

## CONNECTING DOTS

Addressing global challenges through an integrated approach

YEAR IN REVIEW 2011 - 2012





*“Here is one India-based but globally engaged organisation, which analyses and advises on critical questions surrounding energy, environment and water, not as disparate issues but as interconnected concerns that, though essentially local, have serious global ramifications.”*

- SURESH P. PRABHU, CHAIRPERSON, CEEW, & FORMER UNION CABINET MINISTER

**ABOUT CEEW**

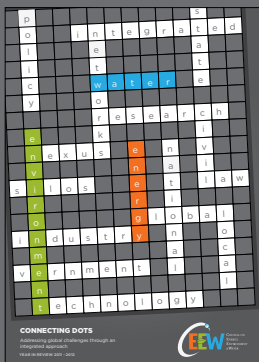
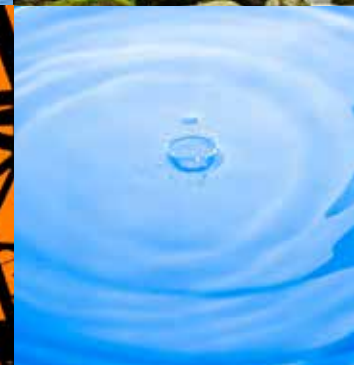
Why CEEW? .....01  
 Message from the CEO .....02  
 Year’s Highlights .....03  
 Our Vision, Mission, and Approach.....04

**OUR WORK**

Energy .....06  
 Water.....08  
 Integrated Plans ..... 12  
 Environment..... 18  
 Publications ..... 21

**OUR NETWORKS**

Events.....22  
 People.....24



The crossword grid is used as a metaphor to represent the interconnectedness of issues. At the global, regional, national or local levels, environmental concerns are intricately linked with energy and water management and, in turn, shaped by economic, political and social imperatives. The crisis of governance in any one domain cannot be solved without attention to others. In fact, solutions in one sub-system may even offer clues for resolving other tensions. CEEW’s efforts are geared to identifying the connections and searching for solutions across domains and levels of governance.



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# Why CEEW? Our Chairperson and Co-Chairperson speak

A conversation with Suresh P. Prabhu and Jamshyd N. Godrej

## What will be the greatest challenge for sustainable growth and development?

**SPP:** How do you combat the incessantly growing pressure due to limited resources and man's unlimited desires? A growing population demands more resources. The problem is aggravated by changing lifestyles and unchanging behaviours towards the sustainable management of resources.



Suresh P. Prabhu, Chairperson

## Why should energy, environment and water issues concern industry and the wider society?

**JNG:** Energy access, availability and affordability are crucial for the industry. Lack of steady access to power incrementally increases unforeseen costs for any industry and other sources of economic growth. As for environment and water, they determine the quality of life and the well-being of the wider society. The well-being of society, in turn, plays a determining role for the success of industry.

## How could policymakers and political leaders adopt a long-term strategic approach to sustainable development?

**SPP:** Policy is a very important – perhaps the most important – tool for bringing about change for sustainable development. However, policy is understood to be merely a political intervention by the State, to bring about change by way of law. Instead, governments around the world need to partner with non-state actors, including religious groups that have moral authority, and the media, which greatly influence young minds, to bring about real change in lifestyles, mindsets and attitudes. All these elements are needed for sustainable development. Industry will have to be made a natural ally for bringing about any change that policymakers anticipate. The idea is not only to make industry more accountable for its actions, but to make it a partner of the government in deciding how processes can be designed to reach the goal of sustainable development.

## What is needed to reorient our economic and social structures towards sustainability?

**JNG:** Thoughtful and strategic policymaking, which is based on long-term vision for a country, and which carefully analyses all pros and cons for industry and society, can motivate industries to cooperate in reorienting economic structures such that they contribute to sustainability. On the contrary, if policies do not prove to be beneficial for industry and the economy, industry is likely to go their own way and adopt measures that could



Jamshyd N. Godrej, Co-Chairperson

be detrimental to sustainability. In fact, policies should be made to pass a sustainability screen test before being implemented on the ground. Policies that do not promise to promote sustainability in the long-term should not be implemented.

## As a policy research institution, what role do you see CEEW playing in promoting sustainable development?

**SPP:** CEEW serves as a platform to facilitate the intercourse of ideas, much like the Greek *agora*. Its role is to derive solutions based on its interaction with different stakeholders. The uniqueness of the solutions that CEEW provides should be that, unlike most development solutions today, these solutions should not give rise to problems in related areas. Instead, they will be crafted keeping a holistic view of interconnections in mind so that they can help achieve multiple co-benefits across sectors like energy, environment and water. CEEW will be like a general physician who, given the symptoms, can diagnose problems in any part of the body, rather than a cardiovascular specialist, who is specialised in just the heart. CEEW should actively keep expanding the areas of its expertise so that it can address inter-linkages between issues, rather than focus on just some key issues.

## As a globally engaged institution, what issues should CEEW focus on?

**JNG:** CEEW should help policymakers deepen their understanding of developing policies on issues that the latter might not completely be aware of. It should conduct research to see the real-life viability of solutions that are being suggested by policymakers and industry alike.

## What are the things that will define CEEW's success in its mission?

**SPP:** India does not lack good policies, it lacks the ability to implement good policies on the ground. A vaccine once created, undergoes a clinical test. Similarly, CEEW should not only confine itself to being a laboratory where ideas are created, but it should also do a clinical test of its own ideas by implementing them on the ground, in a limited way, to analyse the potency for positive change these policy ideas have.

**JNG:** CEEW's success in providing a correct and cohesive framework for policies is going to determine its success moving ahead. For this, CEEW will not only have to conduct research, but will also have to actively engage with governments and networks to test the impact of policies, either under planning or those already being implemented, in India and across the world.



# Message from the Chief Executive Officer

*“Sustainability is not a choice.”*

Dear friends,

You hold in your hands the first year-in-review report of the Council on Energy, Environment and Water. This is a special moment for us, having completed the first full financial year and having been in operation for just over 20 months. We are deeply grateful to our founders, our core supporters and our project funders. CEEW is growing up and we wanted to share our experiences, achievements, and vision with you.

When we began operations in August 2010, the founding board wanted to create an independent research institution that would integrate energy, environment and water in all its work, whether through research outputs or policy inputs, whether promoting sustainability in industry, or engagement with wider society. Our founders had another vision: to build a globally engaged institution, which, although based in India, would neither bind itself to India-specific negotiating positions nor hold back from critically analysing energy, environment and water policies and practices in the rest of the world. In other words, we had our task cut out: to address global challenges through an integrated approach. This is why we have titled this report, *Connecting Dots*.

Thus, CEEW's work profile covers all levels of governance. At the **global/regional level**, we focus on “over-the-horizon” issues, or themes that might not always be on the policy or negotiating agenda, but which we believe require in depth analysis to have answers ready in anticipation of rapidly evolving global governance structures and processes. We conducted extensive research on climate and sustainability finance, and briefed negotiators from Abu Dhabi to Brussels to Shanghai. We examined how linkages between rules and regimes governing energy, international trade and climate change interlink and conflict, thus offering designs for alternative governance arrangements. We collaborated with UK's Royal Society, among others, on the governance of geoengineering research and technologies, thereby informing policymakers from Beijing to Singapore and from Ottawa to Lima. We also made efforts to promote bilateral cooperation between India and other major countries: facilitating the \$100 million India-U.S. Joint Clean Energy R&D Center, or creating the Maharashtra-Guangdong partnership on sustainability.

At the **national level**, CEEW works on policy frameworks that cover energy and resource efficiency and security, water resources management, renewable energy policies,



India and global governance, and innovation strategies. We published the 584-page National Water Resources Framework Study for India's 12th Five Year Plan. We convened the Working Group on India and Global Governance and wrote India's first report on global governance, covering finance, trade, energy, climate, non-proliferation, oceans, outer space, cyber space, and peace and security. We partnered with the Natural Resources Defense Council to assess progress under India's 22 gigawatt solar mission. And we developed a framework for an innovation ecosystem for India.

But the proof of concept ultimately lies at the **state/local level**. CEEW hopes to develop integrated energy, environment and water plans, identifying critical tradeoffs within and between the domains, but then finding opportunities for positive linkages and co-benefits. Elsewhere, we conducted water dialogues across the country, advised state governments on water-climate adaptation frameworks, and responded to queries on improving water and energy efficiency in agriculture. We are also working to develop pathways for incentivising industries to reduce their carbon emissions or increase R&D investments in clean technologies.

Sustainability is not a choice. It must inform every product we innovate, every policy we design, every institution we reform, and every negotiation we attend. This is why we work with partners across government, industry, academia, and civil society. We do not have all the answers, so I invite you to be a part of our journey towards a sustainable future.

Arunabha Ghosh

The 584-page Study was discussed at a workshop held to draft the approach paper for the 12th Five Year Plan. Subsequently, CEEW was tasked with preparing roadmaps for reforms for the 12th, 13th and 14th Five Year Plans. CEEW received a letter of appreciation from the Deputy Chairman of the Planning Commission referring to the opening chapter as “an excellent tabulation of accumulated wisdom”.

Soon after it was submitted to India’s National Security Adviser, the report was appreciated by the Vice-President of India, India’s Ambassadors to China and Sweden, the Commonwealth Secretary-General, and was circulated extensively in foreign policy circles in India and elsewhere. It was made essential reading at Singapore’s Civil Service College. The report attracted the attention of experts from Brookings Institution, New York University and Stanford, who conducted a joint seminar with CEEW on the “Geopolitics of Resource Scarcity” to discuss this report.

A report was submitted to the Ministry of New and Renewable Energy to strengthen the multi-phased Solar Mission ahead of its next phase of project allocations. The report had a lot of traction with developers, manufacturers, financiers, and media alike during its release in Washington DC and New Delhi.

**National Water Resources Framework Study for the Planning Commission of India**

**Report by the Working Group on India and Global Governance**

**Assessment of India’s National Solar Mission**

## YEAR’S HIGHLIGHTS

**India-U.S. Joint Clean Energy R&D Center**

**Research on sustainability finance**

**Maharashtra-Guangdong Sustainability Partnership**

CEEW and its project partners successfully convened hundreds of Indian and U.S. institutions to help them bid for grants under this initiative jointly announced by Prime Minister Singh and President Obama. Three consortia were awarded grants totalling US\$50 million in funding for clean energy research and development projects on efficient buildings, solar energy, and second generation biofuels, with the expectation of matching funding from the consortia.

CEEW is developing one of the most comprehensive portfolios of research on sustainability finance in the country. In its research, it has covered the governance of all channels of international climate funding, and developed a framework to improve the bankability of solar projects. It is now evaluating opportunities for results-based financing, financing options for India’s low carbon growth strategy, and new instruments for climate finance.

CEEW created this partnership to enhance cooperation on sustainability issues between Maharashtra and Guangdong, two of the richest provinces in India and China, respectively. A Memorandum of Understanding was signed by the Governors of the two provinces and CEEW has hosted high-level Chinese delegations to New Delhi and Mumbai.

