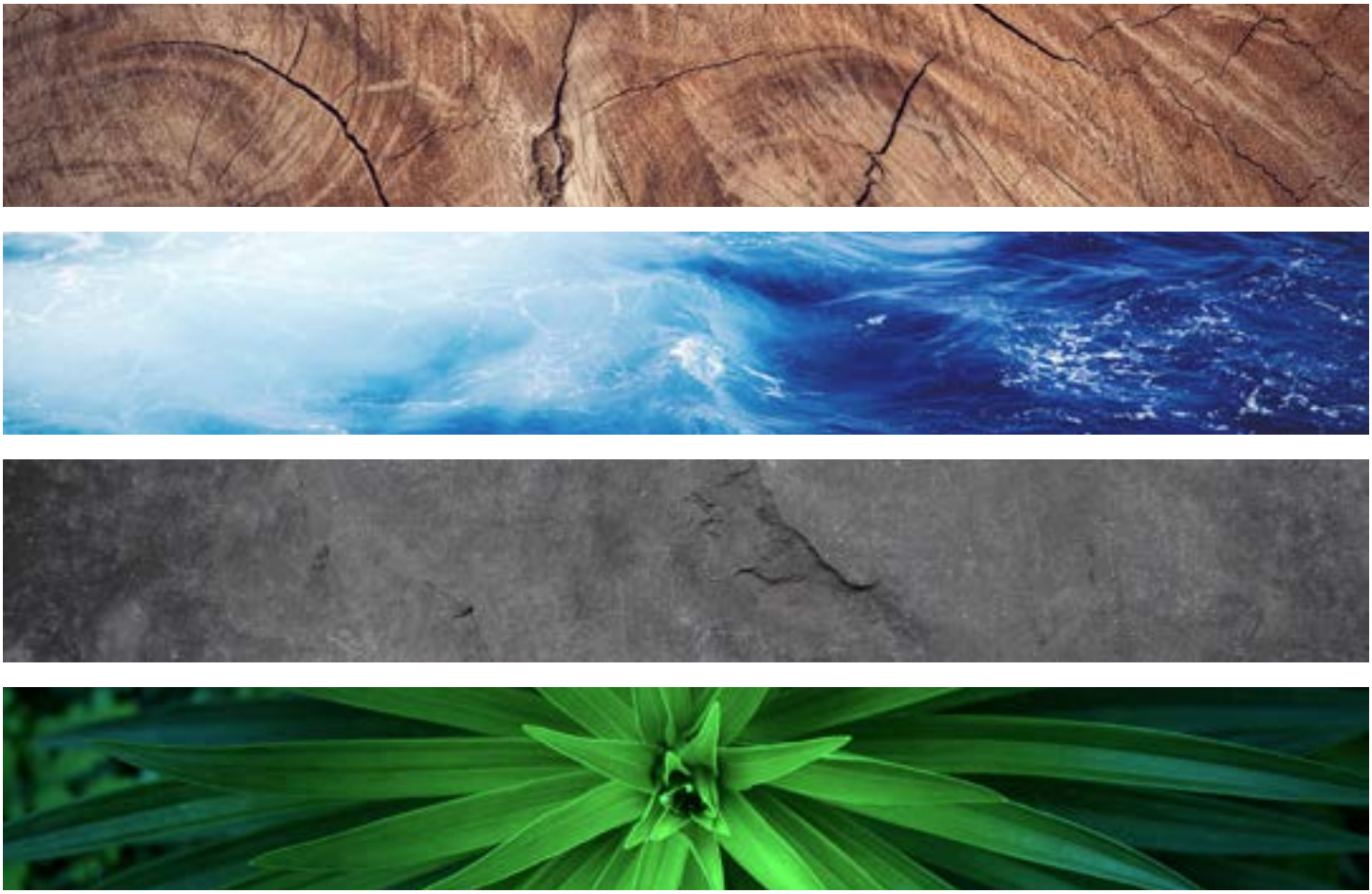
# SUB-NATIONAL BEST PRACTICES

## IN THE TOP 25 GREENHOUSE GAS EMITTING COUNTRIES



**FEBRUARY 2017**

**Climate Scorecard Report #7**

Edited by: Lois Barber and Ron Israel

Designed by: Kristin Hope

CLIMATESCORECARD.ORG

CLIMATE SCORECARD

# TABLE OF CONTENTS

# Sub-National Best Practices:
# Climate Scorecard Country Summary Report #7

## INTRODUCTION

**Climate Scorecard Country Report #7** considers recent developments around the world that open the question of the degree to which countries that signed the Paris Agreement are going to be able to comply with its provisions. A new administration in the United States, for example, is threatening to withdraw from the Agreement altogether. Many countries, such as Brazil, Turkey and South Africa, are being buffeted by political and economic crisis that constrain them from focusing on Paris Agreement commitments.

However, constraints at the national level do not seem to impede sub-national governance units-provinces/regions/states from pushing forward with aggressive and impressive emission reduction efforts. In this Climate Scorecard Report we highlight best practices at the sub-national level in the 25 leading greenhouse gas emitting countries. The Report highlights a variety of innovative efforts ranging from hydrogen powered urban transportation systems in the cities of Aberdeen and Bristol in the UK to the use of waste heat from power plants for home energy use in Hebei Province in China.

A challenge for the architects of the Paris Agreement is how to report on the impact of sub-national emission reduction practices. Countries that have signed the Agreement are obligated to put forth new Intended Nationally Determined Contributions (INDCs) every two years. But do these INDCs include efforts at the sub-national level like those described in this Report? And how can such efforts be recorded in those countries that withdraw from the Paris Agreement or fail to submit their bi-annual reports?

