastructure policy. Bottoms-up Planning Vs Top-Down Planning
- Driving investments towards a low carbon economy. What needs to be done?
- Best-practice policies existing today world over to promote RE

The Moderator for the workshop was Prof. T L Sankar, Former Energy Secretary, Government of India, Former Chairman of Electricity Transmission and Distribution Companies and more recently, the former Principal of the Administrative Staff College of India, one of the key institutions which train the Indian Administrative Service Personnel in India.

The other panelists were

1. Shri. V. Subramaniam, Former Secretary Ministry of New and Renewable Energy and current Secretary General of Indian Wind Energy Association
2. Mr. Steve Sawyer, Secretary General of Global Wind Energy Council
3. Mr. Amit Kumar, Northern Region Head of TATA BP Solar
4. Mr. Mahesh Vipradas, Regulatory Head, Suzlon Energy and Senergy Global
5. Ms. Sunita Rangaswamy, Regional Advisor, OXFAM, GB
6. Shri. Joe Athialy, South Asia Coordinator, Bank Information Centre
7. Shri. Praful Bidwai, Author and freelance journalist on Environment, Energy and Climate Change
8. Shri. Chandra Bhushan, Associate Director, Centre for Science and Environment
9. Dr. Michael Koeberlein, Director, HBF, India
10. Shri. Siddharth Pathak, Policy Officer, Greenpeace India
11. Shri. Srinivas Krishnaswamy, CEO, Vasudha Foundation

In terms of preparations for the side event, as mentioned above, we came out with a detailed draft discussion paper on “Low Carbon Options Ensuring Energy Security for India” and we also ensured that we had a line up of participants who would bring out the broad perspectives from various stakeholder sectors such as Social (Gender, Health, sustainable development and environment), Industry and Economics (Industry perspective, banking and financial perspective), Civil Society Perspective amongst others.

We also undertook a detailed research on the various papers and the report of the many discussions that have and are taking place on “Low Carbon Options”, inclusive of some informal deliberations of the meetings which took place within the “Low Carbon Committee” formed by the Planning Commission of India recently.

#### IV. The Proceedings of the Workshop

The welcome speech was made by Dr. Michael Koeberlein, the head of HBF, India Programme. He in his address, stressed on the need to have more focused discussions and informed debates on “Low Carbon Options for India”. Given the current times when climate change is becoming a serious issue, countries world-wide, cannot ignore the compelling need to adopt a low carbon pathway.



However, he also felt that in order to be in a position to develop such a pathway, there needs to be a concerted effort from all stake-holders to have a informed debate and discussion and collectively arrive at what needs to be done to ensure that countries adopt a pathway which is not only in sustainable in nature, but also ensures energy security and overall growth and development, which is also low in its carbon emissions.

The meeting was then handed over to Mr. T L Sankar the moderator. Given that one of the key panelists, Mr. Steve Sawyer, the Secretary General of the Global Wind Energy Council had to leave for another meeting, the schedules was modified slightly and Steve Sawyer took the floor next.

The key points that Steve made in his brief intervention was:

- Steve Sawyer started off by highlighting the impacts of climate change and about the need to mitigate. In his words, “The science is clear: According to the IPCC, global emissions have to peak and start to decline before 2020 if we are to avoid the worst consequences of climate change.”
- In his view, Wind energy is the only power generation technology in the position to making a substantial difference in reducing CO2 emissions in this critical period. Already now, over 120 GW of installed wind power capacity in over 70 countries are saving the planet a sizeable amount of carbon emissions. He further added that the studies done by the Global Wind Energy Council shows that globally, wind power capacity could reach 2,300 GW by 2030, providing up to 22% of the world’s electricity needs. In his view, it was not only technically feasible, it also made economic sense. In contrast to other generation sources, Steve, said that the price for the fuel needed over a total lifetime of a wind turbine is zero, which takes away a substantial part of the investors risk. further adding, that wind power is already competitive with new-built conventional technologies and in some cases much cheaper
- However, he clarified that in addition to wind, other sources of renewable energy and energy efficiency measures have huge potentials world over.