# Addressing global challenges through an integrated approach



Solar



Facilitating R&D



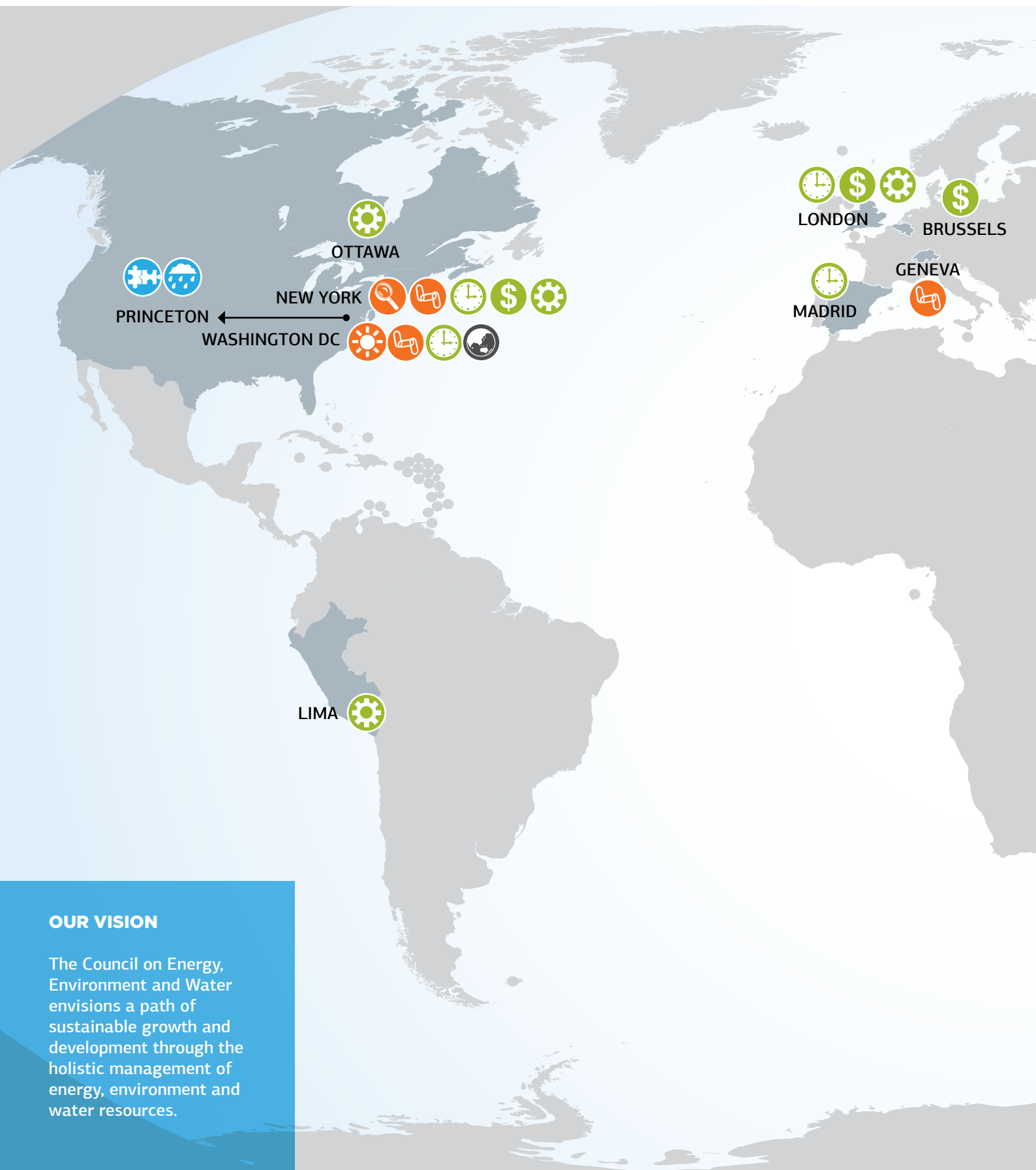
Energy-Trade-Climate linkages



Integrated Energy, Environment & Water plans



Water



## OUR VISION

The Council on Energy, Environment and Water envisions a path of sustainable growth and development through the holistic management of energy, environment and water resources.



Resource Efficiency  
& Security



Sustainability  
Finance



Geoengineering  
Governance



International  
Cooperation



## OUR APPROACH

CEEW is an independent, not-for-profit, policy research institution, which engages with stakeholders in academia, civil society, government, and industry to pursue four main objectives:

- To conduct high-quality, interdisciplinary and cross-issue **research** on energy, environment and water
- To engage with **industry** (in the private and public sectors) to understand and influence factors affecting investments in sustainable technologies and infrastructure
- To partner with **governments** - at the international, national, state and local levels - to assist in developing integrated approaches for energy, environment and water management
- To build **networks** of scholars, policymakers, political leaders, and civil society representatives – within and outside India – for regular dialogue and exchange of ideas

## OUR MISSION

CEEW's mission is to promote dialogue and common understanding on energy, environment and water issues in India, its region and the wider world, through high quality research, partnerships with public and private institutions, and engagement with and outreach to the wider public.





*“India’s future will depend on choosing smart policies to manage energy; water and the environment. CEEW is at the forefront to determine these policies.”*

JAMSHYD N. GODREJ, CO-CHAIRPERSON, CEEW; CHAIRMAN, GODREJ & BOYCE MANUFACTURING CO. LTD.

As natural resources start showing signs of stress worldwide, the case for transition towards alternative sources of energy becomes indisputable. In developing their ideal energy mix, nations also have to be sensitive to how their economies may develop with low greenhouse gas emissions, are environmentally sustainable, and are socially just by increasing energy access, yet are economically attractive. Devising such a scenario is a tough task for any country. It is especially difficult for India where half the population has no access to modern sources of energy and when India needs to maintain high rates of economic growth to gainfully employ the largest number of young individuals on the planet.

international rules governing the three areas contradict or constrain policy options at the national level. CEEW’s paper titled “Seeking Coherence in Complexity?: The Governance of Energy by Trade and Investment Institutions” was published in *Global Policy* journal. It has also conducted research on factors that can drive or inhibit the transition towards a low carbon economy. Its upcoming research on governing clean energy subsidies examines policies in Brazil, China, Germany, India, Spain, and the United States with the aim to understand rationales that motivate financing for renewables.

CEEW assessed the opportunities and hurdles facing the Indian National Solar Mission in its first phase.

In its research, CEEW has explored the factors that determine the rules for global energy governance.

In its research at the GLOBAL level, CEEW has explored the factors that determine the rules for global energy governance. It is one of the few institutions in India that actively researches links between energy, climate change and international trade, to explain how

Considering the NATIONAL scenario, India will have to be extremely prudent while making energy choices for a low carbon pathway because it is going to be highly contingent on the availability of long-term and innovative financing. With the aim to inform and advise the Ministry of New and Renewable Energy, CEEW in collaboration with the Natural Resources Defense Council (NRDC) produced a report assessing progress under Phase 1 of the multi-phased Jawaharlal Nehru National Solar Mission, one of the most ambitious solar programmes in the world. CEEW has also provided support to the India-U.S. Joint Clean Energy Research and Development Center.

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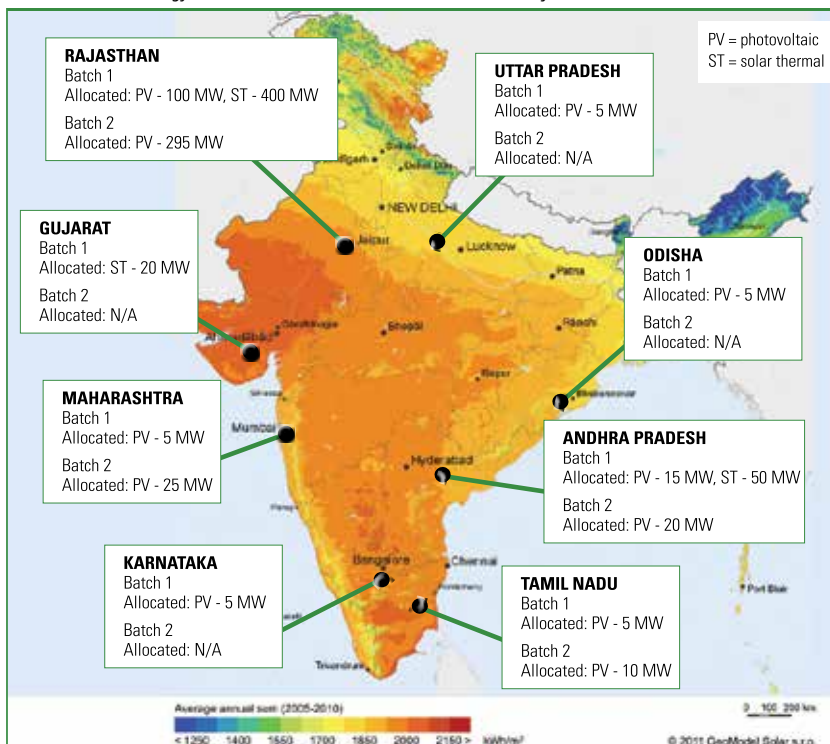


Photo: Aspen India



## Creating an enabling environment for scientific collaboration

# India-U.S. Joint Clean Energy R&D Center (JCERDC)

Convinced that scientific collaboration between India and the United States could help ignite breakthrough research and development in clean energy, Prime Minister Singh and President Obama launched the India-U.S. Joint Clean Energy Research and Development Center (JCERDC) in November 2010. Established with funding totalling US\$50 million from both countries, with the expectation of another US\$50 million from R&D consortia, the Center's goal is to spur game-changing research and development in three priority areas for clean energy: Energy Efficient Buildings, Solar Energy, and Second-Generation Biofuels.

With the objective of making this funding opportunity a success, CEEW partnered with the Natural

Resources Defense Council (NRDC) and the Administrative Staff College of India (ASCI), to help ensure that the highest calibre of talent in both countries would be drawn into this grant opportunity. The three project partners successfully conducted workshops and other outreach activities in New Delhi, Hyderabad and New York, which attracted some of the most prominent research bodies and companies in both countries.

CEEW's and its partners' efforts facilitated the formation of several R&D consortia with 19 applications eventually being submitted. Grants worth US\$50 million were awarded by each government to three consortia, which have in turn pledged more than \$75 million in matching funds. Besides, subsequent interactions also laid the foundation for potential collaboration amongst a number of other institutions. CEEW hopes that the research will foster transformational technologies that could help both countries transition to a low carbon pathway.



Photo: Fotofare

Interested in knowing more about our work on the Joint Clean Energy R&D Center? Visit CEEW's dedicated resource page on JCERDC: [ceew.in/JCERDC](http://ceew.in/JCERDC)



*“The world needs integrated solutions. We must see the connections amongst the most basic needs and design solutions that may be focusing on energy, but that offer breakthrough in the provision of water. CEEW promotes a multidisciplinary approach, much needed today.”* - GUNTER PAULI, FOUNDER, ZERO EMISSIONS RESEARCH AND INITIATIVES

CEEW's research identifies the areas in which the world will face the greatest challenges in the coming decades. It recognises that lack of access to safe and affordable water could pose a huge threat to human security and sustainability alike. The importance of addressing water issues in India is heightened by food security concerns, declining aquifer levels, and increasing competition for water across different sectors. Water, therefore, constituted a major part of CEEW's work in the past year.

CEEW studied the full range of India's water problems and proposed roadmaps for reforms to the Planning Commission of India.