***--- Lois Barber and Ron Israel-Co-Directors, Climate Scorecard***

# Sub-National Best Practices in the **Top 25 Greenhouse Gas Emitting Countries**

| Country | Regions/Provinces/States | Cities |
|---|---|---|
| Argentina | Jujuy Province<br>Chubut Province | Buenos Aires |
| Australia | Canberra/ Australian Capital Territory (ACT) | Adelaide<br>Darwin |
| Brazil | The State of Sao Paulo | Recife<br>Salvador |
| Canada | The Province of British Columbia (BC) | Vancouver<br>Toronto |
| China | Hebei Province Clean Heating Project | Tianjin Urban Transportation Improvement Project<br>Ningbo |
| France | Region Nouvelle Aquitaine | Le Grand Lyon<br>Dunkerque (Communauté urbaine de Dunkerque) |
| Germany | Thüringen | Freiburg<br>Wildpolsried |
| India | Gujarat State Gandhinagar District<br>Arunachal Pradesh State | Madurai, Tamil Nadu<br>Bengaluru<br>Agartala, Tripura |
| Indonesia | | Jakarta<br>Bandung<br>Bogor |
| Italy | Emilia Romagna<br>Lombardy | Capannori |
| Japan | Kyoto Prefecture | Toyota City<br>Yokohama |
| Mexico | Baja California<br>Chiapas | Mexico City |
| Nigeria | Cross River State<br>Delta State | Lagos State |

| Country | Regions/Provinces/States | Cities |
|---|---|---|
| Russia | Yamalo-Nenetskyi Autonomous Okrug Region (YaNAO) | Moscow |
| South Africa | KwaZulu-Natal<br>Gauteng | Cape Town |
| South Korea | | Incheon City<br>Gimhae City<br>Suwon City |
| Spain | The Basque Region<br>Castile-Leon Region | Madrid |
| Thailand | | Bangkok<br>Muangklang<br>Nakhon Sawan |
| Turkey | | Eskişehir<br>Gaziantep |
| Ukraine | | Dolyna<br>Lutsk<br>Lviv |
| United Kingdom | Scotland | Aberdeen<br>Bristol |
| United States | California<br>New York<br>Massachusets | Boston, Massachusets<br>Burlington, Vermont<br>New York, New York<br>Oakland, California<br>Portland, Oregon<br>San Francisco, California<br>Seattle, Washington<br>Washington D.C. |

# ARGENTINA

Submitted by Climate Scorecard Country Manager
**DUSTIN ROBERTSON**

## Regions/Provinces/States

**Jujuy Province**–Renewable energy sources will play a crucial role in Argentina's effort to reduce greenhouse gas emissions in the coming years. Solar energy is one underdeveloped area that has huge potential. Jujuy province in the northern part of the country, on the border with Chile and Paraguay is set to expand its solar energy production significantly. Following a recent renewable energy auction by the government, the province will see three new 100MW solar energy projects. The geography of Argentina's northern provinces is especially favorable for solar energy, and it seems that the country is serious about unlocking this untapped resource.

**Contact**
Fundación EcoAndina
Email: info@ecoandina.org
Telephone: 54 (0388) 4922-275
Website: http://www.ecoandina.org/

**Chubut Province**–Another renewable energy source that may see significant growth in coming years is wind energy. As of now wind provides only a miniscule percentage of Argentina's energy. However, the government is looking to wind to help improve its energy matrix and reduce greenhouse gas emissions. Like Jujuy, Chubut also benefitted from a recent energy auction. Specifically, three new onshore wind projects will be built by different companies across the province.

**Contact**
Dr. Héctor Fernando Mattio, Director Centro Regional de Energía Eólica (CREE)
Telephone: (54) 280 4481572
Email: info@eolica.gov.ar

## Cities

**Buenos Aires**–In addition to being the national capital and the site where most climate decisions are made, the city of Buenos Aires is also taking numerous steps to combat climate change. For example, the city has signed the C40 Cities Clean Bus Declaration as well as the Compact of City Mayors–a global coalition of mayors and city officials committed to reducing local greenhouse gas emissions, enhance resilience to climate change and track progress publicly. Furthermore, there are numerous projects and green initiatives underway in the city including improvements to transportation, waste management and energy.

For more about the different actions in Argentina visit: http://carbonn.org/data/report/commitments/?tx_datareport_pi1%5Buid%5D=58

**Contact**
Cámara Argentina de Energías Renovables
Telephone: 54 (11) 4515-0517
Email: info@cader.org.ar

Greenpeace Argentina
Telephone: (5411) 4551-8811
Email: activismo@infogreenpeace.org.ar

## Associations

**Red Argentina de Municipios Frente al Cambio Climático** (Argentinian Network of Cities Against Climate Change) is an instrument to coordinate and drive local public policies in the fight against climate change. The network has over 100 members.

**Contact**: http://www.ramcc.net/index.php?option=com_k2&view=item&layout=item&id=253&Itemid=479

# AUSTRALIA

Submitted by Climate Scorecard Country Manager
**HANNAH CAMPI**

## Regions/Provinces/States

**Canberra/ Australian Capital Territory (ACT)**–The region containing the Australian capital of Canberra is one of two Australian signatories of the "Under 2 MOU" agreement, which brings together subnational governments to pledge to reduce GHG emissions in an effort to limit global temperature rise to under 2 degrees Celsius. The pledge commits its signatories to reduce their overall emissions by 80-90% below 1990 levels by 2050. Participation in this type of project, especially from the capital, not only commits to making real and measurable change in the form of emission reduction, but also sends the message that cities and provinces can and should commit themselves to taking action. The Australian Capital was also the highest ranked Australian city in the Arcadis 2016 Sustainable City Index at number 25.

Three factors are considered when listing a city in the Sustainable Cities Index: People, Environment and Profit. Cities that have proven to be livable and show good economic growth prospects without sacrificing environmental sustainability are ranked and analyzed through a variety of factors. Canberra came out ahead overall, but in the specific sub-index looking at the planet, Sydney was Australia's highest ranked city. Sydney's target of reducing greenhouse gas emissions 70% by 2030 was a key factor in its score.

**Contact Information for the Australian Capital Territory**
Mail: Access Canberra, Chief Minister, Treasury and Economic Development Directorate, GPO Box 158, Canberra ACT 2601
Telephone: + 13 22 81 or 6207 5111.

**Contact Information for the City of Sydney**
Mail: City of Sydney, GPO Box 1591, Sydney NSW 2001
Street address: Town Hall House, Level 2, 456 Kent Street, Sydney NSW 2000
Email: council@cityofsydney.nsw.gov.au

## Cities

**Adelaide**–Adelaide has announced a goal to be Carbon Neutral by 2050, and has been successful in achieving emissions reductions even with population and economic growth. The city has also made a point to identify local risks of climate change including an increase in heat waves and reductions in water supply. There is also a recycled water project underway in Adelaide which can offer some relief in an area subject to drought.