- Large scale deployment of renewable energy and energy efficiency requires only a political will.
- He underlined the fact that Job creation and regional economic development are also key factors in economic considerations and specific to India, with over a 100,000 MW of Wind Energy potential and over 150,000 MW of Renewable Energy Potential without taking solar in consideration at a conservative estimate, India can march ahead and be leaders in Renewable Energy.
- Linking this to international climate negotiations, he said that developing countries have now a huge opportunity to present a case for low carbon pathways and pressurize industrial countries to pay for the incremental costs by creating a climate fund which is not only substantial but also new and additional to the Overseas Development Aid which comes to developing countries to meet their Millennium Development Goals.

The next presentation was then made by Siddharth on behalf of the organizer, with the intent of laying down some framework for discussion. Some of the key points from his presentations

- A slew of policies and plans which would enable the government to deliver development inputs which ensures decoupling of development with an increase in carbon emission.
- Yet there is no unanimously agreed definition of least carbon development
- Some of the key issues for least carbon pathways would be
  - Flexibility
  - Consideration of development imperatives of the country
  - Environmental imperatives
- In his view, some of the key development imperatives for India to factor in while coming up with a “Low Carbon Pathway would be amongst other:
  - Provision of Energy to the poor ( electricity for all by 2012) : Needs to go beyond light bulb
  - Expansion of the manufacturing economy in India
  - Management of Urban expansion
  - Grid Management
- Siddharth then went on to identify some areas where India has not really explored further to put its economy on a low carbon pathway. This accordingly to him included the
  - Wind Energy sector
  - Urban Management
  - More detailed transport planning – Rail Freight Corridors Vs. Road for instance
  - Smart Grids
  - Decentralized Renewable energy with an energy access perspective

He then went on to identify some of the key issues which needs to be raised in the course of the discussions:

- How feasible is a low carbon plan for poor/developing economies
- Risks and Opportunities for Low carbon economy: Industry perspectives too
- Linking low carbon energy with development and energy access to all

- Embedding RE policy and energy access for all in energy and infrastructure policy. Bottoms-up Planning Vs Top-Down Planning
- Driving investments towards a low carbon economy. What needs to be done?
- Best-practice policies existing today world over to promote RE

Shri T L Sankar

- In the current Indian economic scenario, India has to reconsider and redefine its role in the energy sector, particularly with regard to a continued dependence on fossil-fuel based projects.
- In the light of climate change, India as well as other developing countries, need to shift to environmentally sustainable energy development path by creating a policy framework which would ensure rapid deployment of renewable energy technologies and projects focusing on energy-efficiency and demand-based management. The key is to support the most appropriate and clean technology possible, feasible given the time frame and need.
- The availability of additional energy through the promotion of energy efficiency and demand side management is one of the most cost-effective options available and the Bank should promote these through support to various policies and measures involving Building Codes, Appliance Labelling Programmes, MEP Standards, Utility-driven DSM programmes, etc.
- India should also look at in particular, decentralized options and models, smart grids and hybrid options that can serve as demonstration projects to prove the viability of renewable energy systems, especially for the poor and the marginalized sections of the population. These options should also include appropriate and locally available sources of energy such as biogas, mini- and micro-hydel projects, etc

Shri V Subramaniam:

- In his view, low carbon energy pathway should go beyond talk shop and needs to bet down to the next level of assessment of what local carbon economy or pathway would mean for the country. In the first place, we need a comprehensive assessment of all renewable energy technologies and a realistic assessment of their potential and projects which are currently implemented. It should also assess the volume of funding and the policy framework which exists for the promotion of these technologies.
- In his view, there cannot be a uniform policy for low carbon pathways. For example what would work in Europe may not necessarily work in India. He therefore felt that the government should support, policies that is relevant for India.
- In the same light, he also felt that there should be a comprehensive resource mapping of renewable energy sources in every geographical areas/s. Some areas are endowed with rich flowing water resources where run of the water systems could perhaps work

best, while in some other areas, could have a high wind generation capacities, some other areas may have rich bio-mass potential and these needs to be tapped. The promotion of local, appropriate solutions and the involvement and capacity building of local population vis-à-vis these technologies is very important