“Demand-led” is the word that best characterises CEEW's research on water in 2011-2012. In a country where water measurement and monitoring systems are still premature, and the water system as a whole poorly managed, most of CEEW's research on water at the national and sub-national level was driven by

the need to fill knowledge gaps and offer the evidence basis for key questions: withdrawal, access, consumption, and management of water resources in the country.

CEEW is researching how institutional reforms can be brought about to improve service delivery at the state-level.

In order to inform policymakers and help them make strategic decisions related to water governance ahead of the 12th Five Year Plan, CEEW prepared the National Water Resources Framework Study, a holistic and detailed diagnosis of water problems in India covering the full range of water issues. In its in-depth cross-issue analysis, which was presented to the Planning Commission of India, CEEW's international research team quantified the enormous energy demands and expenditure in the irrigation sector, thereby developing a strong case for a transition to improvements in irrigation efficiency and participatory water management. CEEW's research was, subsequently, drawn upon by state governments, and we continue to work on finding appropriate, context-specific solutions to water resources management.

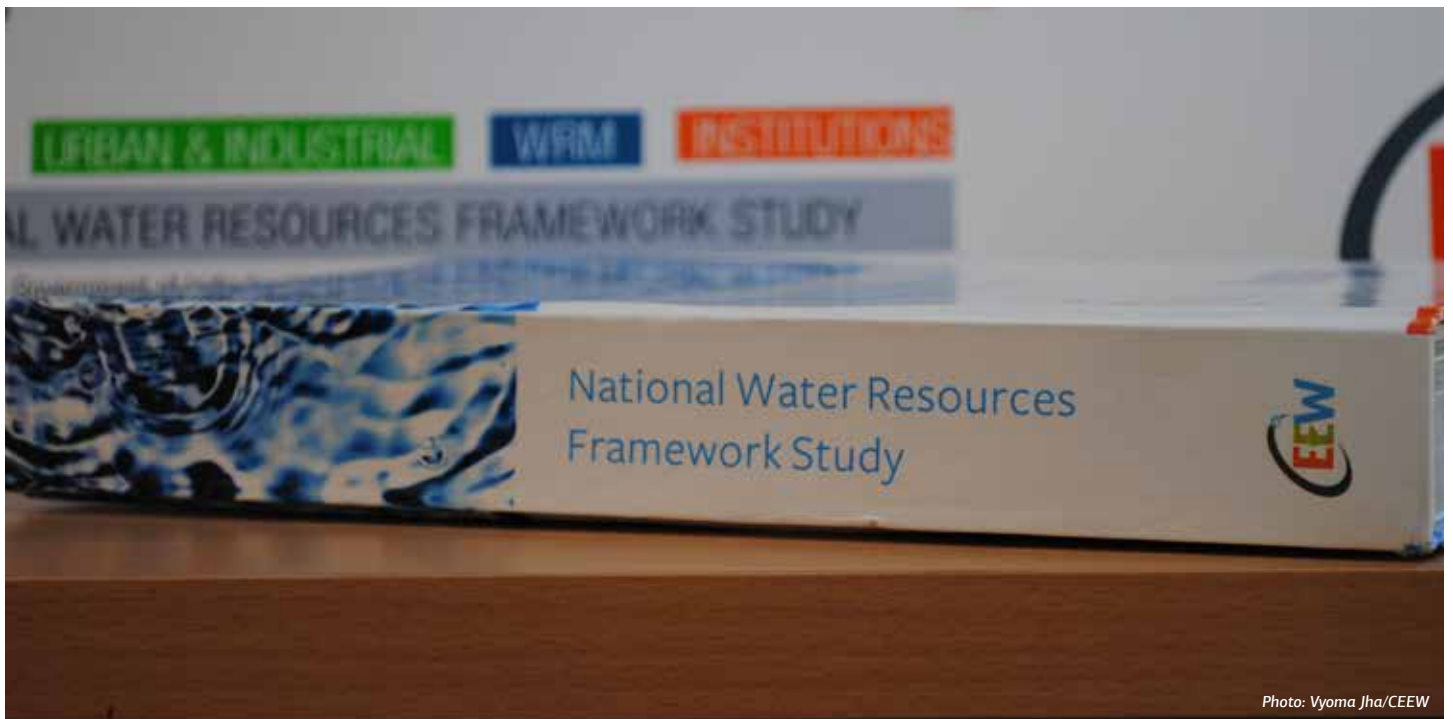
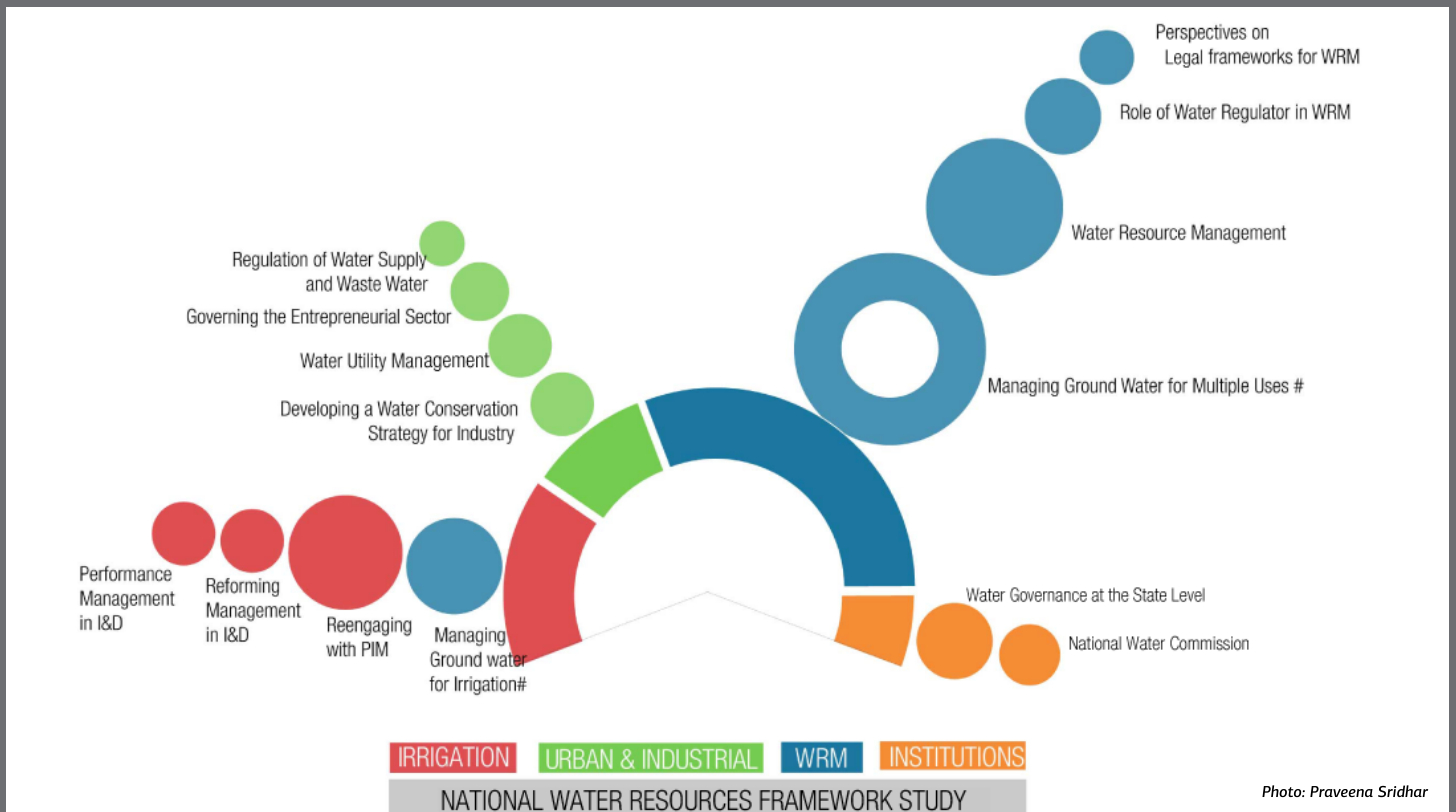


Photo: Vyoma Jha/CEEW

# Demonstrating ground-level execution of holistic water management solutions

## Multi-level approach to water resources management



Owing to rapidly changing trends in urbanisation and industrialisation, pressure on the sectoral allocation of water is deemed to increase in the years to come. As agriculture is still the lifeblood for a large percentage of India's population, institutional reforms for water use efficiency in agriculture are crucial.

*A holistic approach to water management: A graphic from CEEW's research on water*

In addition to setting a framework for the holistic management of India's water resources, CEEW is continuously addressing the need for improvements in service delivery and institutional reforms in water use efficiency at the national, state, district, and village levels.

Moreover, acknowledging that the lack, and in many cases absence, of data is a big hurdle in setting the long-term agenda for water governance, CEEW is actively looking at ways to strengthen data measurement and monitoring in the country.

In an effort to deepen its understanding of the causes that influence the grim situation facing water resources management, CEEW has worked on the ground, primarily to:

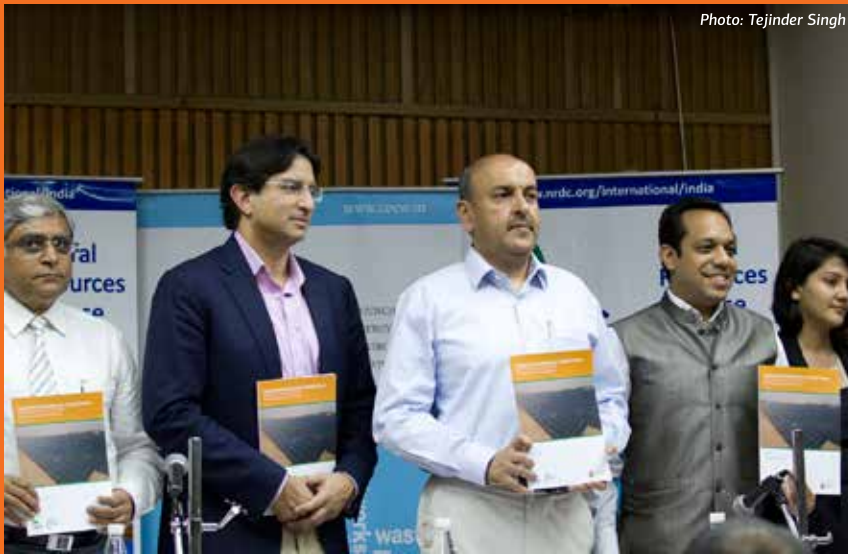
- collect data
- engage with local stakeholders to get a first-hand view of the situation
- test which policy recommendations would be viable under different local circumstances
- determine implementation pathways for the multi-level governance of water

Interested in knowing more about our work on action plans at the state level? Visit CEEW's dedicated resource page on Integrated Energy, Environment and Water plans: [ceew.in/ewplans](http://ceew.in/ewplans)



# CEEW and India's National Solar Mission

## Helping India achieve its solar targets

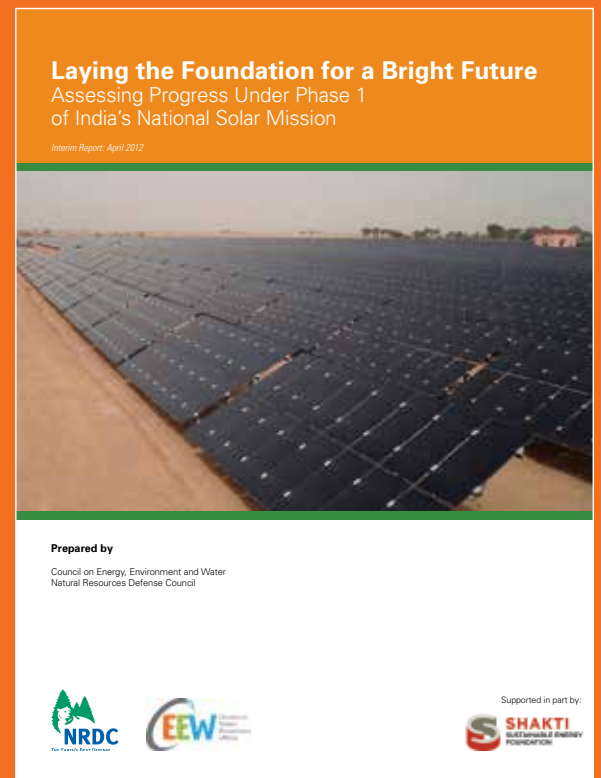


The Jawaharlal Nehru National Solar Mission aims to establish India as a global leader in solar power. It aims to install 22,000 megawatts of solar capacity by 2022. CEEW partnered with the Natural Resources Defense Council (NRDC) to evaluate the implementation, efficacy and performance of the Mission to date, identify successes and shortcomings in the Mission's approach, and make recommendations to the Government of India to help strengthen the Mission in its second phase.

