



## Urban-LEDS Newsletter #5 - October 2015

### Welcome to the fifth Urban-LEDS newsletter!

The Urban-LEDS project promotes low-emission urban development strategies in emerging economy countries. Jointly implemented by **ICLEI** and **UN-Habitat** and funded by the **European Commission**, it helps cities to pursue low-carbon, sustainable development.

This newsletter provides a brief update on exciting developments since the last edition in July, with a focus on on-the-ground action in a range of Urban-LEDS cities.

We also offer you with a sneak peak of ICLEI's tools and support helping to scale up low-carbon development in communities - including the ICLEI 100% Renewable Energy Cities & Regions Network.

Enjoy your read and see you in December at the **Cities & Regions Pavilion** (TAP Pavilion) at the UNFCCC COP21 in Paris, France!



**Cities & Regions  
Pavilion TAP 2015**

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## Multiple local projects in Doornkop Community showcasing low carbon development and tackling poverty

**Doornkop, part of the Urban-LEDS model city, Steve Tshwete Local Municipality (STLM), has been realizing its vision for a solar, off-grid future in a unique community pilot project to increase renewable energy and energy efficiency awareness through low-carbon solutions.**

### Identifying local challenges and setting low emission development priorities

The Doornkop community used to have electricity. However, frequent theft of power lines and load shedding (power outages) left the community and surrounding area with no connection to the national electricity grid.

After an initial public participatory consultation process, led by the Doornkop Communal Property Association (CPA) and the **ICLEI Africa Secretariat** under the Urban-LEDS project, the community, which already has ambitious plans to host a large-scale community owned solar photovoltaics (PV) project on its land, chose to pilot a range of low-carbon, decentralized solutions for renewable energy and energy efficiency in the local community centre that services residents. The local projects include:

- **Solar PV system:** An 18 kilowatt-peak (kWp) system was installed with 68 x 260 watt (W) panels, 32 maintenance free batteries and six inverters. This is used to provide electricity to the community centre, as well as the adjacent child and old age day care centres, which previously had no electricity.



Installing the solar panels on the rooftop of the Doornkop Community Center

- **Solar hot water heating:** Two low-pressure evacuated tube solar water heaters (150 litres) were installed on the roof of the community centre and adjacent caretaker's home. Water is supplied from a borehole and stored in a tank that relies on gravity feed.



Solar hot water heating system on roof

- **Solar street lighting:** A 70 watt-peak (Wp) polycrystalline light emitting diodes (LED) solar streetlight was installed at the entrance of the community centre. This is currently the only streetlight in the area and was received with great enthusiasm by community members.

- **Ceilings:** Ceilings are needed to help to regulate the temperature in buildings and provide some insulation. Many buildings in South Africa don't have ceilings. Ceilings were installed in the children day care and old age centres.

- **Simple solutions:** In addition to the infrastructure upgrade, the community centre and local schools also received smaller cost effective items such as insulation cookers, mobile solar lights and composting buckets. These help to demonstrate what can be done at a household level to save energy and reduce carbon emissions.



Infographic: Wonderbag a Recipe for Change



**Training, awareness and community participation**

In a bottom-up multi-stakeholder effort, the community hosted a range of training and awareness workshops to educate and engage the local community in low-carbon lifestyles and technologies. This includes the Doornkop Renewable Energy Rural Expo, led by the Youth Co-op. **Schneider Electric** also provided training for the community on access to energy. Community participation is essential to ensure ownership of the process and an understanding of the importance of renewable energy as a viable option.



Doornkop Renewable Energy Rural Expo welcomes 300 participants

**Benefits**

Four local soup kitchens indicated that they really appreciate the fact that they can now use fridges, as it reduces the need for travel and keeps food fresher. The Community Work Programme workers need to use their cell phones to take photos of completed work, and are pleased that they can now charge their phones during the day. The community centre can now also be used in the evening and they finally have internet connectivity. The elderly are very pleased that they can listen to the radio, while the kids can watch television. The highlight is however the additional lighting that was

installed, as it is very dark at night in Doornkop.