**Contact information for the City of Adelaide**
Mail: Colonel Light Centre, 25 Pirie Street, Adelaide
Telephone: +61 8 8203 7203
Fax: +61 8 8203 7575
Email: city@adelaidecitycouncil.com

**Darwin**–Voted Australia's most sustainable city in 2010, Darwin has implemented several noteworthy environmental initiatives. The City of Darwin encourages "creating habitat" anywhere possible to encourage increased biodiversity–a topic rarely addressed in sustainability and climate action plans. The city also aims to be a leader and model for implementing climate policy and reducing emissions, as stated in their plan Evolving Darwin–Strategic Directions Beyond 2020

**Contact Information for the City of Darwin**
Postal Address: G PO Box 84 Darwin, NT 0801
Street Address: Harry Chan Avenue, Darwin NT 0800
Telephone: 8930 0300
Fax: 8930 0311
Email: darwin@darwin.nt.gov.au

## Associations

**Resilient East** "Resilient East" is an initiative between Adelaide City Council, the Cities of Burnside, Campbelltown, Norwood Payneham & St Peters, Prospect, Tea Tree Gully, Unley and the Town of Walkerville.

"The goal of Resilient East is to improve the resilience of our communities, assets and infrastructure, local economies and natural environment so they can cope with the inevitable impacts and challenges of climate change." -From Resilient East website

In addition to working to improve the climate resilience capacity of Australian cities, Resilient East has produced several reports that can be used to guide next steps. These reports include a climate action plan, vulnerability assessment, and climate projections report among others.

**Contact:** http://www.npsp.sa.gov.au/our_environment/resilient_east

**Northern Alliance for Greenhouse Action (NAGA)**
"The Northern Alliance for Greenhouse Action formed in 2002 as a network that shares information, coordinates emission reduction and adaptation activities and cooperates on the research and development of innovative projects.

"NAGA's goal is to substantially contribute to the transition to a low-carbon future by delivering effective programs and leveraging local government, community and business action." -From NAGA website

**Contact:** http://www.naga.org.au/

**Climate Action Network (CAN) / Australia**
The Climate Action Network works to connect groups across Australia working towards common goals. Their primary goal is to act as a facilitator in cooperation between existing groups and supporting climate protection projects that are already underway.

**Contact:** http://www.cana.net.au/

# BRAZIL

Submitted by Climate Scorecard Country Manager
**LAURA VALENTE DE MACEDO**


## Regions/Provinces/States

**The State of Sao Paulo**–The Secretariat for the Environment of the State of São Paulo–SMA-SP was established in 1986 to coordinate and integrate activities related to environmental protection. Since 2008, it also oversees sectorial public policies that impact the environment. CETESB, its Environmental Agency, is responsible for environmental quality monitoring and licencing in the State of São Paulo. CETESB is also an acknowledged reference centre for environmental issues of the United Nations. CETESB hosts PROCLIMA, the programme in charge of implementing the state climate change law, passed in November 2009 (PEMC–Política Estadual de Mudanças Climáticas).

One of the key actions led by the State in partnership with the City of São Paulo and the private sector is the landfill methane capture and energy generation which was a pioneer project in Brazil under the Clean Development Mechanism–CDM.

It was the first State to establish an emissions reduction target, followed by the national climate law in December. Activities include capacity building, monitoring and reporting climate action, outreach and policy making on climate related issues in the state of São Paulo. Since then, the state has developed its greenhouse gas inventory.

### Learn More

For information on SP´s environmental system see http://www.ambiente.sp.gov.br/en/

For information on the state´s climate legislation see http://www.ambiente.sp.gov.br/o-que-fazemos/politicas/pemc-politica-estadual-de-mudancas-climaticas/

On climate related measures, see http://www.ambiente.sp.gov.br/spclima/

On climate action under PROCLIMA see http://proclima.cetesb.sp.gov.br/ (in Portuguese only)

For information on the landfill gas project see http://biogas.cetesb.sp.gov.br/

## Cities

**Recife**–Recife´s administration has been engaged in climate actions since 2012. In 2014, the city developed its greenhouse gas emissions inventory, and passed Law 18011/2014, that established a climate action plan, prioritizing transportation and greening. It was the first local government in the

Northeast region of the country to commit to GHG emissions reduction targets.

A flagship of the city´s policies includes the Porto Leve initiative that fosters innovation in urban mobility. The initiative is a coordinated effort that also involves the city´s secretariats for transport, science and technology. Porto Leve was established in 2015 to provide innovative and sustainable services at the Parque Tecnológico do Porto Digital (The Digital Port Technological Park). It focuses on three main areas with the following objectives:

- To promote sustainable mobility
- To foster security and traffic management
- To promote technology research in the Park related to sustainable and innovative urban mobility.

The initiative includes providing bike sharing, electric vehicles, smart parking, public transportation and mobility information to users and visitors in the area.

**Contact**
Maria Aparecida Pedrosa Bezerra (Cida Pedrosa), Municipal Environment Secretary
Mail: Rua Fernando Cesar, 65 - Encruzilhada - CEP: 52041-170 Recife, PE, Brazil Department: Secretaria de Meio Ambiente e Sustentabilidade do Recife – SMAS. Recife´s Environment and Sustainability Secretariat.
Emails: semamrecife@gmail.com; cidapedrosa65@yahoo.com.br;
Secretary Magda magdal42@hotmail.com
Telephones: (+55 81) 3355-5801. Advisor Carlos Ribeiro-tel: / (81)9488-6700

**Learn More**

For Recife´s greenhouse gas inventory, climate law, and other relevant actions, see https://meioambienterecife.wordpress.com/?s=mudan%C3%A7as+clim%C3%A1ticas
(in Portuguese only)

For further information on Recife´s Porto Leve initiative to promote sustainable mobility see http://www.portoleve.org/ (in Portuguese only)

Contact: Francisco Saboya, President
Emails: saboya@portodigital.org
portodigital@portodigital.org

**Salvador**–The city of Salvador has been steadily improving its environmental record since 2009, investing in mobility, green areas, environmental education and waste management. The city has many challenges and a long way to go, but is on track to becoming a model city in the Northeast region of Brazil. The state government of Bahia partners with the city to implement public transport and waste management. The city developed a greenhouse gas inventory in 2014 and integrates climate policies in the city´s strategy towards sustainability. Actions include implementing cycle lanes, increasing pedestrian areas, and building awareness campaigns on waste and recycling.