CEEW and NRDC prepared a report, "*Laying the Foundation for a Bright Future*", the first independent assessment of the Mission. It adopted a whole-of-system approach by looking at all elements responsible for shaping the Mission, namely project selection, deployment, financing, manufacturing, and ease of business. Recommendations from the report were submitted to the Ministry of New and Renewable Energy (MNRE), and the report was formally launched by Mr Tarun Kapoor, Joint Secretary, in New Delhi. Thereafter, CEEW has been engaging regulatory agencies and government leaders to ensure that the report's recommendations are considered for the next phase. In the process, it has demonstrated how a broad-based consultative approach, resulting in engagements with more than eighty stakeholders from within and outside India, aptly reflects multiple perspectives and is crucial for the Mission's success.

What began for us as an ambitious research project in October 2011 had turned into an engaging endeavour to make the Mission a success. Even after the report's submission, CEEW continues to generate new knowledge and is actively working towards developing a financial ecosystem to promote the solar industry in India.

CEEW wants to help India achieve its phase-wise targets for solar power capacity to help the nation move away from a reliance on traditional fossil fuels and to increase its energy security. The excellent reception of its report by stakeholders and the government, during its release in Washington DC and New Delhi, is an indicator that CEEW will play a significant role in shaping the way the National Solar Mission progresses in subsequent phases.



Interested in knowing more about our work on solar? Visit CEEW's dedicated resource page on solar: [ceew.in/solar](http://ceew.in/solar)

# Our journey so far...

## 2010

- AUG ○ CEEW starts operations
- SEP ○ Participates in the India-U.S. Track II Dialogue on Climate Change and Energy
- OCT ○ Our new report on governing international climate finance published
- OCT ○ Hosts Michael Levi, Council on Foreign Relations, for first Roundtable on Sustainability Finance and Technology
- OCT ○ CEEW briefs European climate negotiators in Brussels on climate finance
- OCT ○ Maharashtra-Guangdong Partnership on Sustainability signed by state Governors
- NOV ○ Organises the third India Water Dialogue in Bangalore, after dialogues in Delhi and Mumbai
- DEC ○ Convenes Working Group on India and Global Governance
- DEC ○ Suresh Prabhu serves as Chairman of the Asia Energy Forum, Guangzhou, China

## 2011

- JAN ○ Registration as a Trust approved
- MAY ○ Briefs negotiators at the European Centre for Research on Asia, Africa and Latin America, Brussels
- JUN ○ Keynote lecture delivered to the IPCC Experts Meeting on Geoengineering in Lima, Peru
- JUL ○ Organises workshop to promote India-U.S Joint Clean Energy R&D Center
- JUL ○ CEEW's water report discussed by the Planning Commission of India
- AUG ○ CEEW celebrates its first anniversary!
- SEP ○ CEEW publishes National Water Resources Framework Study
- SEP ○ CEEW organises first workshop in India on geoengineering governance
- SEP ○ Lectures across China on international governance of solar geoengineering
- SEP ○ Paper on energy-trade-climate linkages published
- OCT ○ CEEW publishes follow up to water study: Roadmaps for Reforms
- OCT ○ Chinese delegation for Maharashtra - Guangdong Partnership hosted in Delhi for meetings with Mayor & other policymakers
- NOV ○ CEEW's team continues to expand
- NOV ○ Policy brief on clean energy subsidies published by International Centre for Trade & Sustainable Development, Geneva
- NOV ○ Energy security lecture at Aspen-ESADE Madrid hosted by Javier Solana
- NOV ○ CEEW invited to Bihar to advise on water-climate linkages for state low carbon plan
- NOV ○ CEEW's CEO selected Asia 21 Young Leader by Asia Society
- DEC ○ Lecture at Oxford's Blavatnik School of Government's inaugural conference on innovation in government
- DEC ○ Consultations with Indian solar industry stakeholders
- DEC ○ CEEW hosts roundtable on Sustainable Energy Futures
- DEC ○ CEEW hosts seminar on nuclear safety with Director of The Energy Institute, City University of New York
- DEC ○ First ever report on India and Global Governance submitted to the National Security Adviser at the PM's Office

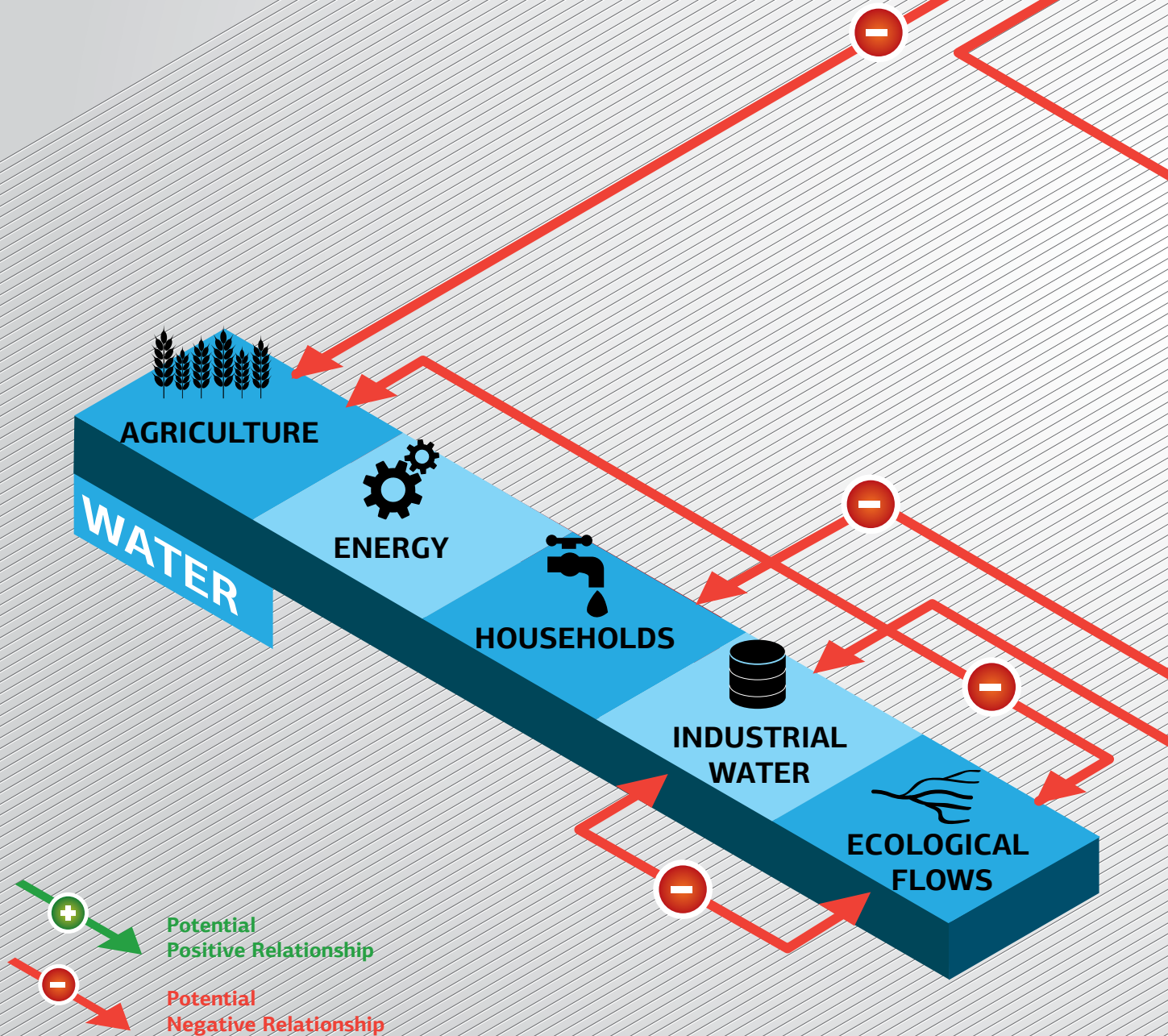
## 2012

- JAN ○ CEEW serves as partner for geoengineering conference in Ottawa with Centre for International Governance Innovation
- JAN ○ Lecture on energy-trade-climate linkages at Delhi Sustainable Development Summit
- FEB ○ India-U.S. Track II Dialogue on Climate Change and Energy in Washington DC
- FEB ○ Center for Strategic and International Studies, Washington DC hosts seminar on CEEW report on global governance
- FEB ○ CEEW, Brookings Institution, Stanford and NYU seminar on the Geopolitics of Resource Scarcity
- MAR ○ Interim report on National Solar Mission submitted to Ministry of New and Renewable Energy, India
- MAR ○ Lecture on integrated plans at CII Rajasthan State Annual Session 2011-12
- MAR ○ Research on international investment disputes published by International Institute for Sustainable Development, Geneva
- MAR ○ Lecture at Princeton on Hydrological Cycle and Governing under Uncertainty