This project showcases how the municipality can work with the local community and business sector to implement a viable renewable energy solution to give access to energy. The Steve Tshwete Local Municipality is a Model City participating in the Urban-LEDS project. It has focused on developing a baseline analysis, determining strategic objectives for the future, conducted staff training and compiled a GHG inventory, with support from ICLEI Africa. The local Green Building Guidelines are under development, and the local government is committed to making solutions that have a long-term impact. For more on Steve Tshwete visit the Urban-LEDS website [here](#), and for information on the Doornkop community visit <https://doornkop.wordpress.com>

Urban-LEDS in action

**Bogor releases Low Emission Development Strategy**

**In 2015, the Urban-LEDS Model City of Bogor, Indonesia, successfully embedded its Low Emission Development Strategy (LEDS) within the City's 5-year Mid-Term Development Plan ("RPJMD"), blazing the trail for long-term sustainable transportation, green building, waste management and resilience to climate change.**

In recent decades, Bogor City has undergone rapid urban development. It has seen increasing numbers of commuters travelling to and from the city on a daily basis via micro-buses ("angkot") and private-owned vehicles. The consequences were intense road traffic and poor air quality. Additionally, Bogor's rich heritage attracts an increasing flow of tourists wishing to enjoy the city's leisure services, culture and culinary offers, which has resulted in increasing waste management challenges for the local government.

**URBAN LEADS Doornkop: showcasing sustainable solutions.**

- SOLAR PV SYSTEM**: This house has 22 solar panels of 270W each, which provides a potential capacity of 16 kW. The PV provides an average of 1000 kWh per year and is a great source of energy for the house. The solar panels and inverters provide electricity for all the house's needs.
- SOLAR WATER HEATER**: Using the energy from the sun, the solar water heater provides hot water to our home. It is a great source of energy, and it is a great way to reduce CO2 emissions by 2.6 tonnes per year.
- SOLAR STREET LIGHT**: Our solar street light has a 12V power battery, and it can light the way for us at night. It is a great way to provide an extra light at night.
- CEILING**: The solar street light has a 12V power battery, and it can light the way for us at night. It is a great way to provide an extra light at night.
- MOBILE LED SOLAR LIGHTS**: Our mobile LED solar lights are a great way to provide an extra light at night. They are a great way to provide an extra light at night.
- WOMBENBAGS**: Our Wombenbags are a great way to provide an extra light at night. They are a great way to provide an extra light at night.
- COMPOST CONTAINERS**: Our compost containers are a great way to provide an extra light at night. They are a great way to provide an extra light at night.

Educational posters developed by ICLEI Africa to show the range of local projects



RPJMD consultation in Bogor City



These challenges are being addressed in the Urban-LEDS project. Starting with a greenhouse gas (GHG) inventory guided by the latest global protocol for community-scale GHG emissions, the GPC, and following ICLEI's GreenClimateCities® methodology, the City of Bogor was able to identify its priority emitting sectors and set a course for low emission sustainable development.

Following a unique multi-stakeholder consultation effort, the local government reviewed its existing spatial planning frameworks and extensively integrated low emission development in its 5-year Mid-Term Development Plan (also known as RPJMD). This 5-year plan provides a regional land-use and development framework. It identifies the following as key low emission development objectives:

- introducing integrated low-emission transportation systems that prioritize pedestrians and cyclists;
- establishing city-wide waste management schemes and facilities;
- the development of green building standards to accelerate the use of low emission development technologies, materials and design strategies;
- improving spatial planning and urban development projects to reduce vulnerability to climate-related risks; and enhancing accessibility and user-friendliness of urban facilities to improve overall quality of life.

The RPJMD was mandated by the Bogor City regulation on regional spatial planning. Embedding the urban Low Emission Development Strategy in the RPJMD has, for example, led to: a Green Building Standard; the Mayor's referral letter on energy efficiency in all government buildings; a mayoral decree on the transition to EcoMobility focusing on pedestrians / cyclists; as well as a mayoral decree on building retrofit, pedestrian areas and the conversion of street lighting and lighting in heritage buildings to light-emitting diodes.

This approach - ensuring that the RPJMD includes robust guidelines for low emission development - vividly speaks for Bogor's determination to translate its vision into strategic action. The leadership of the Mayor and Council has ensured this city is on a course to a low-carbon, resilient and sustainable future.

Bogor's City profile is available [here](#).

## Thane awarded for leadership

**Urban-LEDS Model City Thane is gaining international recognition for its innovative projects on low emission development. The awards highlight that this city is a frontrunner of urban sustainable development and guiding the transition to low emission development.**

Under Urban-LEDS and guided by ICLEI's GreenClimateCities® (GCC) methodology, the Thane Municipal Corporation (TMC) is supported by the ICLEI South Asia Secretariat (ICLEI SAS) to identify priority areas for action and consolidate these in 5 pilot projects. ICLEI SAS is assisting the TMC with its implementation through technical support on assessments, surveys, tender development, bidding process management, on-the-ground coordination and monitoring.

