



# Local Renewables

Initiative & Model Communities Network

Update 2009



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for Economic Cooperation  
and Development





### Local Renewables Network - join

With the <sup>Local</sup> Renewables Initiative, ICLEI supports and strengthens local governments in increasing the generation and supply of renewable energy and energy efficiency in the urban environment. It is the roles and responsibilities of local governments that the Initiative focuses upon as the driving force for innovation and investment in these communities.

A key project of the LR Initiative is the LR Model Communities Project, where a network of cities has been established to enrich co-operation between local governments that are leading in renewable policy and action, and local governments that have committed to begin or accelerate their local action.

The LR Network connects three types of cities:

(a) **Model Communities:** cities or towns that have declared their intention of becoming model communities, and have made a formal commitment to local renewable strategies.

(b) **Resource Communities:** cities or towns that would like to share their resources with other cities in the Network and beyond. Resource communities have highly developed renewable energy and energy efficiency strategies, with effective actions implemented.

(c) **Observer Communities:** cities or towns that have an interest in learning with the Network and contribute when possible.

The Network is open to expansion and welcomes new participants and feedback.

More information: [local-renewables@iclei.org](mailto:local-renewables@iclei.org)

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This report has been prepared by ICLEI- South Asia Secretariat, ICLEI Latin American and Caribbean Secretariat and ICLEI International Training Centre as a part of the <sup>Local</sup>Renewables Model Communities Network Project. This publication is also available online at [www.iclei.org/local-renewables](http://www.iclei.org/local-renewables)

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### The Local Renewables Model Communities Project

The Local Renewables Model Communities Project is a key component of ICLEI's <sup>Local</sup> Renewables Initiative.

Within this international project, carefully selected cities are supported by ICLEI to develop into Model Communities. The selected towns and cities benefit from the expertise of other advanced cities and towns in encouraging and shifting towards the generation, distribution, and use of renewable energy.

Main steps include :

- Compiling energy audits and energy status reports;
- Involving and mobilising stakeholders;
- Developing local policies for renewable energy and energy efficiency and adopting these in the municipal council; and
- Establishing renewable energy and energy efficiency Resource Centres as places to learn, showcase practical applications, and to provide technical expertise.

Model communities show regional leadership by encouraging other cities near and far to switch to Local Renewables by sharing their experiences and expertise.

India and Brazil are countries in which special support can be given to selected model cities, due to generous funding from the German Federal Ministry for Economic Cooperation and Development and the GTZ.

The following pages report on progress and examples.

# LOCAL GOVERNMENTS FOR RENEWABLE ENERGY

## Why focus on Local Governments?

Local governments play a key role in promoting sustainable energy at a community level. They have a political mandate to govern and guide their communities, provide services and manage municipal assets. They have legislative and purchasing power that they can use to implement change in their own operations and in the wider community. Local governments can further play a role as model in their region or country, showing how policies and local actions can be shaped to guide communities in the transition to a sustainable energy future.

## Ambitious Cities Set LR Targets

A draft Global Status Report on Local Renewables Energy Policies lists cities and towns from around the world that have already declared a firm commitment to developing renewable energy. These communities have set clear policy targets and implementation mechanisms to reach policy targets. Visit: [www.iclei.org/local-renewables](http://www.iclei.org/local-renewables)

Among the most ambitious and leading cities and towns are many ICLEI Members, which in many cases had started their activities many years ago within the Cities for Climate Protection Campaign (CCP).

Dr. Eicke Weber of the Fraunhofer Institute discusses solar technology with visiting representatives of the Ministry of New & Renewable Energy, Government of India



## Eight arguments for community leaders to use <sup>Local</sup>Renewables

The following arguments were identified as the most significant at the Local Renewables Conference 2007:

1. Use renewable resources to produce energy locally
2. Secure the local energy supply and improve community resilience
3. Save energy, save money and reinvest in sustainable energy
4. Create local jobs and stimulate the economy
5. Involve local stakeholders and promote synergies to encourage change
6. Reduce CO<sub>2</sub> emissions and contribute to climate protection
7. Support the achievement of national and international CO<sub>2</sub> reduction targets
8. Promote sustainable urban development



Local Renewables (LR) describes a wide range of renewable energy sources generated and used locally, coupled with energy savings and energy efficiency. [www.iclei.org/local-renewables](http://www.iclei.org/local-renewables)

# 10 Steps towards successful Local Renewable Cities

From whatever entry point your city begins, you can achieve success when expanding your scope of action step-by-step.