**Contact**
André Fraga, Municipal Secretary, Secretaria Cidade Sustentável de Salvador – SECIS
Salvador´s Municipal Sustainable City Secretariat
Mail: Av. Sete de Setembro, 89 - Ed. Oxumaré, 3 andar – Centro, Salvador, BA, Brazil.
Telephone: (+55 71) 3202-5630 / 5646
Email: andrefraga_ssa@hotmail.com; SecretaryRosangela Araújo rossas_@hotmail.com

**Learn More**

For further information on Salvador´s environmental department and activities see http://www.sustentabilidade.salvador.ba.gov.br/institucional/a-secretaria/ (in Portuguese only)

For the report and municipal inventory on greenhouse gas emissions see http://www.sustentabilidade.salvador.ba.gov.br/institucional/inventario-de-emissao-do-efeito-estufa/ (in Portuguese only)

**Sao Paulo**–Gilberto Natalini is a practicing physician, and São Paulo city council member with the Green Party (Partido Verde – PV) in his fourth mandate. He was elected for a fifth mandate beginning in 2017, and was appointed Municipal Secretary for the 4-year mandate beginning in 01 January 2017.

Natalini is a renowned environmental activist, leading policies for the city at the Council, including climate change, health and urban issues. Since 2001, his cabinet organizes an important yearly conference on Cleaner Production and Climate Change that gathers over 900 participants from all walks of life.

**The Environment Secretariat**–SVMA is responsible for environmental policies at the local level, interactions with other bodies on related issues, and for maintenance of parks and green areas in the city. The SVMA led the process towards passing the city´s climate law in 2009, and coordinates the Committee that implements it. The city of São Paulo was the first major city in South America to pass a climate law and establish emissions reductions targets. The Committee on Climate Change and Ecoefficiency gathers government officials and civil society representatives who oversee the implementation of the measures in compliance to the climate law.

**Contact**
Gilberto Natalini, Secretary (as from 01 January 2017), Secretaria Municipal do Verde e do Meio Ambiente de São Paulo – Municipal Environment Secretariat, State Government - São Paulo
Mail: Rua do Paraíso, 387 – Paraiso CEP: 04103-001 - São Paulo, SP Brasil
Telephone: (+55 11) 3171-2154
Email: natalini@camara.sp.gov.br and svma@prefeitura.sp.gov.br

# CANADA

Submitted by Climate Scorecard Country Manager
**DIANE SZOLLER**

## Regions/Provinces/States

**The Province of British Columbia (BC)**–BC has long been a leader on climate change. In 2007, a Climate Action Charter with the province and the Union of BC Municipalities, committed to carbon neutrality by 2012 including municipal GGE reporting. As of 2013, 182 of 190 municipalities (96%) had signed on. In 2008, a Climate Action Revenue Incentive program (revenue neutral), equivalent to 100% of what local governments paid as carbon tax came into effect. This was separate to other grant sources.

A world-leading Climate Action Plan began in 2008, foundational for large-scale change in reaching a target to reduce GGE 6% below 2007 levels by 2012. This included more than $1 billion in programs and tax incentives to encourage cleaner choices. Additional GGE targets are a 33% reduction by 2020 and 80% by 2050. Results have included transit development, green infrastructure, i.e., community energy systems, building retrofits, fuel efficient fleet vehicles and hydro projects. Along with California, BC was first to implement a low carbon fuel standard.

Since 2012, BC continues to invest in innovation and infrastructure to reach its 2050 target. $1.9 billion is being directed to: $50 million in clean energy/technology; $831 million for clean transportation; $300 million for transportation infrastructure; $24 million to energy efficiency of homes and businesses; and $704 million for clean electricity infrastructure. Recent policies include carbon neutrality for health authorities and post-secondary institutions. These actions are expected to reduce annual GGE by up to 25 million tonnes below current forecasts by 2050 and 66,000 jobs over ten years. A Climate Leadership Plan (launched 2016) adds sector-specific and international initiatives such as The Carbon Pricing Leadership Coalition; and Under 2 MOU.

**Contact**
The Hon. Mary Polak, MLA, Minister of Environment (Climate Leadership Plan, 2016)
Mail: Room 112, Parliament Buildings, Victoria BC V8V 1X4
Telephone: (250) 387-1187
Email: mary.polak.MLA@leg.bc.ca

## Cities

**Vancouver**–Vancouver is committed to its Greenest City Action Plan (GCAP) (2011), a strategy to become the greenest city in the world by 2020. In 2015, at the halfway mark and with 80% of actions completed, staff identified more than 50 new actions in collaboration with over 300 internal and

external advisors adding to the original suite of 125 priority actions. The result was a new road map to being the greenest city globally. Reduction pathways have included energy efficient buildings, district energy, local food, transportation and vehicle changes, reduced landfill waste and clean electricity. As of 2016, examples of target results include: climate and renewables – reducing community-based GGE by 33% from 2007 levels, so far a decrease of 15% since 2007. Green buildings–all buildings constructed from 2020 on to be carbon neutral in operations, and a reduction of GGE in existing buildings by 20% from 2007 levels, results being a 20% decrease since 2007. Green transportation–reducing average distance driven per resident by 20% from 2007 levels, results were a 27% decrease. In November 2015, a renewable strategy was endorsed for 100% of Vancouver's energy to come from renewable sources before 2050. Also, a priority action of the Green Plan is an adaptation strategy (2012) integrating climate change into planning, design and emergency management to prepare for climate change impacts.

**Contact**
Lloyd Lee, Monitoring and Reporting Planner
Mail: Vancouver City Hall, Sustainability Office, 453 West 12th Ave, Vancouver, BC V5Y 1V4
Telephone: (604) 873-7000
Email: lloyd.lee@vancouver.ca

**Toronto**–Toronto's Climate Change Action Plan (2007) set bold targets based on 1990 levels of 22 million tonnes of GGE per year, of 6% by 2012, 30% by 2020, and 80% by 2050. Budget allocations include: $42 million to conservation measures, $20 million for renewable projects and $22 million to retrofit City facilities. This was followed by a Climate Adaptation Strategy (2008) and a Sustainable Energy Strategy (2009). Toronto surpassed its 2012 target with a 15% reduction in 2011.