Thane's ambitious pilot projects focus on rolling out renewable energy, energy efficiency for street lighting, efficient urban public transport services, and an awareness raising program on climate change and low-carbon practices.

- An awareness-raising program in schools has been conducted in 15 schools, including training for TMC staff and teachers for future replication and scale-up of the program.
- Two LED retrofitting projects of 10,000 streetlights in Thane and 500 additional lights in slums will respectively yield 60% (4.5 million kWh/year) and 40% (277,000 kWh/year) annual reductions in energy use, which means carbon dioxide equivalent (CO2e) reductions of 3,700 tons and 227 tons.



LED powered streetlights in Thane, India



- 100 drivers of the Thane Municipal Transportation department benefitted from the public bus driver training program to promote safer and fuel-efficient driving practices. Since its completion in July 2015, this program has already improved fuel efficiency by nearly 13%.
- The retrofitting of the Vartak Nager Municipal School and installation of solar photovoltaic (PV) panels and control meters will increase the school's energy efficiency, reduce its annual energy consumption (approximately 54,000 kWh) and reduce GHG emissions estimated at 44 tons of CO<sub>2</sub>e. This serves as a laboratory for students and other schools to understand the benefits of low emission measures and lifestyles. Ultimately, the school strives to become independent from the municipal energy grid.



Urban Development Secretary in Government of India, Mr. M. Ramachandran presenting award for energy efficient LED street lighting initiatives to the Municipal Commissioner, Mr. Sanjeev Jaiswal and the City Engineer

## Warsaw: leader in integrated energy planning

**Warsaw, the capital city of Poland, is leading the way in two inter-related areas of energy efficiency opportunity: buildings and district energy systems (DES). This leadership is also helping the Urban-LEDS project.**

On September 01, 2015, representatives from the City of Warsaw's Infrastructure Department shared the City's exemplary on-the-ground integrated energy planning approaches for buildings and DES, in a webinar on the UN Sustainable Energy for All (SE4ALL) Global Energy Efficiency Accelerator, hosted by World Resources Institute (WRI), United Nations Environment Programme (UNEP) and ICLEI-Local Governments for Sustainability.

The City of Warsaw is home to Europe's largest district heating network, spanning an impressive 1,720 kilometres. This complex network serves 70% of Warsaw's 1.7 million inhabitants, and 78% of the City's heating demand.

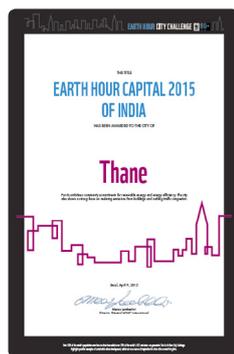


Energy efficient building concept in Warsaw, Poland



Solar panels on the Vartak Nager Municipal School in Thane, India

These pioneering initiatives and many others in the fields waste management, water supply or sustainable housing have been widely acclaimed. In 2015, Thane won the title of **National Earth Hour Capital in India** in the 2014-2015 **Earth Hour City Challenge** - recognizing its policies on solar water heating and air conditioning, its use of bio methane and rainwater harvesting.



Later in the year, the TMC was presented with the Skoch Order-of-Merit award for its initiatives in energy efficiency for street lighting (nearly 7,500 street lights have already been switched from the regular sodium vapor lamps to LED technology) and optimizing collection of floral waste generated during the traditional festivals' season as organic waste.

Modern district energy systems offer huge potential in many countries around the globe, also in areas where they are traditionally not considered. The case of Warsaw illustrates how to approach a large scale system. Clearly various sizes, shapes and types of district energy – for heating, cooling and/or electricity are available to fit the relevant context. The main interest is in energy efficient systems that run on clean fuels, and offer effective services.

What began as a primarily coal-based system in 1952, has since flourished under a public private partnership between the City and [Veolia Energia](#).

Today, the system includes a myriad of low-carbon, sustainable energy sources, such as the City's Czajka Wastewater Treatment Plant, whose sewage sludge has powered the City's street lighting since 2008.

Warsaw's DES offers its users substantial benefits. Aside from its resource-efficient, low-carbon nature, the system is highly cost effective - 70% less costly than conventional electricity sourced systems in Poland.

The housing sector in Warsaw consumes 65% of the city's annual heating requirements. Realizing that buildings and energy systems are inextricably linked, the City offers a comprehensive range of programs anchored in integrated energy planning, in the City's [Sustainable Energy Action Plan](#) (SEAP).