- One major draw back for large scale deployment of renewable energy was with regard to “storage technologies” in order to ensure uninterrupted supply of energy from renewable energy sources. He felt that a low carbon development pathway should also earmark resources for research and development for “storage technologies”
- Another focus should be the capacity building of various stakeholders, especially the poor, with respect to the use and local adaptation of RE technologies.
- The availability of additional energy through the promotion of energy efficiency and demand side management is one of the most cost-effective options available and the government should promote these through investments and support of various policies and measures involving Building Codes, Appliance Labelling Programmes, Utility-driven Demand Side Management programmes, etc. His view was that the Bureau of Energy Efficiency India was
- In India, Transmission and Distribution losses are one of the key concerns in the electricity sector, and India’s energy sector can not undergo transformation unless this is addressed adequately by leveraging finance and next generation of technologies including smart grids.

Ms. Sunita Rangaswamy, Regional Advisor, OXFAM, GB

- A country like India, with nearly half of the population without access to electricity, requires a different prioritizing than the present. All new projects related to energy needs to primarily address the energy poverty of the poor, and not just assume that more power would mean power to the ‘power-less’.
- The current approach of “electricity focused” rather than “energy services focused”, results in very inadequate or complete lack of Energy access to the poor. Energy Access needs to go beyond electricity and goes well beyond the current definition used by the Indian government, which talks of **one kWh per household** per day. However, assuming that even this will be met at some point of time, the provision of lighting for a few hours a day should not be confused with electrification or meeting the energy needs.
- Energy needs should also address all energy for livelihoods and production. Energy access should cover all heating and lighting requirements of the poor as well as requirements relating to livelihoods, micro-enterprises and transport, especially low-carbon rural transport that can contribute to lowering poverty levels by giving jobs and

expanding market access. Heating requirements would go beyond just cooking but also look at allied agro-based cottage industry based activities amongst others.

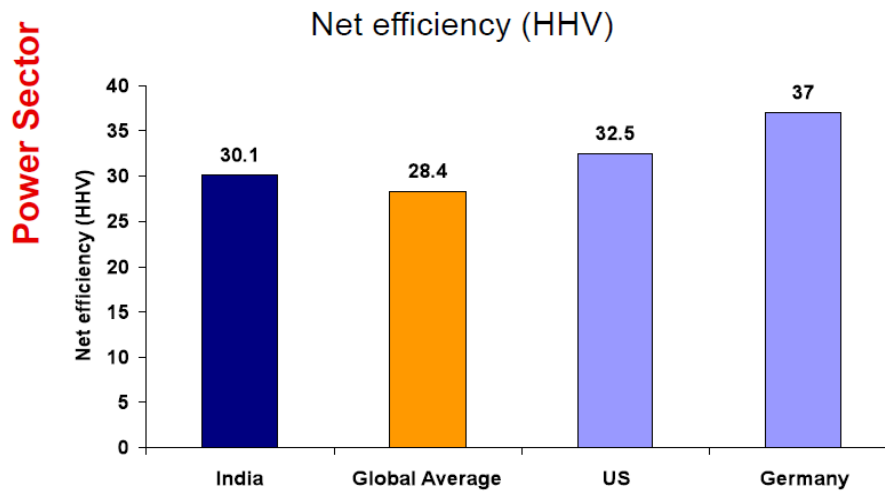
- Broadly, access to energy services should address the key issues of: (a) universal access; (b) equitable (in terms of bridging gap of urban and rural; availability of energy supply and access to services); (c) reliable; (d) affordable (pricing and subsidies); and (e) appropriate
- She also added the dimension of women's empowerment., Her point is that energy access would also ensure that the current high level of drudgery that the women-folk in rural and poor households face, in terms of trudging long distances for water for drinking and for firewood for cooking would be reduced, giving her more time to pursue livelihood options which will ensure economic independence.
- In her view, a low carbon pathway should adopt alternative energy models, such as decentralised renewable energy solutions or a basket of decentralised renewable energy solutions which will ensure energy access at afford cost. She felt that as a first step, India should support research and models to facilitate a level playing field in which the poor can have access to alternative sources of energy at cheaper costs. Hence the importance of financing decentralized, RE systems at concessional rates.
- She also added that while, we do recognise that job creation and millennium development goals cannot be achieved just by electricity and energy, it is and can be the key facilitator with other linkages such as access to markets and so on.