Since 1996, the Better Buildings Partnership (BBP) partnered with Toronto on over 2,500 projects to eliminate the equivalent of 683,000 tonnes of GGE. Retrofits to City buildings have reduced energy intensity by 25% since 2006. To achieve a target of 80% by 2050, a focus will be will on the use of electrified transit networks and in connecting buildings to low-carbon thermal networks. As of 2012, the City had cut emissions by 49% against 1990 levels through building retrofits, collecting methane from landfills, installing solar PV systems on City properties, connecting City buildings to Deep Lake Water Cooling systems and planting thousands of trees. Also in 2013, a Carbon Credit Policy began. Results in 2015 alone included 77 BBP projects saving 69,400 tonnes of GGE/year, 47 eco-roofs, a Home Energy Loan Program for low-interest loans, 22 sites reducing peak consumption by 6.79 MW for the province's Demand Response program, LED retrofits in 27 arenas, a savings of $160,000, and 89% waste diversion from the City's 11 largest buildings. Toronto is a member of C40, 100 Resilient Cities and the Compact of Mayors.

**Contact**
Mark Bekkering, Implementation and Support, Environment & Energy Division
Mail: Toronto City Metro Hall, 55 John Street, Toronto, M5V 3C6
Telephone: (416) 392-8556
Email: mark.bekkering@toronto.ca

**Learn More**

BC has been a leader in Canada on climate action and carbon taxes that are revenue neutral. Read more at http://climate.gov.bc.ca/feature/climate-leadership-plan/
http://www.cscd.gov.bc.ca/lgd/greencommunities/climate_action_charter.htm

Vancouver will be the greenest city in the world by 2020. See how at http://vancouver.ca/files/cov/greenest-city-2020-action-plan-2015-2020.pdf and http://vancouver.ca/files/cov/Vancouver-Climate-Change-Adaptation-Strategy-2012-11-07.pdf

Toronto, Canada's largest city, follows Vancouver in innovation to reach GGE reduction. See http://www1.toronto.ca/city_of_toronto/environment_and_energy/key_priorities/files/pdf/2009-10_report.pdf

http://www1.toronto.ca/City%20Of%20Toronto/Environment%20and%20Energy/Divisional%20Profile/EED_AnnualReport2015.pdf

# CHINA

Submitted by Climate Scorecard Country Manager
**LENA COURCOL**

## Regions/Provinces/States

**Hebei Province Clean Heating Project**–In 2003, district heating represented about 5.3 to 6.1 of total coal consumption in China and in 2008, the heating sector consumed a total of 145.4 million tons of raw coal. With continued urbanization and rising levels of quality of life in China, the effort to minimize the carbon intensity of district heating is necessary for low-carbon development. Hebei is a northern province adjacent to Beijing, in which national law requires district heating due to cold climatic conditions. The province has previously received World Bank funding and support for initial district heating reform as requested by 2003 central government policies, and now continues further subprojects to improve efficiency and environmental performance. The recently approved, January 2016, Clean Heating Project aims to modernize heating systems in Chengde, Xingtai and Zhangjiakou municipalities and Pingshan County through improved heat metering to promote efficiency and conservation; developing the use of waste heat from power plants and industry, and; transitioning to alternative sources of energy, primarily natural gas. The modernizing efforts for district heating will strengthen heat supply security, reduce air pollution, and allow for greater flexibility in sourcing energy from renewables, including geothermal and biomass. Currently, coal remains the cheapest energy source, however, ground-source heat pumps and other alternatives are gaining dominance.

**Contact**
http://www.worldbank.org/en/news/press-release/2016/01/19/china-improving-district-heating-to-reduce-air-pollution

http://projects.worldbank.org/P148599/?lang=en&tab=overview

## Cities

**Tianjin Urban Transportation Improvement Project**–Tianjin is a northern city adjacent to Beijing. As part of the greater Sino-Singapore Tianjin Eco-City Project, the urban transportation improvement project aims to provide greater public service transportation, as well as promoting walking and biking in the urban core, in order to make transportation in Tianjin greener and safer. Travel patterns by urban residents have changed as urbanization has led to greater urban sprawl and development of improved road infrastructure. By 2012, private car ownership had reached 1.9 million, representing a three-fold increase since 2006, and private motorized trips accounted for 15.6 percent of total trips. The bike mode share in Tianjin dropped by 15 percent during that same period. As a result, congestion has worsened and heavy pollution plagues the city with about 66 percent of days with below-standard air quality.

The Tianjin Urban Transport Improvement Project is comprised of five main components:

1. Redevelopment of streetscapes in Heping and Nankai districts, including pedestrian and bike networks
2. Improving metro access through interconnection facilities, such as bike parking, bus connection, park and ride, etc.
3. Launching a public bike sharing system pilot in the core urban area
4. Development of a bus infrastructure, including parking, bus stops, lines, etc.
5. World Bank technical assistance for sustainable green urban transport development: http://projects.worldbank.org/P148129/?lang=en&tab=overview

**Ningbo**–Ningbo is a fast-growing port city in northeast Zhejiang province. The Ningbo Sustainable Urbanization Development Project follows an overarching eco-city, low-carbon framework aiming to improve the use of urban public space, mobility and reduce flood risk for particularly susceptible Ningbo counties. The project was approved in July, 2016 with a completion date in 2021, and is comprised of three main components:

1. Urban regeneration by salvaging built assets and conserving embodied energy in existing buildings, as well as creating a higher quality, vibrant urban core that promotes greater urban facilities and prevents sprawl.
2. Urban transportation to improve mobility within the urban network by enhancing transport capacity, reliability and service quality.
3. Flood risk management through a decentralized approach, in which vulnerable counties will implement measures to their specific threats.

**Learn More**
http://documents.worldbank.org/curated/en/925201468025481480/pdf/ISDS-Print-P149485-04-07-2015-1428440293448.pdf

## Associations

**Promotion of Clean and Low Carbon Cities (China)**–China's cities continue to absorb about 13 million rural residents each year. This rapid urbanization coupled with high economic growth and growing purchasing power, has put tremendous pressure on all forms of public services, including energy, housing, transport, and waste. Recognizing this mounting challenge, China's cities have launched eco-city and low-carbon city initiatives. In fact, over 80% of all prefecture-level cities in the country have launched at least one eco-city project. A trend that has been largely supported by the National Development and Reform Commission (NDRC) who officially announced, in 2012, that eight cities and several areas in five provinces would pilot low-carbon growth under national government guidance. Other cities have begun the initiatives independently thanks to China's decentralized governmental structure that gives cities a high level of autonomy in political, financial and administrative matters. Municipal governments have demonstrated a desire for low-carbon transformations, understanding that such policies support the creation of livable, efficient, competitive, and sustainable urban areas. Outlined are three examples of projects that have been implemented under the overarching goal of developing a low-carbon framework.