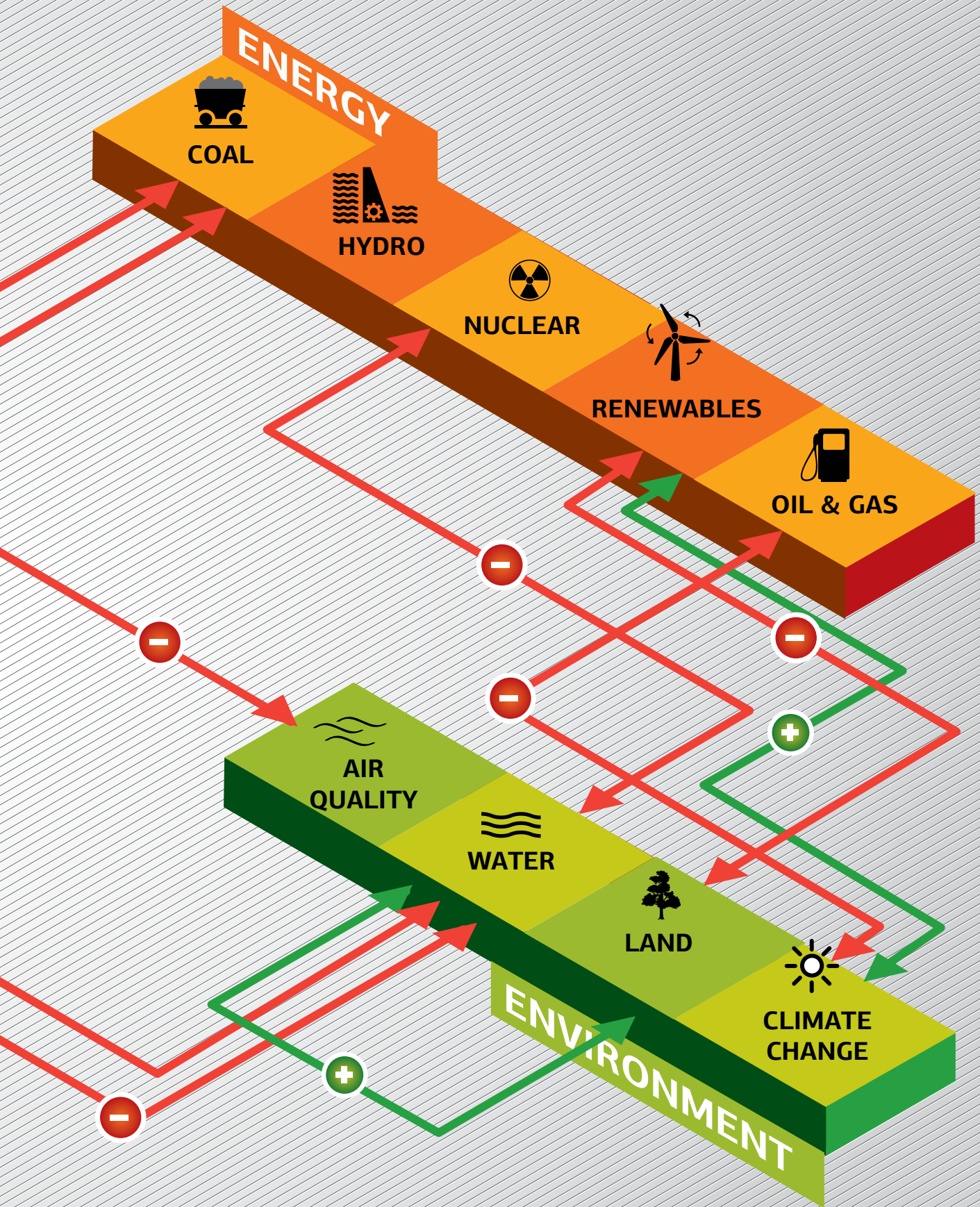


# Integrating issues can reveal many tradeoffs

CEEW envisions the holistic management of energy, environment and water. At each level of governance there are tradeoffs and opportunities. For instance, the energy mix might comprise coal, oil & gas, nuclear, hydro, and renewable energy. Water is needed for households, agriculture, industry, power generation, and ecological flows. Environmental concerns could include climate change, air quality, water levels and quality, and land use. The red lines show that there are tradeoffs within and across domains. Water use in industry or power plants competes with agriculture; urban water supply and industrial water are affecting groundwater tables and water quality; coal plants affect air quality; coal, oil and gas have impacts on the climate; and renewable energy has a larger land footprint than fossil fuel-based plants in many cases.





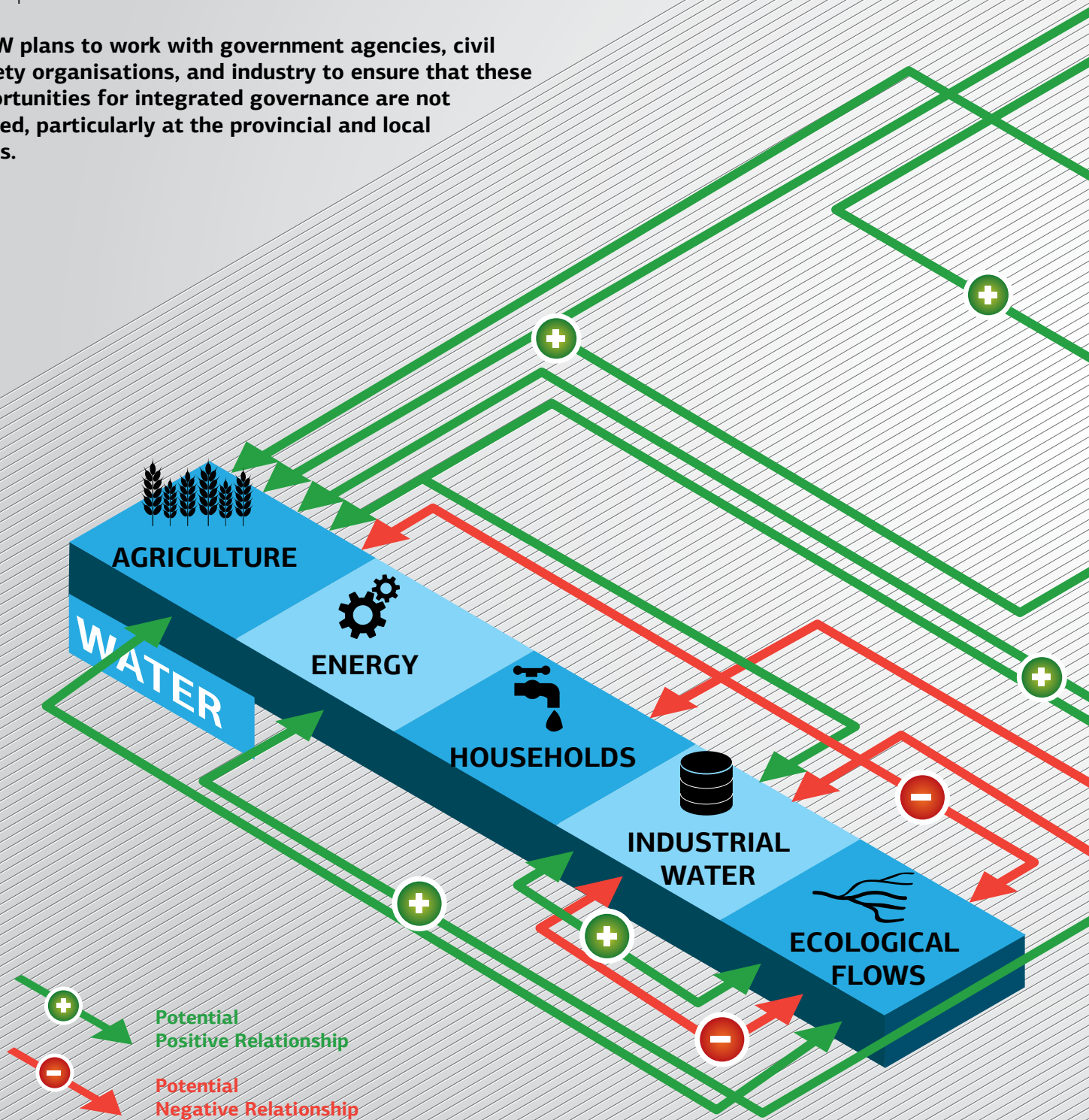




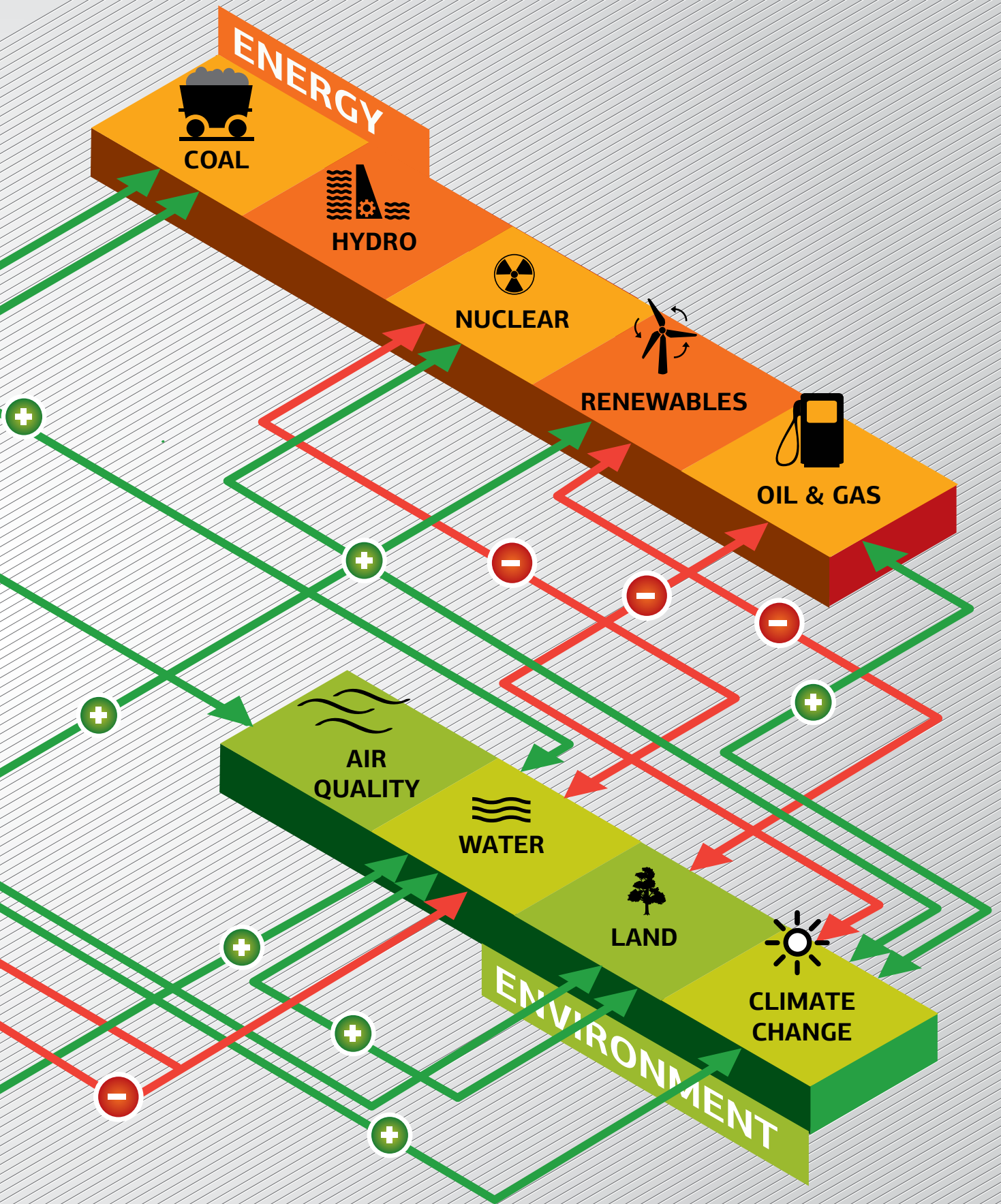
# Integrated plans can also offer many opportunities

Despite the tradeoffs, integrated plans also offer co-benefits. Some positive relationships (green lines) are obvious, such as between renewable energy and climate change, or between land regeneration and groundwater recharge. Deeper analysis could reveal many more opportunities. Renewable energy could be used for irrigation pumpsets. Industrial wastewater can be retreated for agricultural use. Cleaner coal power plants (efficient coal combustion) have benefits for air quality. Gas-fired power plants emit less greenhouse gases than coal-based ones. Technologies to reduce water use in thermal power plants minimises diversion from agriculture. Groundwater recharge through check dams can significantly increase water availability and increase crop yields. No-till farming reduces water use and helps the the soil retain carbon.