Shri. Amit Kumar, Northern Region Head of TATA BP Solar

- In his view, there has been a lot done by India in the past year to put it on a low carbon pathway.
- He cited excerpts from the solar mission and in his view, if India could achieve 20,000 MW of solar generating installed capacity by 2022, that in itself would be a great achievement considering that right now the installed capacity for solar generation is less than 50 MW all put together.
- He however felt that India had definitely huge potentials to do more and in his view the industry was totally geared up to meet with the challenge.
- In his view, renewable energy solutions can supplement coal in the short run and medium run, while in the long run, it could even start to complement and even replace coal

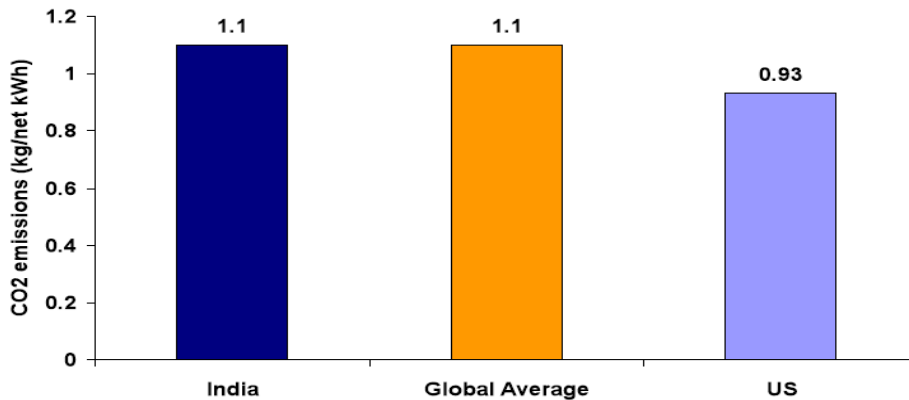
Shri. Chandra Bhushan, Associate Director, Centre for Science and Environment:

- Shri. Chandra Bhushan was very cautious in his approach and said that while “Low carbon pathway” seems to be the buzz word today, one has to weigh what is technically and economically feasible in today’s context and what needs to be done, if we had to really embark on a low carbon pathway.
- In his view, India had already achieved fairly high levels of efficiency in terms of some of the large industries and if they had to do more, the costs would be very high
- He also added that a low carbon pathway could mean a leap into a future which is unknown as the technology for embarking on such pathways is either very expensive as of now, or is still under development
- However, in the field of renewable energy, he felt that there was a lot of scope, but, he cautioned that people should keep in mind that they are very expensive
- Showing the graph below, he cited as to even in the power generation from coal fired power plants, where the perceived feeling is that India has a very low generation efficiency levels, it is in fact higher than even the global average – though admitting that there is some scope to improve it to raise to the best efficiency average, which currently exists in the German coal fired power plants.

