

RENEWABLE ENERGY & CLIMATE CHANGE

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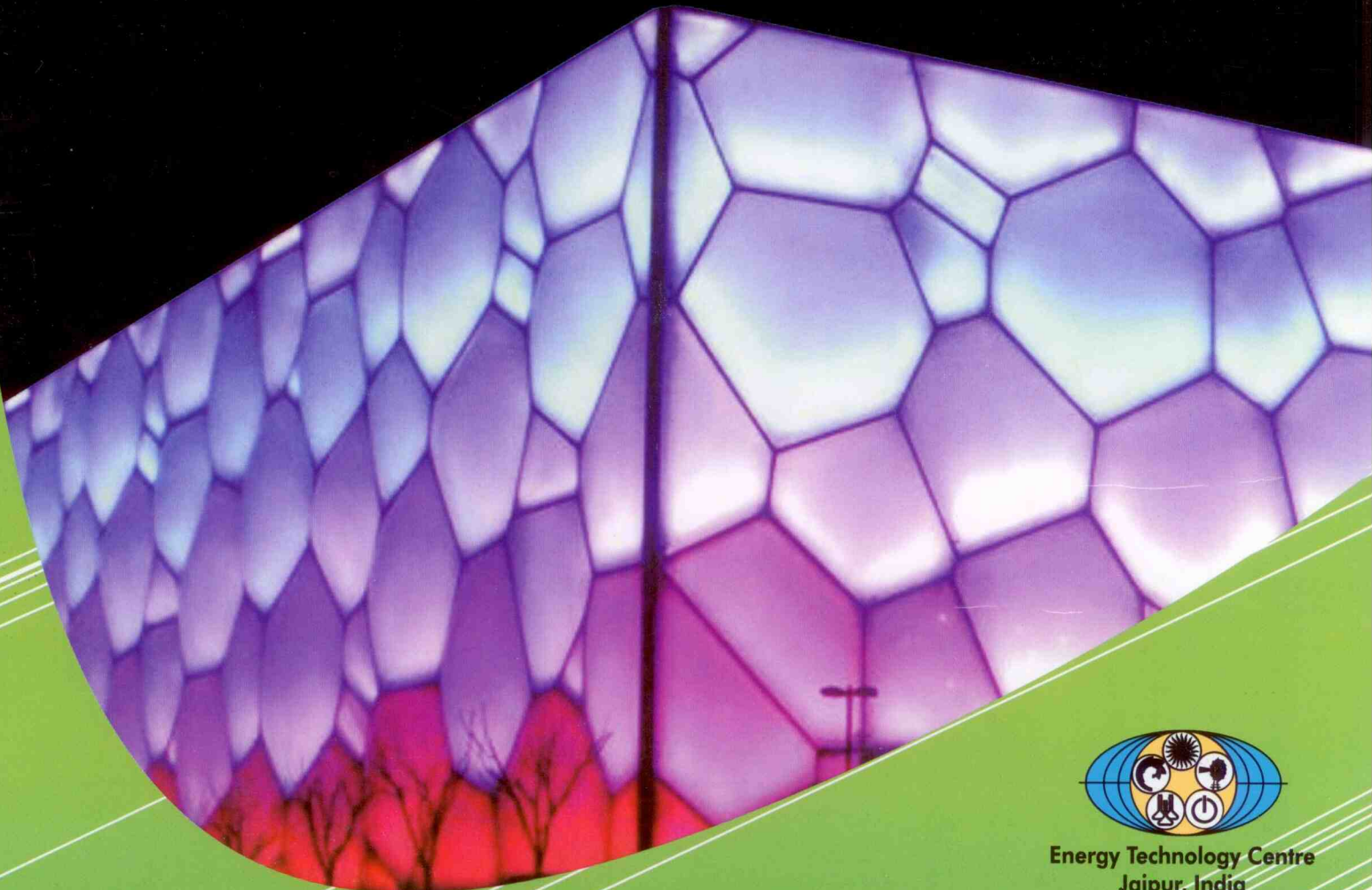


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The Unflinching Dash to *Swarnim* Gujarat

What India needs Gujarat has: the leadership of Narendra Modi. He is known for his dynamic personality. He is also known for his courage and the ability to make decisions quickly. There is one quality he has about which little appears in the media. This is his enlightened approach to problems. This is clearly demonstrated in the way he is developing the state of Gujarat.