If a basic decision to go towards LR is taken and a local government wants to act, the following components have proven to be key for success.

1

## Compile a City Energy Status Report

Check your energy use today and the forecasted demand as basis for policy formulation. Questions can be: What are the main sources of energy use? Which of those can be mainly influenced by the local government? What is the energy use per capita?

2

## Analyse your local renewable potential

Compile information on the availability of renewable energy sources, including available technology and costs. What is the potential of wind? Sun? Is biomass available and can be used? Which technologies are used in the region and what local know-how can be included for the further planning?

3

## Involve your stakeholders

The best intentions can only be implemented if many local and regional, even national actors join. Model cities in India and Brazil involve, among others, local craftsmen, schools, scientists and regional agencies. As local government you can play the role of a facilitator and enabler. Awareness raising campaigns (see following examples) help to engage many in the community

4

## Set targets and develop and adopt local renewable energy policies

Innovative renewable energy policies are ideally developed in cooperation with the local administration, political leaders and stakeholders. "LR policy" shall then be adopted by the city council.

5

## Establish and operate LR Resource Centers

Come, see, touch and learn – this is the best way for people to acquaint themselves with new technologies. A RC is a place where information is provided, visitors received, equipment displayed, business included. ICLEI has developed a paper on how such centers can be established and maintained.

6

### Install demonstration projects

Demonstration projects make it real: Citizens see them, house owners realise the economic benefits, craftsmen acquire employment, and visitors understand the seriousness of the policy. See examples of the project cities on the following pages.

7

### Link up with regional and national governments

If upper levels of government are involved and benefit from positive reporting, you gain their support and through this receive access to funding, investments, contacts, dissemination etc.

8

### Be strongly involved in networking

Cooperation and exchange in regional, national and global networks brings new ideas and visions and also helps to overcome challenges and barriers. Networking also contributes to good global development with south-south exchange and experience sharing.

10

### Evaluate impacts and report

Recognition, continuous improvements and increased efficiency of activities will be your thank you. In order to be aware of and share the impacts of your local policy and efforts, monitoring, documenting and reporting will illustrate success and guide next steps for a renewable energy future.

9

### Pioneering brings competitive advantages

Enjoy the competitive advantages of a model community: governmental delegations, technical visitors, tourists, attraction for investments, establishing new companies.

Find much more information on the <sup>Local</sup> Renewables website: [www.iclei.org/local-renewables](http://www.iclei.org/local-renewables) or within ICLEI's case studies or in the <sup>Local</sup>Renewables Web Portal (coming soon!)

# Local Renewables Network Map



**Model Communities**   **Resource Cities**   **Satellite Cities**

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## INDIA

### Bhubaneswar

The first city in India to adopt a city level energy policy to promote conservation of energy and energy efficiency, this city is committed to reducing the GHG emissions and promoting the use of RE and EE.

### Nagpur

A Solar Power Pack System was installed on the Renewable Energy Resource Center by ICLEI as part of the pilot project. The first International Workshop on Local Renewables Model Communities took place in Nagpur in 2008.

### Coimbatore

A prime participant in Local Renewables and Cities for Climate Protection Project in ICLEI, it was selected for implementing the "Urban Climate Project - Building Clean and Efficient Cities" by ICLEI and the Indian Institute of Urban Affairs.

### Delhi

With over 17 million residents, Delhi is the eighth largest metropolis in the world by population. Especially with high and growing energy demands, supplying such a city with renewable energy would be a great success.

### Madurai

The oldest inhabited city in the Indian Peninsula. Some of the efforts under this programme are Carbon Rating, City Development Bond, and Urban Basic Service Programme.

### Tiruchirapalli

Tiruchirapalli is one of the cities involved in the Climate Roadmap of South Asian Cities and the Local Renewable Model Communities project, thus using commitment as a means of advocacy.

### Gwalior

The administrative headquarters of Gwalior district and division, this city could be a leader in local renewable energy. Gwalior is currently observing the Model Communities.