**CEEW plans to work with government agencies, civil society organisations, and industry to ensure that these opportunities for integrated governance are not missed, particularly at the provincial and local levels.**









# Join CEEW in its quest for exploring sustainable development pathways for the world

As an independent policy research institution, CEEW's research and partnerships with government, industry and civil society are geared towards finding and implementing sustainable development solutions around the world.

What we know is that this will require carefully-tailored, innovative policies, developed with a holistic view of the tradeoffs between different needs and, yet, finding opportunities for co-benefits and positive linkages.

How could this be done? While we have partnerships at the global, regional and national levels, the proof of our approach needs local solutions and innovations. CEEW is pioneering the development of integrated energy, environment and water plans at the state level that could help achieve multiple development objectives while maintaining environmental sustainability over time.

## You could play an important role in supporting CEEW

We are a not-for-profit research institution. We invite you to join hands with us and our existing donors and partners to build a world class policy research institution that aims to offer policy innovations within and outside India.

### You can support us by

- Offering financial support
- Giving a gift in kind to CEEW
- Creating partnerships with CEEW
- Helping CEEW gain visibility
- Contributing your valuable expertise and talent

### For more information on how to support and engage with us, please:

- write in: Thapar House, 124 Janpath, New Delhi 110001, India
- email us: [info@ceew.in](mailto:info@ceew.in)
- or call us at: +91 11 4169 9270



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# CEEW and the National Water Resources Framework Study

## Paving the road for integrated water management

Five researchers, representing more than 90 years of collective experience in as many as 25 countries across 5 continents, 6 months of rigorous work, 8 peer-reviewing working groups, consultations with a range of governmental and non-governmental entities, hundreds of hours of research, scanning through thousands of research pages, several hours of data comparison and analysis, and a 584-page report comprising 13 working papers. This is what it took to reply to 53 questions that the Planning Commission posed to CEEW in the summer of 2011.

The questions spread across a range of water issues facing the country. CEEW's hallmark – its holistic approach to issues – befitted the nature of the task. The National Water Resources Framework Study, which CEEW prepared to respond to these questions, covers a comprehensive range of issues: from effective participatory management of medium and large scale irrigation to the sustainable management of groundwater resources; from reform and capacity building of irrigation and drainage departments to the role of water regulators; from water utility management to regulating the entrepreneurial sector providing water services; from promoting water conservation in industry to exploring legal, regulatory and institutional reforms.



Photo: Planning Commission, Govt. of India

(Above) CEEW's water study being discussed at a workshop at the Planning Commission of India (July 2011)

**How can India manage its water resources better?**

For an in-depth analysis of water issues - irrigation, groundwater, participatory management, water utilities, legal, regulatory and institutional reforms - read CEEW's **National Water Resources Framework Study**\*

CEEW is an independent policy think-tank, which aims to develop an integrated approach to managing energy, environment and water resources in India and elsewhere, through high-quality research and partnerships with government, industry and wider society. Join us in this quest.

ceew.in/publications



National Water Resources Framework Study



Once presented to the Planning Commission, the effort was applauded by senior officials in the government, including the Deputy Chairman of the Planning Commission. Impressed by the Study, the Planning Commission tasked CEEW with preparing Roadmaps for Reforms for the 12th, 13th and 14th Five Year Plans and beyond. Subsequently, CEEW prepared a report detailing roadmaps in four key areas: irrigation, water resources management, groundwater, and water conservation in industry.

Based on the wealth of research already conducted, CEEW is all set to undertake the daunting task of implementing some of its solutions on the ground, and develop a proof of concept for its approach in the year that lies ahead.

Interested in knowing more about our work on water? Visit CEEW's dedicated resource page on water: [ceew.in/water](http://ceew.in/water)



*“CEEW’s independent analysis of the existing frameworks we have in place to manage the planet’s resources is a valuable contribution to the sustainability agenda around the world. Policy-makers, companies and society must build on such work, and design and implement sustainability strategies together”-*

PETER BAKKER, PRESIDENT, WORLD BUSINESS COUNCIL ON SUSTAINABLE DEVELOPMENT

Often, little coherence can be found across the motivations that have led to the development of climate-related policies, climate funding channels, and platforms for climatic negotiations. At the global level, rules governing trade, energy and climate interact and conflict, resulting in confusion in international negotiations and mixed policy signals for sustainable investments.

Following its substantive research on a full range of issues concerning climate finance and energy-trade-climate linkages, CEEW has briefed negotiators in the United States, Europe, China, and the Middle East. It has also supported bilateral programmes like the Indo-U.S. Track II Dialogue on Climate Change and Energy, and has initiated the Maharashtra-Guangdong partnership, the first-of-its-kind partnership between two of the richest provinces in India and China, respectively.

CEEW examined governance priorities for international funding mechanisms for climate change.

CEEW is perhaps the only institution in India working on the governance of geoengineering research and technologies.

Formulating a new blueprint for global sustainability will require integrating these concerns, and promoting and governing common platforms to resolve energy, climate and trade concerns. In the absence of world government, developed, emerging and developing economies will have to sit round the same table to chart and agree to rules that will drive a paradigm shift in the way resources are consumed, and in the ways markets and international regimes operate.

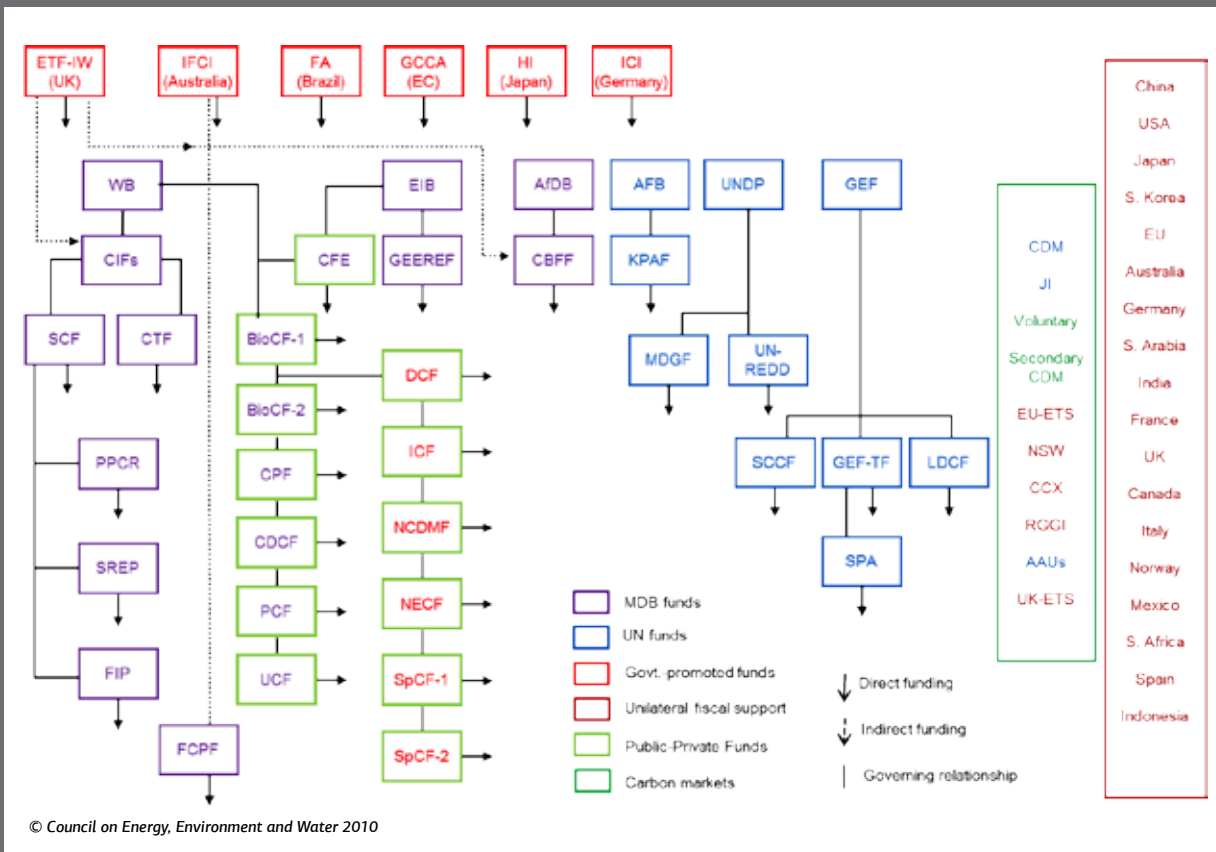
CEEW also works on beyond-the-horizon issues like the governance of geoengineering in partnership with the U.K. Royal Society’s Solar Radiation Management Governance Initiative, the Academy of Sciences of the Developing World, the Environmental Defense Fund, and Canada’s Centre for International Governance Innovation (CIGI). In June 2011, Dr Arunabha Ghosh delivered a keynote lecture on geoengineering to an expert meeting of the Intergovernmental Panel on Climate Change in Peru. In September 2011, CEEW conducted an international workshop on geoengineering science, ethics and governance in New Delhi and early this year it co-organised a subsequent workshop in Ottawa in collaboration with CIGI.





# The motives, governance, and tensions around climate finance

## Understanding complexities in climate finance



Funding sources are many but their governance is often interlinked: a graphic from CEEW's research on international climate finance mechanisms

From governance of international climate financing to financing options for India's low carbon growth strategy, from analysis of the bankability of India's solar projects to governance of clean energy subsidies worldwide, CEEW has generated research and knowledge on a comprehensive set of issues related to climate finance, internationally and nationally.

Following CEEW's research report, "Harnessing the Power Shift: Governance options for international climate financing", published by Oxfam International, the largest infrastructure lending bank in India has asked CEEW to complement its economic analysis of India's low carbon growth strategy with research on climate financing options for India.

From workshops on climate finance in Abu Dhabi, Brussels and Shanghai to lectures on climate governance in Kolkata and Beijing, and from discussions on climate governance at leading Chinese research academies to support for the implementation of the Indo-U.S. Joint Clean Energy R&D

Centre, CEEW's expertise on climate governance is wide-ranging and forward looking. CEEW puts its proposals to the test of implementation and is, therefore, engaged in efforts to build confidence amongst bankers and financiers to help accelerate investment in sustainable energy in India.

Based on its substantive research on the issue, CEEW aims to help decision-makers and negotiators deepen understanding of climate finance and inform them about what is needed to build cohesive national and international strategies to govern it better.