The Chief Minister is coming to grips with climate change. It is a problem that often leaves authorities frozen as no action or much delayed action is



Gujarat Chief Minister Narendra Modi

taken by them. But Chief Minister Modi, knowing that environment and sustainability become the causalities of development, is among the pioneers in the world to set up a separate department of climate change in his government. Gujarat has the distinction of being the fourth state or the 4th province in the world to have an exclusive department for this.

As a leader of the state with a stature of national consequence Modi is keen not

only to develop his state but also to place it in a context which is a status of international repute. This has become clear at the conclave of IIM-A Alumni with Gujarat government. .

The occasion was the golden jubilee. "I look at IIM-A from a different point of view," Modi said. The Indian Institute of Management- Ahmedabad (IIM-A) and Gujarat government are now partners in accelerating the state's growth. A core committee comprising IIM-A officials and alumni, representative from industry, and principal secretaries of different government departments will be setup by the state government for this purpose.

He went on, "Gujarat has had a white revolution through the Amul model and a green revolution through achievement of a 9.6 per cent agricultural growth. The state is now moving towards the saffron revolution in energy."

"Apart from making a mark in nuclear, wind, hydro and thermal energy, among others, Gujarat will soon become the world capital in solar energy."

He is the first in the country to come out with a solar policy. His example was followed by others; the National Solar Policy was declared later. Then states came up with their policies. Every state, it seemed, felt that Gujarat was playing a game. So when Gujarat announced a list of companies ready to invest in power generation in the state they too jumped in the boat.

But they could not go all the way as Chief Minister Modi did. Gujarat went

ahead with power purchase agreements (PPAs) with 21 companies initially to generate 365 MW of solar power. This was roughly an investment of about Rs 5,500 crore at an estimated capital cost of Rs 15 crore per MW of solar capacity. And supply was expected from December 2011. This was even earlier than the National Solar Policy came.

Clearly Gujarat speeds in top gear. This has been the experience of the companies which are in the state trying to set up their solar plants. For instance, Moser Baer India, a sister company of which is setting up three solar plants of 15 MW each in the state finds this. Ratul Puri, the sister company's executive director, says, "Gujarat has the most aggressive plans."

Narendra Modi has seen to it that all sources of renewable energy are tapped. Thus Gujarat has formulated a policy for developing geothermal energy as well. It is not just coming out with a policy that is important for Gujarat. Every attempt is made to get to the latest and the best of technologies that the world has developed. For example, in harnessing tidal energy Gujarat is exploring its coastal locations through the services of one of the most advanced multinationals. The advantage of tidal energy is its potential to maintain a continuous supply.

In the state renewable energy is being promoted with a special focus on the best of technologies available in the world. The new technologies do not emit any greenhouse gases. But what about gases already present in the atmosphere? In Gujarat these gases



are being mitigated by absorption. In this respect, forests are very helpful as trees take in carbon dioxide and breathe out oxygen.

Thus Gujarat is dealing with the global warming problem by not only new technologies but also through a tree cover. There have been massive plantation drives, some of them so huge that they are unparalleled. Banaskantha district, for example, planted 1.5 million saplings in a single day. Chief Minister Modi has speed and implements policy instead of pedaling soft.

With this policy background and support from nature international funding agencies have also been attracted towards Gujarat. They have displayed a generous attitude to the state. The World Bank Group arm, International Finance Corporation (IFC) has brought the state in its radar.

The international financing organization has identified potential investment areas under solar power, wind energy and gas-based energy for its upcoming funding plans. In Gujarat, IFC has invested about US\$ 1 billion so far, while in the coming months, it will invest in renewable energy generating companies.