### Vadodara

With ICLEI's help this city has identified possible local solutions to urban environment and energy management. ICLEI- South Asia is proud to share in the first initiative of capacity building between Vadodara and Jabalpur Municipal Corporations.

### Balasore

Balasore is one of the coastal districts of Orissa, located at the northern most part of the state. Balasore is one of the cities considered as a potential city for the Local Renewables Model Communities project by ICLEI.

### Paradip

Paradip or Paradeep is a city in Jagatsinghpur District of Orissa. Paradip has been considered as one of the satellite cities by ICLEI SA for the Local Renewable Model Communities Network Project.

### Cuttack

Cuttack is the commercial capital of Orissa, and is also known as the "Millennium City". Cuttack



is one of the potential satellite cities for the Local Renewable Model Communities Network Project of ICLEI.

### Puri

This city one of the oldest cities in the eastern part of the country and is situated in the coastal Bay of Bengal. Puri is considered by ICLEI as one of the Satellite Cities for the local Renewable Model Communities Network project.

### Jabalpur

An energy efficiency CDM project involving 14 cities is underway in this city with ICLEI. An energy efficient street lighting pilot project aims to reduce the expenditure and improve the energy efficiency in the main energy grid system.

### Rajkot

Rajkot, a city of 1 million people, has committed to reduce energy consumption by 10% in the next 5 years. The advanced city has solar lighting, an RE information center, and a building-by-law requiring solar water heaters.

## EUROPE

### Växjö

An exceptional city active in the field of sustainable energy with good policy established more than 10 years ago, Växjö is strongly moving towards becoming a fossil fuel free city by 2050.

### Malmö

This Scandinavian city has vastly increased building energy efficiency through renovation and aims to become an eco-city. It boasts Sweden's largest photovoltaic installation, aims to introduce wind energy within the city and increase off-shore wind production.

### Bonn

The former federal capital of Germany and a key UN city, Bonn's role in the LocalRenewables project is to provide expertise in the engagement of stakeholders and provide links to its extensive international network of contacts.

### Freiburg

World renowned as the solar hub of Europe, this green city aims to generate 10% of its electricity from renewables and improve energy efficiency by 10% by 2010. With an ambitious climate policy, the city aims to reduce its CO<sub>2</sub> to 40% by 2030.

### Milan

With air quality and climate protection as motivation for local action, Milan aims to reduce CO<sub>2</sub> emissions in the building and transport sectors by switching to renewables and improving energy efficiency – reducing up to 50% CO<sub>2</sub> by 2010.

## SOUTH AMERICA

### Betim

With a history in renewable energy, Betim has installed extensive solar thermal in poorer city districts. Currently, it is integrating biofuel into the public transport system and the municipal fleet.

### Porto Alegre

A key large city to the relatively high energy consumption in southern Brazil, this newest Model Community to join the network is currently exploring renewable energy policy options and preparing the set-up of their resource centre.

### Salvador

Being a network connection to the northeastern part of Brazil, Salvador, a city of nearly 3 million people, is a Satellite City within the network and

has proposed parameters of energy efficiency for buildings through the Municipal Building Code.

### Belo Horizonte

This Satellite City, with a population of around 2.5 million people, has 56,6 m<sup>2</sup> of solar panels that are used by 100,000 inhabitants and has been working on other alternative sources of energy and improving energy efficiency.

### São Paulo

One of the largest urban areas in the world with more than 20 million people in the area and growing, finding sustainable energy solutions is key. This city is currently observing the renewable energy success of other Brazilian cities. It shares experiences from its CDM funded project of generating energy from landfill gas.

### Volta Redonda

This city, in the State of Rio de Janeiro, has attained success with the Eco-Oil Program - a project that processes used cooking oil to produce biodiesel with the participation of local government, communities, schools and the private sector. For more information, see ICLEI case study 96.

## AFRICA

### Cape Town

The second most populous city in South Africa, Cape Town's energy policy aims to have 10% of its homes supplied with solar hot water by 2010, and 10% of its energy supplied by renewable sources by the year 2020.