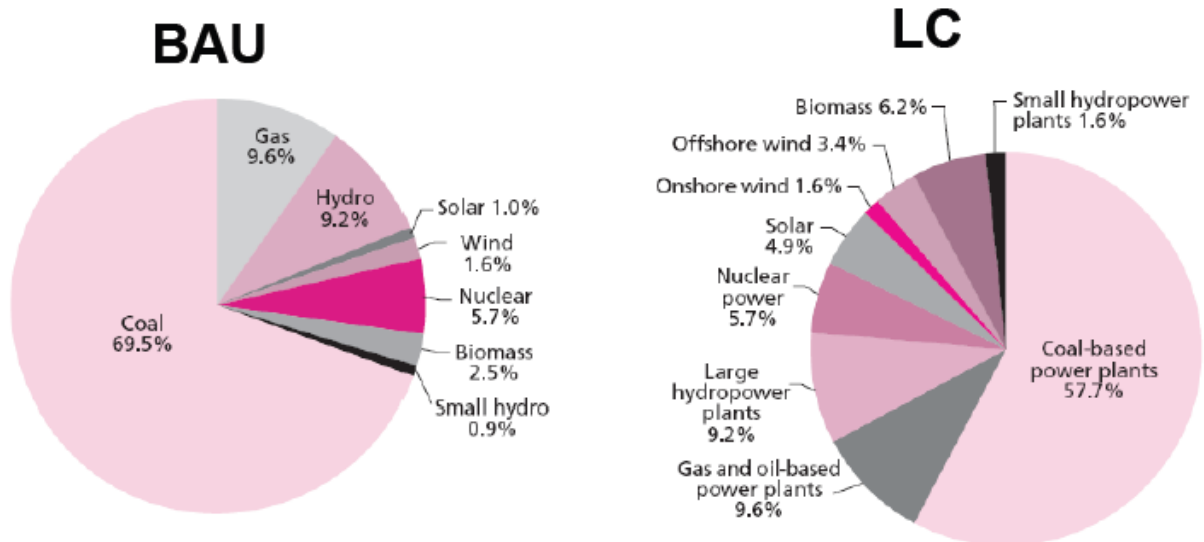


- According to him even in terms of Co2 emissions, Indian coal fired power plants was on par with the global average, as per the study conducted by the Centre of Science and Environment. See graph below.

## Specific CO<sub>2</sub> emissions



- In his view, in the best case scenario, India could perhaps reduce its dependence from coal for electricity generation from the current level of 67% to 56% by 2030-31, which is the best it can do in terms of low carbon



- Reducing emissions post-2020 will be a challenge
- By 2020, we will exhaust all 'low hanging' options as well as high-end commercialized technologies.
- In order to do more, in his view, there was a need for revolutionary technology development and deployment, which will in turn require drastic emission reduction targets in industrialised countries

- Need to ensure that equity, remains the basis of all climate change negotiations

Shri. Joe Athialy, South Asia Coordinator, Bank Information Centre

- Joe primarily spoke from the perspective of being a Anti-Dam and a Anti-Coal activists.
- His main contention was that India was going on adding coal fired power plants and dam without any concerns to the ill effect they have on the society at large
- He questioned the current development paradigm and in his view it was completed unsustainable

Shri. Praful Bidwai, Author and freelance journalist on Environment, Energy and Climate Change

- He too questioned the current development paradigm followed by India and called for a complete policy shift
- He questioned as to why India wanted to set up so much of electricity generation capacities, while none of it was actually reaching the rural poor.
- He felt that low carbon pathway must be defined as a pathway which ensures inclusive development while at the same time be sustainable.

The floor was then opened for discussions and a number of different points of view were raised and addressed by the panelists.

A detailed list of participants is enclosed in the annex of this report.

At the end of the session, Michael thanked all the participants and the meeting was adjourned to the dining room for lunch.

## Annex 1

### List of Participants at the Side Event



#### Official Side Event

**Title:** Low carbon options ensuring energy security for India

29-10-2010 (12.30-15.30)

#### Final Attendance List

S. No.	Name	Organization	Contact
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## Annex 2

### List of Invites

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	Sarvesh Kumar, Dy Managing Director		
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19	Ms. Anita George, Director-Infrastructure, International Finance Corporation		
20	Mr. Sanjaya Sood, Vice President, Schlumberger Geothermal Services		
21	Mr. Tom Werner, Chief Executive Officer, Sunpower Corporation		
22	Dr. Ravi Khanna, Director, Scatec Solar		
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## Annex 3

### Copy of Presentation

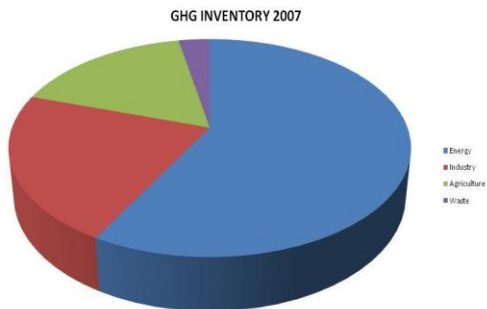
# Least Carbon Economy Pathway for India