"India has many projects in the pipeline in terms of power generation from renewable energy sources like wind, solar and gas-based energy sources. Renewable energy has been an important part of our policy," explains Anita George, director (infrastructure), IFC, and singles out the state from other provinces. "In Gujarat, our focus for funding will be on solar power, wind energy, gas distribution and anything that relates to 'green' energy," she said.

Narendra Modi's Book on Climate Change Launched

Narendra Modi, Chief Minister of Gujarat, is ranked as the only leader in the world who has authored a book on climate change while running a government. He deeply understands the problem and is ardently firming his plans and implementing them to combat the advancing threat to humanity. His book, 'Convenient Action - Gujarat's Response to Challenges of Climate Change' is a specimen of his in-depth study and concern towards today's most contemporary issue.

Modi says that Indian scriptures written thousands of years ago point out to the possibility of climate change. They have even given solutions, but not many



Dr. Abdul Kalam, Dr. R.K. Pachauri & Narendra Modi at the Launch of the Book

people are interested in knowing the wealth contained in the old texts of India and tend to ignore or sometimes even ridicule what the ancestors have left behind as legacy. At the launch of his book he said his inspiration came from Al Gore's book, 'An Inconvenient Truth', which highlighted the resistance that people usually develop for any inconveniences caused by the problems arising out of climate change.

Dr. Abdul Kalam who released the book said he was "inspired" by Modi's "beautiful book". He took this occasion as an opportunity to air what he felt about Gujarat's programme on linking rivers. He lauded the idea as it would solve problems not only of water but also of health in Ahmedabad besides helping the river of Sabarmati revive.

Dr. Kalam also said that India must immediately adopt long term programmes like the Integrated Water Connections and Energy Independent Mission and focus on renewable sources of energy to achieve the goals in the next two decades.

Dr. R.K. Pachauri, who is also director-general of The Energy and Resources Institute, said the world had no time to waste and wait for cent-per-cent scientific proof that climate change was affecting the earth.



Chief Minister Modi headed the Department of Climate Change that he created so it became the apex body of Gujarat for implementation of all the environment related matters to achieve sustainable development as well as setting up sound environmental



Gujarat Energy Research and Management Institute : GERMI

management practices. Under it in operation are four executing agencies, viz., Gujarat Environmental Management Institute, Gujarat Pollution Control Board, Gujarat Ecology Commission and Gujarat Institute of Desert Ecology.

Solving the problem of climate change is the defining role of the department. It provides a human face to environmental issues; empowers people to become active agents of sustainable development; promotes an understanding that communities are pivotal to changing attitudes towards environmental issues; and advocates partnership, which will ensure all citizens and people in Gujarat to enjoy a safer and more prosperous future. Over a short period of time it has become a trendsetter not only for India but also for the whole of Asia.

GERMI, an institute of developing the total energy sector, is an abbreviation; however, it appears that this name is

cut short to mean germination? This is because it has been responsible for brilliant ideas which were born as little saplings and in no time have taken shape of trees of great impact.

Whether it is the Institute of Petroleum

Technology or the Institute of Petroleum Management, they have their root in GERMI. Similarly Pandit Deendayal Petroleum University has sprouted from what GERMI has sown.

D J Pandian, chairman of the Institute, feels that his team is 'now inspired to focus intently on the establishment of the GERMI Research and Innovation Centre'.

In description of the Institute he says, 'GERMI faithfully and proactively follows its vision and mission. It believes in adhering to international quality standards and works actively for global recognition of its institutes, programmes, projects, research and extension initiatives. It will take bold initiatives in global networking of educational delivery systems and establishing extensive linkages for professionally designed manpower training programmes to meet the dynamic needs of the energy sector'.

He continues in his Message, "I

expect that in all these pursuits establishment of Institutes and Centres, generic and special course offerings, research, knowledge creation and innovation-inherent and mandatory concern for quality will be the over riding factor. GERMI is still in its infancy. However, a vibrant, proactive, academic and research-led ambience can be enriched with excellent work culture and I am sure GERMI has the institutional resolve and sincerity to make a lasting impact on the energy sector."

It undertakes a unique obligation for Education in Energy Engineering and Management with special responsibilities in domain specific aspects of Oil & Gas.