## JOIN US!

*Communities that are advanced or interested in becoming Model Communities can join the network. This can be done as an individual commitment to become a model and implement actions that support this, or through a project with an ICLEI office. Observer „Satellite Cities“ are also encouraged, allowing local governments to learn from the network participants, and implementing lessons learned.*

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## SOLAR WATER HEATER INSTALLATION

Installation of a solar water heater in the Bhubaneswar Municipal Corporation hospital in January 2008 has so far saved 720 litres of oil that would otherwise have been used to heat the water. It has saved 7700 units of electricity which amounts to saving 3.6 tonnes of CO<sub>2</sub> from being released into the atmosphere, and has saved 11950 kg of coal by March 2009. The solar water heater has supplied 830,000 litres of hot water to 8700 patients at hospital.

## EFFICIENT LIGHTING AT LORD LINGARAJ TEMPLE

As a result of retrofitting lighting fixtures in the Lord Lingaraj temple in March 2008, there has been a reduction of more than 36 percent of the total electricity. This means a saving of 9.5 tonnes of eCO<sub>2</sub> by March 2009. The project has saved 89,375 Indian Rupees in the electric costs, which means the project cost has already been recovered.

## RESOURCE CENTER & PV INSTALLATION

The number of visitors to the municipal renewable energy resource centre totalled 653 in 2008. Being a place where products are displayed, local vendors feel the impact of the centre. For instance, the dealer of Tata BP Solar products has an increased sales margin of 15 percent due to their partnership. Similarly, the Bharat Electrical Limited has increased its sale of solar thermal systems by 7 percent.

The installation of a solar pv power pack at the resource centre has generated 2260 kWh of electricity, reducing 1040 kg of CO<sub>2</sub> into the atmosphere. The demonstration has been quite successful, but the cost is the major hurdle for citizens to adopt such technology at home.

## AWARENESS RAISING IN 2008

A Teachers' Training Program was organized at the Biju Pattnaik Energy Park in Bhubaneswar along with Orissa Renewable Energy Development Agency. ICLEI-South Asia shared the city energy report with the participating teachers making them aware of their own city's emissions.

The resource centre in Bhubaneswar put up an exhibition at the annual "Khandagiri Mela 2008" fair under its mass awareness campaign with the objective to highlight the scope of Bhubaneswar Municipal Corporation's efforts towards sustainable energy implementation within the city through citizen partnership.



ICLEI-South Asia partnered with the local administration of Bhubaneswar in the "Nagar Bandhu Samman" scheme. This was a joint initiative aiming to identify individuals and institutions that have significantly contributed towards energy efficiency and the application of renewable energy, and have helped to take Bhubaneswar towards an energy efficient future. The celebration ceremony was held on "Local Self Government Day" on 31 August 2008.

Under the Local Renewables project, Energy Clubs have been created in order to sensitize and create a group of students working towards energy efficiency and adoption of renewable energy methods and technology. In Bhubaneswar alone 230 students participate in the Energy Club.





### **SOLAR WATER HEATING SYSTEM AT THE NAGPUR MUNICIPAL HOSPITAL**

A solar water heating system with a capacity of 500 litres per day has been installed in the Nagpur municipal hospital in December 2007. The installation will act as a pilot project to demonstrate advantages of using solar technologies and provided added health benefits to the visitors of the hospitals, mostly poor urban dwellers.

### **PV POWERS THE RENEWABLES RESOURCE CENTRE**

Under the pilot project implementation activities scheduled for the year 2008, successful installation as well as the inauguration of the “Solar Power Pack System” was done on 20 August 2008 on Akshay Urja Diwas by the deputy mayor of Nagpur Municipal Corporation. The system is installed at the Renewable Energy and Energy Efficiency Resource Centre in Nagpur.

In Nagpur, the number of visitors at the resource centre recorded till December 2008 was about 1000. The resource centre conducted a preliminary survey with local renewable energy product suppliers which indicated that the business of solar water heaters and other solar products has risen by at least 15-20 percent in the last two years within the entire city.