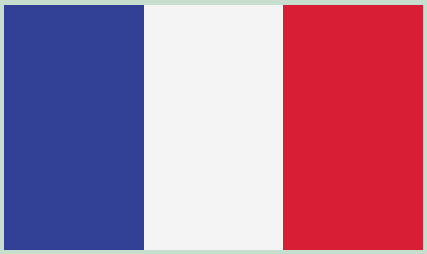
**Contact**
http://projects.worldbank.org/P147087/?lang=en&tab=overview

**The National Development and Reform Commission** is an 'inter-ministerial' organization launched in 1998, in charge of establishing ands implementing national economic and social development strategies, including climate action and environmental frameworks for provinces and cities alike.

**Learn More**
http://en.ndrc.gov.cn/

# FRANCE

Submitted by Climate Scorecard Country Manager
**CHARLINE GAUDIN**



## Regions/Provinces/States

**Region Nouvelle Aquitaine**–Region Nouvelle Aquitaine, with an area of 84,100 km2 and 5.8 million inhabitants, it is the biggest region of France. The Regional Council has established a Permanent Council for Energy Transition and the Climate. It will coordinate the action of the Regional Council services concerning climate change and mobilize external partners based on the Négawatt approach. It aims to reduce energy consumption, improve energy efficiency and substitution through the development of renewable energy. The renewable energy sector relies on a regional tool: the investment fund Terra Energies that was created in 2006. It brings together private and public partners through participatory financing mechanisms. Its goal is to support and facilitate renewable energy projects so that 32% of energy used in the region comes from renewable sources. Another objective of the region is to improve energy efficiency by 20% by 2020 in the industrial sector. The regional government matches the investments of these companies in their efforts to reduce their energy consumption by 10%. Aware of the importance of the contribution of buildings in energy consumption, the region also matches the money spent by owners of homes and housing in their energy renovation projects.

**Contact**
Jimenez Julien, Project manager
Mail: Hôtel de Région , 14 Rue François de Sourdis  33 077 Bordeaux cedex
Telephone: 0033 5 56 56 38 91
Email: julien.jimenez@aquitaine.fr

## Cities

**Le Grand Lyon** *(Lyon and its surroundings is the second biggest French city)*–The Great Lyon signed the Convenant of Mayors committing to respect the objectives fixed by the EU by 2020 and to adapt its cities organization. It committed to reduce its CO2 emissions by 2020 by 20% (by 75% by 2050), and to reduce its energy consumption by 20%. It also pledged that renewal energy will represent 20% of the region's total energy consumption. In 2012, the Great Lyon also adopted the Territorial Energy Climate Plan (Plan Climat Energie Territorial (PCET)). The Plan includes 26 actions for every sector concerned with GHG emissions. In total, 173 measures involving more than 50 partners are foreseen. For each of the 26 actions a steering committee will be established. The Great Lyon is the first French, and one of the first European cities, that took this initiative.

Various initiatives have been launched with very positive results. One is 'Families with Positive Energy'

which allowed the region to save 990,000 kWh, equivalent to 170 tons of avoided CO2. In the city of Vénissieux, the share of renewable energy reached 50%. Two thousand eco-buildings have been created through renovation in order to ensure low energy consumption. An 'application by phone' system has been created to support reducing local energy consumption and to limit GHGs. The city of Lyon received the label 'Cit´energie,' a European Energy Award.

**Contact**
Bruno Charles, Vice-Président EELV de la métropole de Lyon chargé du développement durable et de l'agriculture
Mail: Europe Écologie Les Verts du Rhône et de la Métropole Grand Lyon 34 rue Rachais 69007 LYON,
Telephone: 04 82 53 92 97
Email: rhone@eelv.fr
Website: https://brunocharles.org

Other contacts regarding the PCET:
Agence Locale de l'Énergie de l'agglomération lyonnaise (ALE)
Mail: 14, place Jules Ferry, Gare des Brotteaux, 69006 Lyon
Telephone: 04 37 48 22 42

**Dunkerque (Communauté urbaine de Dunkerque)**–The Community of Dunkerque also signed the Convenant of Mayors and adopted a Climate Plan in 2008. It monitors GHG emissions and analyzes its carbon footprint. The main objective of PCET is to reduce the region's GHG emissions to 25% of current levels by 2050. This is a national objective in line with EU policy. This reduction applies to waste treatment, housing, and transport sectors. A core aspect of the Plan is that the public service should show their examples concerning energy efficiency and savings. One example is that the community has established a "Reflex´Energie" scheme to encourage individuals to rehabilitate their houses. Three type of work are supported: isolation, installation of solar panels, and condensing boilers. A lot has been done to involve local companies and individuals. Various working groups have been established on specific topics (e.g. housing, mobility and urban planning). The city is also leading a research project (pilot project at national the level) ALTYTUDE on the use of alternative fuels for its public transport vehicles. Results: Since 2013, the City of Dunkerque has received the highest rating called 'Cit´energie GOLD'. It has reached 73% of its objectives.

**Contact**
M. Jimmy Mary, Chargé de mission PCET et Cit'ergie (Communauté urbaine de Dunkerque),
Telephone: 03 28 24 48 83
Email: jimmy.mary@cud.fr

## Associations

There are 11 local associations that are members of the RAC and are involved in fighting climate change and reducing GHG emissions in France (http://www.rac-f.org/Associations-membres.html#asso_locales). Two them are presented below.

## Clim actions Bretagne Sud

Clim actions Bretagne Sud is an independent association aiming at mobilizing the politic, social, and economic stakeholders in order to adapt the region to the consequences of climate change. Its objectives are:

- Promoting energy sobriety and consumption models that respect common goods and the environment.
- Supporting, accompanying, and proposing solutions and innovative projects to reach the objective to reduce GHG emissions by 75% (factor 4 of the COP21, of EU and France).

Clim actions Bretagne Sud implements projects on education and climate in order to raise local awareness but it also supports citizen projects in the field of renewable energy through trainings for inhabitants but also for elected representatives.