Srinivas Krishnaswamy & Siddharth  
Pathak

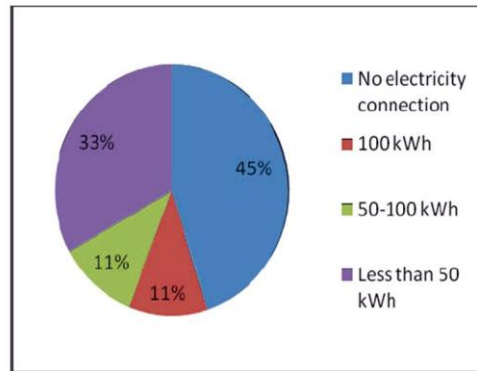
## What do we mean by 'least' carbon development pathway

- A slew of policies and plans which would enable the government to deliver development inputs which ensures decoupling of development with an increase in carbon emission.
- Yet there is no unanimously agreed definition of least carbon development

## India's emission profile

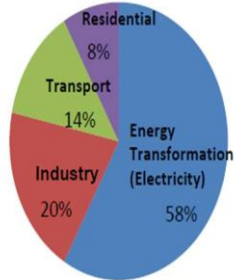


## Snap Shot of Electricity Consumption pattern in India



## Things to remember for 'least carbon pathways'

Energy-Related CO2 Emissions (2005)



Total: 1.2 billion tons

1. Flexibility
2. Consideration of development imperatives of the country
3. Environmental imperatives

### Some Development Imperatives for India

- Provision of Energy to the poor ( electricity for all by 2012) : Needs to go beyond light bulb
- Expansion of the manufacturing economy in India
- Management of Urban expansion
- Grid Management

### Some suggested areas where the Government of India has missed out

- Wind Energy
- Urban Management
- More detailed transport planning – Rail Freight Corridors Vs. Road for instance
- Smart Grids
- Decentralized Renewable energy with an energy access perspective

### Some Questions to deliberate

- How feasible is a low carbon plan for poor/developing economies
- Risks and Opportunities for Low carbon economy: Industry perspectives too
- Linking low carbon energy with development and energy access to all
- Embedding RE policy and energy access for all in energy and infrastructure policy. Bottoms-up Planning Vs Top-Down Planning
- Driving investments towards a low carbon economy. What needs to be done?
- Best-practice policies existing today world over to promote RE

Thank You

## Annex 4

First page of the background note circulated to all participants



*This discussion paper has been put together by referring to a number of research papers, articles and report done by various agencies by Siddharth Pathak and Srinivas Krishnaswamy. This is not a position paper, but a discussion paper which is work in progress. A final version of this paper as a position paper for the Climate Action Network, South Asia (CANSAs), HBF and Vasudha is expected to emerge in due course after a series of consultation. The side event at the Delhi International Renewable Energy Conference on Low Carbon Options and Energy Security for India is the first of the series of consultations in framing the position of the above mentioned organizations.*

*Siddharth Pathak works for Greenpeace as the Climate Policy Officer and is associated with CANSAs.*

### A Discussion Paper

#### Least carbon development pathway for India

##### **I. Background:**

The Wikipedia defines A **Low-Carbon Economy** or **Low-Fossil-Fuel Economy** (LFFE) as one which has a minimal output of greenhouse gas emissions, while specifically referring to greenhouse gas carbon dioxide. A low carbon, green growth refers to sustainable growth, which helps reduce greenhouse gas emission and environmental pollution.

'Least' carbon development pathway is a slew of policies and plans which would enable a government to deliver development inputs like energy in a manner which decouples development with an increase in carbon emissions. Least carbon development pathways would include a large range of national or sectoral policies with a direct impact on GHG emissions such as increasing renewable energy uptake, improving energy efficiency etc. It would also encompass policies and measures with a more indirect climate benefit, such as modifying urban planning procedures to reduce the negative impact of urban developments on local conditions and GHG emissions.

Least carbon pathways have one primary purpose of developing and implementing policies that reduce emissions of greenhouse gases while contributing to other national development objectives. Least carbon pathways should domestically driven, cannot be one size fits all and so need to be flexible in order to adapt themselves according to circumstances prevailing within countries and should have a focus on development through sustainable means.

Annex 5

The Three Musketeers working behind the scene