Programs under the SEAP (2011-2020), avidly push for the acceleration of an energy-efficient building stock in both new and existing buildings. Concrete measures include thermal retrofit schemes for existing public and social housing buildings, new passive, low-energy and energy-efficient construction and the roll out of smart grids and metering, to strengthen consumer awareness and resource-efficiency. These approaches have taken flight, as demonstrated by the city's impressive number of LEED and BREEAM certified buildings – the highest in Eastern Europe.

The City will synthesize Warsaw's diverse low emission development solutions in the historic Praga, where three districts will undergo a major revitalization, transforming into a "Low-Carbon Area". The 2015 flagship project will connect 5,000 flats (new and existing buildings) to district heating, benefiting 1300 residents.

To learn more about Warsaw's integrated energy planning for building efficiency and district energy systems, watch the webinar [here](#).

## ICLEI's guidance and tools to support your pathway to Urban Low Emission Development

**The Bonn Center for Local Climate Action and Reporting (carbonn® Center) - responsible for ICLEI's Low Carbon City Agenda - offers a range of useful guidance and tools, and operates a reporting platform, to help cities and towns realize their low-carbon urban future, and promote key developments.**

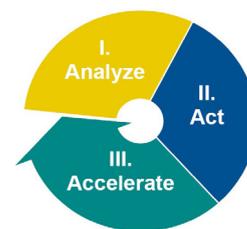
Below is a brief overview of key support elements – available to beginners and frontrunners alike.

- Policy guidance [Climate Change: Implications for Cities – Key Findings](#) from the Intergovernmental Panel on Climate Change Fifth Assessment Report (IPCC AR5)
- IPCC AR5 [Summary for Policy-Makers](#).

### Practical advice

- [GreenClimateCities®](#) program – a step-by-step process to guide local governments through local climate action planning, implementation, also offering an MRV process (Measuring, Reporting, Verifying) to track progress.

  
LOW EMISSION. LOW RISK. LIVEABLE!



- What is vertical integration? Take a look [here](#). Interested in vertical integration of Nationally Appropriate Mitigation Actions (V-NAMAs)? Take a look at [policy guidance](#), [case studies](#) and [tools](#).
- Visit the [Solutions Gateway](#) where local governments can explore low emission development solutions on waste, transit-oriented development and many other topics.



- The **Pool of Experts** is a LinkedIn group where low-emission experts and local governments can connect and exchange on specific thematic areas.



**Focus on greenhouse gas emissions**

- Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC)** was developed by the **World Resources Institute, C40, ICLEI**, in collaboration by the **World Bank, UNEP** and **UN-Habitat**.
- GHG inventory tools developed by ICLEI include the **Harmonized Emission Accounting Tools plus (HEAT+)** to help local governments account for GHG emissions, as well as Common Air Pollutants and other Volatile Organic Compounds.



- ClearPath Basic** is a multi-function online tool for GHG inventories forecasts, climate action plans and monitoring at the community-wide or government operations scale.

**Some commitment initiatives and reporting**

- The **Compact of Mayors** can help feature your commitments on the international scene to the attention of the global community. This initiative is for the leaders, with a clear reporting framework to capture quality data, including commitments, inventories and action plans.



- The **Covenant of Mayors** is the mainstream European movement involving local and regional authorities, voluntarily committing to increasing energy efficiency and use of renewable energy sources on their territories. By their commitment, Covenant signatories aim to meet and exceed the European Union 20% CO2 reduction objective by 2020.



- Promote your work: do not forget to report your GHG inventories, commitments and local climate actions in the **carbonn@ Climate Registry (cCR)**. Check the brief introductory **video** on the cCR. The cCR is the reporting platform for 14 leading initiatives (more [here](#)).



**100% Renewable Energy Cities & Regions Network - a call to mobilize**

**The ICLEI-led 100% Renewable Energy (RE) Cities & Regions Network is part of the Global 100% Renewable Energy Campaign to support the exchange of good practices and cooperation between the local frontrunners of the global renewable energy transition.**

Exploring the renewable energy transition is a key element to move towards low carbon, resilient cities, towns and regions. **ICLEI manages the 100% RE Cities & Regions Network**, supporting local and subnational governments to explore, lead and drive this process in their communities. The **Global 100% RE Campaign** in turn brings together stakeholders from all sectors as a coalition of the willing and committed, strengthening the dialogue about RE, building capacity, disseminating opportunities, case studies and success stories from all over the world, and defining a roadmap towards success. Campaign partners include Renewable Energy industry associations, research institutes, and city networks such as ICLEI.