### Contact

Association Clim'Actions Bretagne
Mail: 43 rue du Maréchal Leclerc, 56000 Vannes, France
Telephone: 0689293597
Email: contact@climactions-bretagnesud.bzh
http://climactions-bretagnesud.bzh

## Virage Énergie Climat Pays de la Loire

The association 'Virage Énergie Climat Pays de la Loire' was created by three other associations: Alisée, Attac44, et Sortir du Nucléaire 49. It aims to:

- Reduce GHG emission in the region Pays de Loire according to the recommendations of the IPPC: -40% by 2020 and at least -85% by 2050.
- Ensure sustainable energy supply by reducing consumption and developing renewable energy.

The association relies on the recommendations of the négaWatt scenario which proposes realistic solutions to reduce by the factor 4 energy consumption and GHG emissions in France, and on the work of 'Virage Energie Nord Pas de Calais', which was the first French local plan regarding climate-energy.

### Contact

http://www.virageenergieclimatpdl.org/contact#

# GERMANY

Submitted by Climate Scorecard Country Manager
**ROLAND SELINGER**

## Regions/Provinces/States

**Thüringen**–Thüringen is a state of some 2.2 million people located in central-east Germany. In 2012, the state produced 30% of its energy using renewable sources, and is aiming to increase this figure up to 5% by 2020. To do so it has largely scaled up its use of wind energy, with 25,000 operating wind energy installations in 2014. Consequently, in 2013, Thüringen had the lowest state GHG emissions per capita in Germany, representing 4.8 Mt CO2 per inhabitant. This is especially low when compared to Brandenburg, whose state emissions per capita–23.4 Mt CO2–were the highest in Germany.

**Contact**
State Representative Günter Kolodziej
Tel: +49 (361) 3792-400
Mobile: +49 (152) 23097247
Email: guenter.kolodziej@tsk.thueringen.de

**Learn More**
http://www.thueringen.de/th8/tmuen/energie/erneuerbare/wind/

## Cities

**Freiburg**–Freiburg is a city in the South-west of Baden-Württemberg with some 220,000 inhabitants. Following the events of the Chernobyl disaster, Freiburg citizens were among the first to protest the production and use of nuclear power in Germany, ultimately leading to the nation-wide nuclear phase-out. Notable initiatives include revisited infrastructure design which has driven down domestic energy consumption, as well as integrated waste management systems that encourage waste reductions and organic compost efforts. Most ambitious of all is the city's goal to reduce CO2 levels by 29% from 1992 to 2020, and 40% by 2030.

**Contact**
Manuela Schillinger, Head of Environmental Protection Bureau
Telephone: +49 0761 201-6110
Email: manuela.schillinger@stadt.freiburg.de
Melanie Sester
Telephone: +49 0761 201-6115
Email: Melanie.Sester@stadt.freiburg.de

**Learn More**
http://www.iclei-europe.org/members/member-in-the-spotlight/archive/freiburg/

**Wildpolsried**–Wildpolsried is a municipality of some 2,500 inhabitants in south-western Bavaria. It was highlighted in Al Gore's recent climate change awareness project, 24 Hours of Reality, for having developed a sustainability action plan for 2020 as early as 1999. At the forefront of this plan was the community desire to become energy self-sufficient, using a primary mix of wind and solar, but also biomass and hydro sources. Today, Wildpolsried produces more energy from renewable sources than it consumes, exporting electricity to the German power-grid and reducing their carbon footprint to zero.

**Contact**
Susi Vogl, Chief Coordinator for Energy and Environmental Protection
Mail: Kemptener Str. 2, 87499, Wildpoldsried
Telephone: +49 08304 9205-0
Email: susi.vogl@wildpoldsried.de

**Learn More**
https://www.youtube.com/watch?v=gF2C4qd9aH0

# INDIA

Submitted by Climate Scorecard Country Managers
**TANIKA DUTTA** and **MUNEER MAGRAY**

## Regions/Provinces/States

**Gujarat State Gandhinagar District**–In the Gandhinagar district of Gujarat, an initiative has been taken by the Gujarat Ecology Commission, and the Forest Department to reduce greenhouse gases through the development of mangroves. Gujarat has introduced the Community Based Mangrove Management model. More than 15,000 ha of Mangrove plantation were carried out through the active involvement of local communities. In addition, Gujarat promoted a mangrove conservation plan. By keeping more mangroves intact, approximately 13 million metric tonnes, of carbon dioxide has been prevented from being released into the atmosphere. This is almost the equivalent to taking 344,000 vehicles off the road each year.

**Contact**
Dr. H.A. Solanki, Professor, Gujarat University
Telephone: 9898119766
Email: husolanji@yahoo.com

**Arunachal Pradesh State**–Arunachal Pradesh ranks among the lowest GHG emitting states of India. Less infrastructure development, low carbonization levels, high utilization of bio mass for energy and power generation from renewable sources (hydro), and the absence of industries are the major factors contributing to their low levels of GHG emissions. About 59 % of GHG emissions come from the energy category. The State is undertaking carbon sink enhancement projects that will cover 1.747 million hectares with an intention to increase forest cover and eco-restoration of degraded forests. The annual incremental carbon sink enhancement potential is estimated to be 20.6 million tonnes of carbon or about 75 million tonnes of CO2 by 2020.

**Contact**
Sri Bilatee Pertin, IAS- Secretary, Govt. of Arunachal Pradesh
Mail: Secretary to Governor / Secretary (Planning), Government of Arunachal Pradesh, Raj Bhawan, Itanagar-791111
Telephone: 2006201, or, 9436271271
Email: cs-arunachal@nic.in

## Cities

**Madurai, Tamil Nadu**–Madurai is also one of the five cities declared to be the least polluted in India by the World Health Organization (WHO). Although vehicular emissions have increased, coping strategies are also improving.

**Bengaluru**–Bengaluru stands in the 43rd position in the same ranking with a RSPM count of 71mg/cubic meter. The city has also topped the charts for becoming one of the safest places for patients with respiratory problems due to the commendable quality of their air.

**Agartala, Tripura**–Agartala lies in the North-east as the capital of Tripura. The city is lush green with a good amount of carbon dioxide absorbing agents. Its pollution free air is one of the reasons that it attracts tourists from big cities.