GERMI seeks to nurture students of extraordinary motivation and ability, and prepare them for life-long learning and leadership in an increasingly knowledge driven world.

It envisages to establish institute of excellence in education, competitive edge in research and real time relevance with futuristic thrusts in offering of programmes and undertaking of activities and projects

Community Development at PDPU

GERMI as a Trust believes in developing professionals in engineering and management fields, who can add value to the industry and GERMI envisions developing better humans and citizens beyond professionals with qualities and right attitude. To achieve this vision, the university established by GERMI has undertaken several programs like rural internship, community development initiatives and evening school of the labourers working in Pandit Deendayal Petroleum University



campus for the construction of new buildings, to prepare students to see the life in larger perspective, cross cultural learning, to cultivate multiple perspective of the situation and to explore ways to use their education and skills to add value to self and the society.

PDPU has undertaken community development initiative with an objective to be part of the growth surrounding villages and to sensitize and motivate university students to be a part of social progress along with their own development.

Summer workshops were organized for them. The response from the villages for the workshop was overwhelming. More and more children want to join the workshop to learn and to have fun.

Students of computer workshop had fun with paint, when they got a ground to display their creativity in digital media. They also learn other basic software like MS office and power point, which are now essential in day to day life.

Like everyone, participants of the spoken English workshop want to learn English and want to speak in English. They learn English in fun way, where they play games, watch movies, enact role play but all in English and for English. The fear of foreign language is hardly seen here and children are ready to adopt the language, which is now considered an international language and has become life skill. Apart from learning, the fun part of the workshop is to get a chance to interact with children of other villages and make more friends.

You can beat the climate change too

Gujarat has led the country in carrying

out extensive awareness campaigns on climate change and its impact on environment and human life. The Gujarat Ecology Commission (GEC) under the state Department of Forests and Environment has been made the nodal agency for the campaign.

"The idea of the state-wide campaign is to educate the masses about climate change and what they can do at individual level to reduce its impact," explained E Balaguruswamy who is the member secretary of GEC. It involved various stake holders like the government departments, NGOs, corporates and academicians.

"Climate change represents one of the greatest environmental, social and economic threats facing the planet today. The primary reason for this is the vast scale of ignorance among people about the adverse impact of their actions on the ecology resulting in the climate change phenomenon," the member secretary added.

Balaguruswamy elucidated the campaign, "There will be number of activities like workshops, seminars, drawing competitions, street plays, photography competitions, climate change yatras, slogans and wall paintings. The government would also be involving school children in the campaign. We would be conducting competitions for drawing, slogan writing and wall painting on climate change in schools in various municipal corporations across the state."

Alongwith the tagline 'You can beat the climate change too' GEC has come out with a character called 'Jeeva Bapa', a man dressed in traditional Gujarati attire, which will be used during the campaign to educate school students and rural population.

"The name, the attire, the pose he is striking would immediately establish a connect with the people of Gujarat. Both rural and urban population will relate to him," Balaguruswamy clarified.

In order to make the campaign more meaningful Gujarat has been celebrating Energy Conservation Day. This is organized every year by Gujarat Energy Development Agency as part of the statewide publicity on 14 December with lot of fun fare activities. The other programmes GEDA took up were:

50,000 school students took to the streets to participate in 2010-11 in 144 energy conservation rallies under the Energy Conservation Awareness Generation Campaign of the Bal Urja Rakshak Dal in a 22 districts of the state. GEDA displayed 200 odd hoardings. GEDA arranged the display of a hundred lit and non-lit panels.

BURD Schools not participating in the rally celebrated the Day in their own schools with edutainment activities viz. EC pledges, street plays, planting trees and many other similar activities. Advertisement spots on Energy Conservation were relayed on All India Radio and commercial FM channels apart from the national network - Door Darshan and on popular sponsored programmes. Street play performances were enacted in all 1800 BURD schools on the theme of Energy Conservation, utilization of renewable energy technologies, climate change and global warming.

But GEDA has a much larger role to play. It operates in keeping with the following objectives:

- Sponsor, co-ordinate and promote research programmes or projects for