Interested in knowing more about our work on climate finance? Check out CEEW's forthcoming dedicated resource page on sustainability finance: [ceew.in/susfinance](http://ceew.in/susfinance)

# CEEW on India and Global Governance Setting India's agenda on issues of global concern

How would India contribute to global governance more effectively than it does now? This question underlay CEEW's unique initiative of focusing on India and global governance. In late 2010, CEEW convened some of India's foremost policymakers and diplomats who have represented India's interests, in specific domains, at the highest levels of diplomacy. The mandate for the Working Group on India and Global Governance was to discuss India's role and its overall strategy on emerging issues concerning the global commons and the delivery of global public goods.

In a world where the speed - and volatility - of change confronts nations with increasing frequency, building the capacity to understand and anticipate change is more important than ever before. Particularly for India, a nation which is expected to shoulder more responsibility on the world stage, it is crucial to understand cross-issue complexities and anticipate changes in global trends. The idea behind having domain experts seated around the same table was to foster exchange and deepen understanding on the complexities of global governance in their respective areas of expertise and create a common framework for India's interests in and strategies towards global governance.

Collective ideas on India's approach to global governance emerged through constructive discussions spanning a year. The resulting report "*Understanding Complexity, Anticipating Change: From Interests to Strategy on Global Governance*" is the first document of its kind on India and global governance. It was presented to the National Security Adviser at the Indian Prime Minister's Office in December 2011. The report covered topics as diverse as money, finance and investment, international trade, non-proliferation, energy and climate, oceans, outer space, peace and security, and cyber security concerns.

Within 24 hours of its release, the report was circulated in foreign policy circles in Singapore, the United Kingdom, and the United States. In fact, it was made essential reading at Singapore's



Photo: Vyoma Jha © Tejinder Singh

Civil Service College. The report was formally released in New Delhi by distinguished Working Group members including Ambassador Arundhati Ghosh (former Indian Ambassador to the UN Conference on Disarmament and Chief Negotiator on the Comprehensive Test Ban Treaty), Ambassador Shyam Saran (former Foreign Secretary and Prime Minister's Special Envoy), Mr Suman Bery (formerly member of the PM's Economic Advisory Council), and Mr Kiran Karnik (former President of the National Association of Software and Services Companies).

The effort was commended by the Vice-President of India. India's Ambassador in Beijing remarked "the report brought out very effectively many of the challenges facing Indian diplomacy." India's Ambassador in Latvia and Sweden also commended the work. The Commonwealth Secretary-General said the "subject [is] close to my heart and I read it with much interest." A group of experts from the Brookings Institution, Stanford University, and New York University, solicited CEEW to discuss the report during a seminar on the "Geopolitics of Resource Scarcity".

And the Center for Strategic and International Studies in Washington D.C. hosted a seminar on the report. In forthcoming months, we hope to conduct more outreach activities, hoping to spur strategic thinking on global governance issues in India, and across the globe.



Interested in knowing more about our work on India and Global Governance? Visit CEEW's dedicated page on global governance, resources security and national strategy: [ceew.in/resources](http://ceew.in/resources)

# Our research publications at a glance

[ceew.in/publications](http://ceew.in/publications)

## Books/Reports

- Laying the Foundation for a Bright Future: Assessing Progress Under Phase 1 of India's National Solar Mission (April 2012, with NRDC)
- Understanding Complexity, Anticipating Change: From Interests to Strategy on Global Governance, Report of the Working Group on India and Global Governance (December 2011)
- National Water Resources Framework Study: Roadmaps for Reforms (October 2011)
- National Water Resources Framework Study: Research Report submitted to the Planning Commission for the 12th Five Year Plan (September 2011)
- Harnessing the Power Shift: Governance Options for International Climate Financing (October 2010)

## Papers/Book chapters

- Sachin Shah (2012) 'Institutional Reform for Water Use Efficiency in Agriculture: International Best Practices and Policy Lessons for India' *CEEW Working Paper* 2012/3
- Arunabha Ghosh (2011) 'Seeking Coherence in Complexity? The Governance of Energy by Trade and Investment Institutions' *Global Policy* 2 (Special Issue)
- Arunabha Ghosh (2011) 'Strengthening WTO Surveillance: Making Transparency Work for Developing Countries' in *Making Global Trade Governance Work for Development*, edited by Carolyn Deere-Birkbeck. Cambridge University Press
- Jason Blackstock and Arunabha Ghosh (2011) 'Does geoengineering need a global response - and of what kind?' *Solar Radiation Management Governance Initiative Working Paper*, March

## Policy briefs/Briefings

- Arunabha Ghosh (2011) 'Governing clean energy subsidies: Why legal and policy clarity is needed' *Bridges Trade BioRes*, November
- Vyoma Jha (2011) 'Cutting Both Ways?: Climate, Trade and the Consistency of India's Domestic Policies' *CEEW Policy Brief*, August
- Arunabha Ghosh (2011) 'International Cooperation and the Governance of Geoengineering' *Keynote lecture to the Intergovernmental Panel on Climate Change*, Expert Meeting on Geoengineering, Lima, June
- Arunabha Ghosh (2010) 'Negotiating around Tradeoffs: Alternative Institutional Designs for Climate Finance' *European Climate Platform Report No. 10*, Centre for European Policy Studies, Brussels, December

## Articles/Op-eds

- Arunabha Ghosh (2012) 'Make it profitable to save resources' *India Today*, 26 March
- Arunabha Ghosh (2012) 'Leave polemics out of the water policy' *The Hindu*, 19 March
- Arunabha Ghosh (2012) 'Innovation needs an ecosystem' *Business Standard*, 26 February
- Jamshyd N Godrej (2011) 'Energy: the new poverty' *The Economic Times*, 24 November
- Jamshyd N Godrej (2011) 'Deregulation: Solving diesel conundrum' *The Times of India*, 28 January

*"An excellent tabulation of accumulated wisdom"*

*"The Report is both fascinating and interesting being the first attempt to deal with all issues.... in a holistic manner through consideration of all cross-cutting aspects"*

*"concise, focused and substantive Report on the important subject of Global Governance"*

*"the report brought out very effectively many of the challenges facing Indian diplomacy"*

*"The [water study] was an extremely instructive exercise that led to a very useful report"*

*"look forward to reading it to glean some insights into the processes at work"*



Photo: Yashika Gupta



Photo: Yashika Gupta



# A glimpse of our activities in India

## PARTNER EVENTS IN DELHI

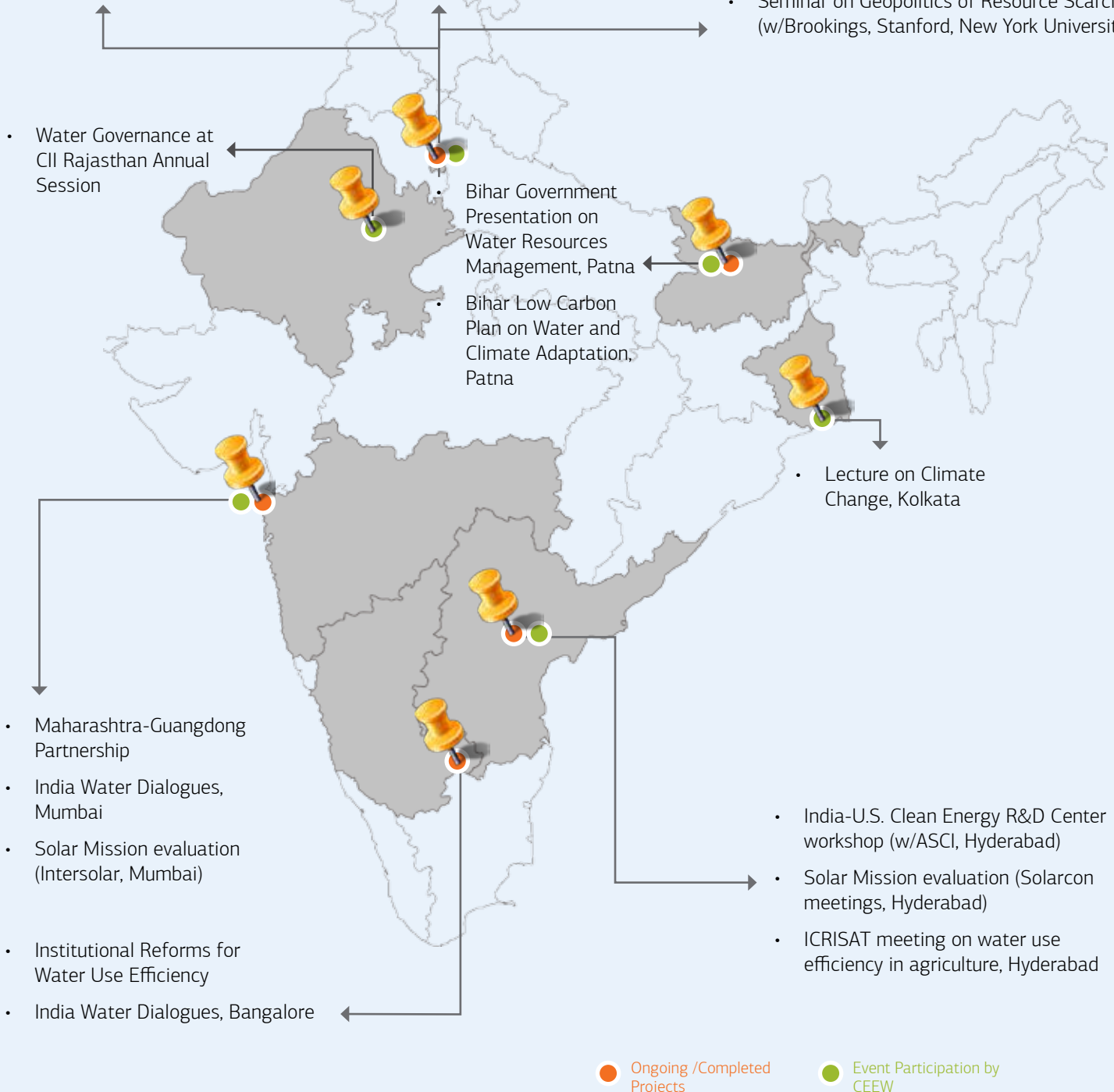
- India-U.S. Track II Dialogue on Climate Change & Energy
- Asia 21 Young Leaders Summit 2011
- Young India Fellows Lecture
- Training of Afghan Young Professionals
- GLTE – India Infrastructure Partnership Roundtable
- CII-ITC CESD Summit 2011
- MNRE Delhi International Renewable Energy Conference (DIREC) 2010

## CEEW PROJECTS in DELHI

- National Water Resources Framework Study (Planning Commission)
- Working Group on India and Global Governance
- R&D, Innovation & Manufacturing Competitiveness
- Solar Mission evaluation (w/NRDC)
- India Water Dialogues, Delhi
- Global energy governance, and clean energy subsidies
- Governance of climate finance

## CEEW EVENTS IN DELHI

- Geoengineering Science, Ethics, Politics, and Governance Workshop with (w/CSSTEP)
- National Water Resources Framework Study (Planning Commission) Workshop
- India-US Joint Clean Energy R&D Center Workshop
- Solar stakeholder consultation
- Chinese Delegation for Maharashtra-Guangdong Partnership
- Roundtables on Sustainability Finance & Technology
- Seminar on India and Global Governance
- Seminar on Geopolitics of Resource Scarcity (w/Brookings, Stanford, New York University)



Orange pushpin: Ongoing /Completed Projects

Green pushpin: Event Participation by CEEW

# Creating networks

In order to expand our knowledge base, we give utmost importance to regularly engaging in debates and exchanging our ideas with scholars, policymakers, political leaders, and civil society representatives within and outside India. For this, we build networks by:

- organising **in-house** events with a view to disseminate and discuss our research findings – Four of India's foremost policy experts and diplomats gathered for a panel discussion on CEEW's report on India and Global Governance!