#### **Bhubaneswar & Nagpur approved renewable energy policies in 2007**

The cutting-edge energy policies of Nagpur and Bhubaneswar aim to:

- **Reduce the overall city conventional energy consumption by at least 2 - 3% from 2005 level by 2012**
- **To achieve overall 15 - 20% reduction in conventional energy consumption in municipal services and facilities from 2005 level by 2012**
- **Promoting renewable energy sources such as solar water heating systems in commercial and domestic activities**

These policies were the first municipal renewable energy and energy efficiency policies in India, and are thus a model to many more cities.



### **COMMUNITY INVOLVEMENT IN 2008**

Nagpur Municipal Corporation, in collaboration with the Ministry of New & Renewable Energy (MNRE), Government of India; Maharashtra Energy Development Agency (MEDA), Government of Maharashtra and ICLEI - South Asia celebrated “Akshay Urja Diwas” on 20 August 2008. The main aim of organizing this event was to create awareness of the importance of non-conventional energy resources to children.

Various competitions were held that included essay writing, posters making, drawing, quiz & debate etc. About 20,000 students participated in the event and winners were awarded with a cash prize, solar lantern and solar caps, along with mementos and certificates. A Sadhbhavna rally was also organized wherein the children took part displaying banners and posters on energy conservation and renewable energy issues.

On 17 November 2008, the mayor of Nagpur City, Mayatai Inwate, inaugurated the renewable energy “Mobile Van” that displays various models based on renewable energy technology at the resource centre. At the inauguration Honorable Commissioner, Shri Aseem Gupta, IAS, also honoured the occasion with his presence along with other senior municipal corporation officials.

Energy Clubs have also been created in Nagpur city that currently include 20 schools in the area. The aim is to familiarize school-going children with the use of renewable energy and energy efficiency. This is also an effort to cultivate their young minds with the benefits of using such technology and how it can be implemented in their own communities.

## COIMBATORE, INDIA STAKEHOLDER ACTION

### INAUGURATION OF RENEWABLE ENERGY AND ENERGY EFFICIENCY RESOURCE CENTRE

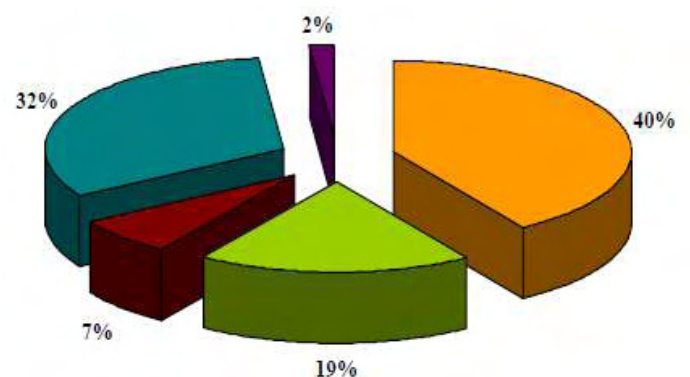
The Renewable Energy and Energy Efficiency Resource Centre, established under the project at the Municipal Corporation of Coimbatore, was inaugurated on 14 March 2009. The resource centre aims to energize communities by acting as a comprehensive resource base of information and physical exhibition of models related to sustainable energy techniques and by raising awareness on such issues. Through active stakeholder participation it acts as a hub of all sustainable energy related activities in the city and serves as a platform to meet all requirements of potential consumers of such technology.



### STAKEHOLDER GROUP FOR POLICY DEVELOPMENT

In Coimbatore, a stakeholder group has been formed through a local consultation process for formulating the city level energy policy. The group includes institutional members, renewable energy based equipment manufacturers, citizens associations, NGOs and the Tamil Nadu Energy Development Agency. The stakeholder group agreed in early 2009 on the need of a City Energy Status Report with action plans and a city energy policy. ICLEI-South Asia has prepared such a report which is now under discussion to be adopted.

Below is the energy consumption breakdown of the Coimbatore community from the energy status report. ORANGE-Residential, GREEN-Commercial, RED-Industrial, BLUE-Transportation, PURPLE-Waste. The city administration has also made a breakdown for the Municipal Corporation energy use.



### Indian National 60 Solar Cities programme

“Development of Solar Cities” – The Ministry of New and Renewable Energy (MNRE) of the India Government has sanctioned the Solar Cities programme under the eleventh Five Year Plan with an objective to support Urban Local Bodies to prepare a Road Map to guide their cities in becoming “Renewable Energy Cities” or “Solar Cities”. An indicative target of 60 cities has been set for the five-year period from 2008-2012. Numerous experiences from the <sup>Local</sup>Renewables Model Communities could contribute to the design of this programme.