Vancouver Councillor, Mrs. Reimer, announces the city's 100%RE commitment at ICLEI's World Congress 2015 in Seoul, Korea

Who may join this Network? The 100% RE Cities and Regions Network is open to all ambitious cities, towns, and regions setting their course towards 100% Renewable Energy. The sole condition is that these governments have already established a 100% renewables target, or publicly commit to adopting it in



the near future in at least one of the following sectors: electricity, heating/cooling and/or transport.

Join the Network and commit to a sustainable energy future!

**Zooming in on one leader:** In March 2015, under the leadership of Mayor Gregor Robertson, the Vancouver City Council unanimously pledged to shift the City of Vancouver to 100% RE for electricity, heating, cooling and housing. ICLEI is engaging with its Members, such as Vancouver and other frontrunners, to accelerate sustainable energy planning and implementation with a focus on renewables, energy efficiency and energy conservation.

Opportunities offered in the Network, include:

- Exchange and peer learning among cities, towns and regions
- Access to thematic guidance and experts
- Knowledge building workshops and events.

Pioneer members of the Network are invited to actively contribute to shaping the framework of the Global 100%RE Campaign, testing the newly developed 100% RE label to be used to recognize progress. They will also have the unique opportunity for visibility at the COP 21 **Cities and Regions Pavilion (TAP 2015)** in Paris during the UNFCCC COP21 (30 Nov.-11 Dec. 2015).

ICLEI offers support to cities, towns and regions that are committed to the transition to 100%RE. We provide guidance and tools, and operate the Network's reporting platform, the **carbonn® Climate Registry**. A selection of resources is provided below:

- [100%RE Cities and Regions Network brochure](#)
- [Local Renewables process guidance step-by-step](#)
- [Local Renewables conference series](#)
- [The role of local governments in promoting renewable energy businesses](#)
- Detailed guidance on promoting Solar Water Heating in buildings, and on the use of other renewable energy resources available at [Solutions Gateway](#)
- [GRIP scenario tool for building consensus-driven energy-futures scenarios \(by Dr. Sebastian Carney\)](#)

To learn more and join the ICLEI 100% RE Cities & Regions Network, please approach the ICLEI World Secretariat via [100re.network@iclei.org](mailto:100re.network@iclei.org)



If you haven't already - register your local government for the WWF Earth Hour City Challenge to report your big-win commitments and actions for global recognition. For more information, go to: [carbonn.org/join/](http://carbonn.org/join/)



## Cities & Regions Pavilion TAP 2015

### Raise the level of ambition at the UNFCCC COP21 in Paris, France, by reporting to the carbonn® Climate Registry (cCR)!

COP21 is just around the corner, and we want to raise the level of ambition with YOUR leadership! Report your local government's commitments, performance and actions to the carbonn® Climate Registry (cCR), by the end of October 2015, and we will highlight your leadership in our 2015 Annual Report in Paris!

#### The project in brief

The Urban-LEDS project responds to the fact that cities emit a large proportion of the world's greenhouse gases and can take steps to reduce emissions. Cities in Brazil, India, Indonesia and South Africa are outlining their Urban Low Emission Development Strategies (UrbanLEDS) and exploring implementation of a range of activities. In each country, two Model Cities are assisted in formulating and adopting their Urban-LEDS, and share their experiences with Satellite Cities, which observe, learn and share their own experiences. Experienced European Cities support the process, sharing their own experiences and know-how.

#### Project Details

**Title:** Promoting Low Emission Urban Development Strategies in Emerging Economy Countries (Urban-LEDS)

**Objective:** To enhance the transition to low emission urban development in emerging economy countries

**Duration:** 01/03/2012 – 31 August 2015 (42 months)

**Total Budget:** 6,700,000 €

**Funding mechanism:** European Union (EuropeAid/DCI- ENV/2011/269-952)

#### Implementing partners

##### UN-Habitat

The United Nations Human Settlements Programme (UN-Habitat), is the United Nations' agency for sustainable urban development.

[www.unhabitat.org](http://www.unhabitat.org)

##### Get in touch

 @Urban\_LEDS

[www.urban-leads.org](http://www.urban-leads.org)

##### ICLEI

ICLEI – Local Governments for Sustainability is the world's leading association of more than 1000 metropolises, cities, urban regions and towns representing over 660 million people in 86 countries.

[www.iclei.org](http://www.iclei.org)

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