- participating in **partner events** to inform their research agenda - CEEW organised one of the four side-events at the first edition of India Water Week 2012!
- organising **project-related** events to enhance stakeholder buy-in and visibility - the Joint Clean Energy R&D workshop we organised attracted about 70 representatives of leading research institutes from all over India!



(Left)  
Suresh P. Prabhu and Frances Beinecke, President, Natural Resources Defense Council (February 2012)

(Right)  
Suresh P. Prabhu, CEEW Chairperson and H.E. Huang Huahua, Governor of Guangdong Province (October 2010)



Photo: Fotofare

Photo: Bhaskar Deol



*"We value our partnership with CEEW, an excellent organisation that couples intellectual decision-making with practical implementation to address today's environmental challenges."*

FRANCES BEINECKE, PRESIDENT, NATURAL RESOURCES DEFENSE COUNCIL

## CEEW Roundtables on Sustainability Finance and Technology

In pursuit of promoting integrated thinking on sustainability challenges and deepening understanding about how such an approach could successfully be implemented at the grassroots level, CEEW regularly hosts eminent personalities and high-calibre domain experts to exchange views, comment on research outputs, and spur public debate. These roundtables are best characterised by the presence of a diverse, engaged, and a well-informed, yet curious audience and a steady stream of high profile experts.

From energy storage to global governance and from the water-food nexus to development of renewables in India, our topics have attracted people from professions as diverse as journalism, law, science, politics and commerce - a testimony to the wide appeal of the topics we discuss.

Interested in knowing more about our past, present and upcoming events?

**Visit [ceew.in/events](http://ceew.in/events)**  
Look at our image gallery at **[ceew.in/images](http://ceew.in/images)** and for speeches and videos, visit **[ceew.in/videos](http://ceew.in/videos)**



(Left)  
A panel discussion with Ambassadors and decisionmakers who were members of CEEW's Working Group on India and Global Governance (January 2012)

(Right)  
Professor Sanjoy Banerjee, Director of the Energy Institute, The City University of New York (December 2011)



Photo: Fotofare

Photo: Tejinder Singh

# CEEW leadership

## Our illustrious Board

Our small, yet diverse Board comprises a renowned policymaker and thinker, best known for having introduced strategic reforms for sustainable development during his tenure in government and whose vision for an integrated approach guides CEEW; two foremost industrialists of the country, both pioneers in their respective fields and committed to sustainability; and perhaps the country's leading strategist for organising business's role in India's development. We are proud to introduce our Board, all visionaries, leaders, and implementers.



### Suresh P. Prabhu

#### Chairperson

Former Federal Cabinet Minister of Industry, Power, Environment & Forests, Chemicals and Fertilizers, Heavy Industry & Public Enterprises



### Jamshyd N. Godrej

#### Co-Chairperson

Chairman of the Board of Godrej & Boyce Manufacturing Company Limited



### Tarun Das

#### Board member

Former Director General and Chief Mentor, Confederation of Indian Industry



### Gautam Thapar

#### Board member

Chairman and CEO of the Avantha Group

*“CEEW is among the few institutions specifically mandated to understand and examine interconnections between energy, environment and water. Although still in its early stages, CEEW’s research has begun impacting and is a positive sign that it is on the right path.”*

– GAUTAM THAPAR, CHAIRMAN AND CEO, AVANTHA GROUP



## Our exemplary International Advisory Board

Although young, CEEW is already at a critical juncture of having to scale its impact not only in India but across the world while maintaining and improving the quality of its research. In order to support this endeavour, an International Advisory Board has been created to advise on and facilitate institution and partnership building activities for CEEW. Six of the world's most eminent personalities have already joined our International Advisory Board. We are honoured to count amongst our International Advisory Board members:



**Peter Bakker**

President, World Business Council on Sustainable Development (WBCSD)



**Gunter Pauli**

Founder of the "Zero Emissions Research and Initiatives" and the blue economy concept



**John Briscoe**

Gordon McKay Professor of the Practice of Environment Engineering and Environmental Health at Harvard University, former World Bank's Country Director for Brazil



**Björn Stigson**

Former President of the World Business Council for Sustainable Development (WBCSD)



**Ian Johnson**

Secretary General of the Club of Rome, formerly World Bank's Vice President for Sustainable Development



**Anders Wijkman**

Member of the Temporary Committee on Climate Change of the European Parliament



**Carlos Magariños**

Former Director General of the United Nations Industrial Development Organization (UNIDO)

*(Joined in June 2012)*



*"I was delighted to learn that Suresh – a courageous, energetic and young political leader with a great breadth of experience, with deep commitment to the issues of sustainable development – had founded CEEW because I knew that this would be an organization which would not look for simplistic answers, which would work with key decision makers in the public and private sectors, which would be open to global experiences, and would make a real difference on the ground."* - JOHN BRISCOE, PROFESSOR, HARVARD UNIVERSITY

# CEEW people and partners

## Our talented team

CEEW's team is its most important asset. Young and focused, our talent pool brings together a refreshing range of experiences. Engineering, law, business, science, international relations, economics, politics and communication are just some of the fields our small but dynamic team is trained in.



Left to right: Rishabh Jain, Hector Keate, Prachi Gupta, Karthik Ganesan, Swati Trehan, Rajeev Palakshappa, Himani Gangania, Meena Sarkar, Dhruv Chopra, Sanyukta Raje, Rudresh Sugam, Vyoma Jha, Jonathan Mather, Arunabha Ghosh



*“There can be no sustainable world without a sustainable India. And India’s sustainability is closely linked to integrated systems solutions for Energy, Environment and Water. So, when Suresh Prabhu approached me for support to create CEEW, to address these issues from an Indian perspective it was very easy to accept to help and cooperate. I am very pleased to see that CEEW is off to a good start and has gained support from well-known Indian individuals.”*

BJÖRN STIGSON, FORMER PRESIDENT, WORLD BUSINESS COUNCIL ON SUSTAINABLE DEVELOPMENT

## Our prestigious partners

Our carefully-chosen partnerships are nurtured with a common integrated approach to development challenges, a mutual flow of ideas, a shared quest for high-quality research, a commitment to intellectual honesty, and a thirst for constructive criticism. Together with our partners in India and across the globe, we aim to achieve the highest standards of research in finding solutions to sustainability issues, and implement those solutions to make a difference to the world. Among others, we have worked with the following organisations.

- Administrative Staff College of India (ASCI)
- Aspen Institute India
- Center for Study of Science, Technology and Policy (CSTEP)
- Centre for European Policy Studies, Brussels
- Centre for International Governance Innovation (CIGI), Canada
- Confederation of Indian Industry (CII)
- Environmental Defense Fund (EDF), United States
- International Centre for Trade and Sustainable Development (ICTSD), Geneva
- International Finance Corporation (IFC)
- Lee Kuan Yew School of Public Policy, National University of Singapore
- Ministry of New and Renewable Energy (MNRE), India
- Natural Resources Defense Council (NRDC), United States
- New York University School of Law
- Oxfam International
- Planning Commission, Government of India
- Royal Society, United Kingdom
- Shakti Sustainable Energy Foundation
- 2030 Water Resources Group (WRG)



Photo: ESADEgeo

Arunabha Ghosh, CEEW CEO with Javier Solana, Former Head of NATO, on energy security issues, Madrid (November 2011)



Photo: IGC India

Arunabha Ghosh at Bihar Growth Conference, Patna (December 2011)







“The world needs policies that are tailored to promote sustainability in the long-term. CEEW’s strength lies in being able to provide a cohesive framework for the development of such policies and to test the sustainability component of the policies already underway.”

JAMSHYD N. GODREJ

Co-Chairperson, CEEW; Chairman, Godrej & Boyce Manufacturing Co. Ltd.

.....

“India needs an institution like CEEW to research and develop policies in the areas of energy, environment and water.”

TARUN DAS

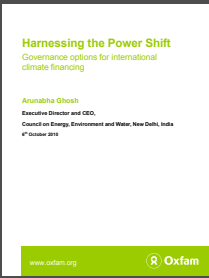
Trustee, CEEW; Former Director General and Chief Mentor,  
Confederation of Indian Industry

.....

In an era of volatile global systems, institutions like CEEW help industry, government and society to build resilience. CEEW does this through assuming leadership in driving the response to sustainable development.

GAUTAM THAPAR

Trustee, CEEW; Chairman and CEO, Avantha Group



## Harnessing the Power Shift

Governance options for international climate financing

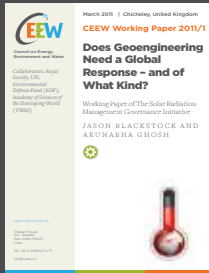
OCTOBER 2010



## Negotiating around Tradeoffs

Alternative Institutional Designs for Climate Finance

DECEMBER 2010



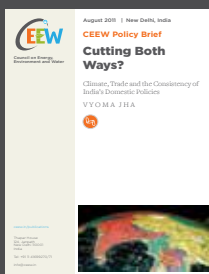
## Does Geoengineering Need a Global Response - and of What Kind?

MARCH 2011



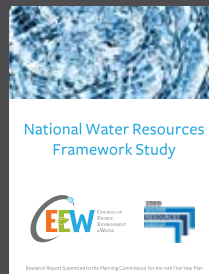
## International Cooperation and the Governance of Geoengineering

JUNE 2011



## Cutting Both Ways? Climate, Trade and the Consistency of India's Domestic Policies

AUGUST 2011



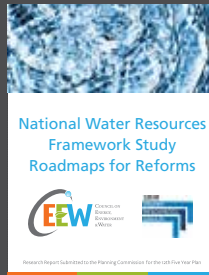
## National Water Resources Framework Study

SEPTEMBER 2011



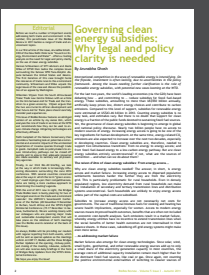
## Seeking Coherence in Complexity? The Governance of Energy by Trade and Investment Institutions

SEPTEMBER 2011



## National Water Resources Framework Study Roadmaps for Reforms

OCTOBER 2011



## Governing clean energy subsidies

Why legal and policy clarity is needed

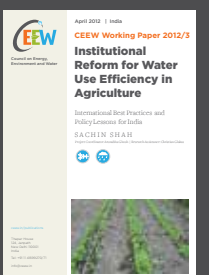
NOVEMBER 2011



## Understanding Complexity, Anticipating Change

From Interests to Strategy on Global Governance

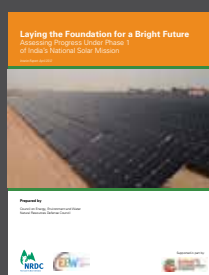
DECEMBER 2011



## Institutional Reform for Water Use Efficiency in Agriculture

International Best Practices and Policy Lessons for India

APRIL 2012



## Laying the Foundation for a Bright Future

Assessing Progress Under Phase 1 of India's National Solar Mission

APRIL 2012