The programme started in 2008. The MNRE has so far identified 15 cities for Solar Cities development, namely Agra, Moradabad, Rajkot, Gandhinagar, Nagpur, Kalyan-Dombivili, Indore, Imphal, Kohima, Dehradun, Chandigarh, Gurgaon, Coimbatore, Vijayawada and Thane.

Considering the extensive experience that ICLEI- South Asia has in working with Indian cities/urban areas on energy, climate change and sustainability issues, ICLEI- South Asia has been recommended by the MNRE as a preferred consultant to prepare the Master Plan. ICLEI- South Asia is currently contracted by Agra, Nagpur, Kalyan-Dombivili, Imphal, Kohima and Thane to prepare the Master Plan for their cities.

## BETIM & PORTO ALEGRE, BRAZIL *POLITICAL MOVEMENT*

### **POLITICS IN BETIM**

The involvement of Brazil took up full speed in autumn 2008. The first project priority was Betim, Minas Gerais, a city with 430.000 inhabitants, which was selected because of its very high commitment and action on energy saving and renewable energy shown in the past years.

The Secretary for the Environment, who has been in office since December 2008, has declared his personal support of energy efficiency and renewable energy, and expresses this towards higher levels of government and colleagues from other cities actively. The Brazilian Federal government has even announced a new Accelerated Growth Programme that will build one million government housing units for low-income families within a single year. It has been signaled that five thousand of these homes will be built in Betim. The local government is already working towards making these units more sustainable with solar thermal panels and rain water collectors (seen below). Thus, the project has given clear

signals in the Brazilian context that energy efficiency and renewable energy are reasonable policy matters and can be kept beyond changes in party politics.

### **PORTO ALEGRE JOINS THE MODEL COMMUNITIES**

Porto Alegre is the second chosen city in Brazil to become a model city. It is currently in the process of establishing policy structure and initial project set-up, as well as the needs and interests for the renewable energy resource centre.

The official memorandum of understanding signing between ICLEI and the city of Porto Alegre took place in May 2009. The city is eager to establish their resource centre and is in contact with the Indian Model Community cities for advice and experience in establishing such a centre.

Porto Alegre has also recently won the Eco-City award for its project on processing used cooking oil to produce biodiesel fuel. The project was developed by the Municipal Secretary of Environment and the Urban Cleaning Department.

**The solar water heater and rainwater collectors in Betim, Brazil. For more information, see the ICLEI case study number 95.**



## LOCAL RENEWABLES - AN ICLEI INITIATIVE

The LR Initiative aims to accelerate local action on renewable energy primarily through:

- **LR Progress Groups:** Selected cities become pioneers and model cities with the aim that they diffuse their learnings among many more in their region and country;
- **LR Network:** Networking among interested communities and linking advanced cities to those who start;
- **Capacity building:** Workshops, case studies, study visits, LR Web portal (to be opened in mid-2009);
- **Thematic and related projects:** To support energy efficiency, biogas and methane utilisation, etc.;
- **Exchange:** Local Renewables Conferences series in Freiburg, Germany and regional LR conferences:  
[www.iclei.org/freiburg2009](http://www.iclei.org/freiburg2009);
- **Global reporting:** Contributions to the Global Status Report on local Renewable Energy Policies;
- **Partnerships:** Cooperation to promote RE globally; and
- **Advocacy:** e.g. within the global negotiations towards a post-2012 climate agreement.

With the Local Renewables Initiative, ICLEI - Local Governments for Sustainability supports and strengthens the role of local governments that promote the generation and supply of renewable energy and energy efficiency in the urban environment. The focus is on the roles and responsibilities of local governments as a driving force for innovation and investment in their communities.

The LR Model Communities Network, with a current focus on India and Brazil, is funded by the German Ministry for Economic Cooperation and Development and is a source of the activities reported in this update.

Related to the Initiative are further projects in India, Brazil and Europe to support the application of renewable energy and energy efficiency, funded by governments, agencies and donors.

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