# INDONESIA

Submitted by Climate Scorecard Country Manager
**TRISTAN GRUPP**

## Cities

**Jakarta**–Jakarta has committed to reduce its emissions by 30% in the community and by 30% in the government based on 2005 levels, and to shift its energy use to 30% renewables by 2030. Jakarta has already taken several mitigation and adaptation actions. The city has installed a solar power plant in Kepulauan Seribu with a capacity up to 50 KwP. Bantar Gebang Landfill's composting center contributes

up to 3.867 tons of CO2eq emissions reductions and is capable of processing 60 tons of organic waste daily. Bantar Genbang Landfill is well known as a massive and overwhelmed dump. These initiatives are promising and necessary. Jakarta's streetlights are powered through solar energy. The production capacity from this project, 36.4 kwp, reduces emissions by 6.8 tons of CO2eq. Jakarta has also finished its master plan for wastewater management to create sustainable water cycling. Its current projects include expanding urban forests, installing flood control measures, and developing solar energy installations to power all of Jakarta's schools and government buildings. Jakarta is also expanding another recycling and composting center (Cakung) to take the burden off of Bantar Gebang. In addition, between 2012 and 2023, Jakarta plans to develop three waste-to-energy plants. The proposed plants will have the capacity to process 5,000 tons of waste per day. Jakarta is also developing a Green Building Implementation policy to ensure that new construction reduces the use of natural resources, sources local building materials, and reduces its carbon footprint. Jakarta is part of the Compact of Mayors, the Municipal Solid Waste Initiative, and the C40 Cities Clean Bus Initiative.

**Contact**
BPLHD Jakarta (Environmental Management Agency - Jakarta)
Address: Jl. Casablanca Kav. 1 Kuningan Jakarta Selatan
Telephone: 62-21-5209651, 62-21-5209653, 62-21-5209645
Email: bplhd@jakarta.go.id ; webmin_bplhd@yahoo.com
Website: http://bplhd.jakarta.go.id/ and http://sigd.jakarta.go.id/

**Learn More**
On Jakarta's actions to reduce its emissions: http://carbonn.org/data/report/commitments/?tx_datareport_pi1[uid]=743 and http://climateaction.unfccc.int/city/jakarta/indonesia
On problems associated with the Bantar Gebang Landfill: http://www.thejakartapost.com/news/2015/11/07/jakarta-keep-using-bantar-gebang-landfill-despite-conflict.html
On the three new waste-to-energy plants: http://thejakartapost.com/news/2016/05/20/jakarta-set-to-develop-waste-to-energy-plants.html

**Bandung**–Bandung seeks to reduce emissions by 30% by 2030 compared to a 2013 business-as-usual scenario. It is currently performing an energy audit to determine energy use between residential, commercial, and industrial facilities. Bandung facilities make up 37% of government emissions. They are working on an Eco Office project to reduce emissions from buildings that make up 63% of emissions. They are installing 2,000 biodigester facilities by 2018 that can each process two tons of trash per day. Bandung is currently implementing a tax incentive for those who allocate land for water reservoirs. The city has developed and implemented many emissions reductions initiatives and plans. These include: Bandung Low Carbon Society, Bandung City's Climate Change Action Plan, Environmental Management and Protection Plan, Bandung City Transport Master Plan and Bandung Urban Mobility Project to develop the transportation system, and others.

**Contact**
Chandra Budi Hertyasning, Green Building Council Indonesia – Bandung
Address: Setrasari Plaza Blok C-1 No 45, Jl Ters. Jl Ter. Dr. Sutami-Bandung, Jawa Barat
Telephone: 62-81-22053668

Email: bandung@gbcindonesia.org
Website: http://www.gbcindonesia.org/

**Learn More**
On Bandung's actions to reduce its emissions: http://carbonn.org/data/report/commitments/?tx_datareport_pi1%5Buid%5D=738
On Bandung's different plans and strategies: http://www.oecd-ilibrary.org/urban-rural-and-regional-development/green-growth-in-bandung-indonesia_9789264264113-en

**Bogor**–Bogor plans to reduce CO2e emissions from government operations by 33% by 2020 compared to 2010 business-as-usual levels. It has adopted a Nationally Appropriate Mitigation Action (NAMA) for its transportation system, which includes a bus fleet, increased public transportation corridors, and pedestrian infrastructure. This initiative is seeking funding. They are currently working on Trans Pakuan; a rapid bus transportation system. Bogor has completed a project to make commuting 20% by pedestrians and cyclists. Further, Bogor is targeting 22 kilometers of pedestrian paths which will be built through 19-stages from 2012 - 2020. Bogor is in the process of developing a smart street lighting system, replacing all lighting with LEDs by 2019. It is developing a system of integrated community sanitation facilities that recovers methane for biodigesting and energy production. 43 of these facilities have been built so far. Many new construction projects after 2015 in Bogor must meet their Green Building Concept. Bogor has integrated its Low Emission Development Strategy deeply into its 5-year Mid-Term Development Plan (also known as RPJMD).

**Contact**
BPLHD Bogor (Environmental Management Agency - Bogor)
Mail: Jl. Senam No. 1 Bogor
Telephone: 02518340057
Email: bplh@kotabogor.go.id
Website: http://bplh.kotabogor.go.id/

**Learn More**
On Bogor's actions to reduce its emissions: http://carbonn.org/data/report/commitments/?tx_datareport_pi1[uid]=582
On Bogor's Low Emission Development strategy in its RPJMD: http://urbanleds.iclei.org/index.php?id=188

## Associations

**The Asian Cities Climate Change Resilience Network (ACCCRN)** is a network of ten cities in India, Indonesia, Thailand and Vietnam. They are developing "a range of activities that improve the ability of the cities to withstand, to prepare for, and to recover from the projected impacts of climate change." The needs and priorities of each city determine the approaches. The 10 core cities have been expanded to 50 across the network with their own resilience strategies. Two of the core cities–Bandar Lampung and Semarang–are located in Indonesia. Other cities in Indonesia that have been involved with the network include: Blitar, Cirebon, Palembang, Pekalongan, Probolinggo and Tarakan.

**Contact**
https://www.acccrn.net/country/indonesia

**Compact of Mayors**–There are eighteen cities in Indonesia that have signed the Compact of Mayors: Balikpapan, Banda Aceh, Bandung, Banjarmasin, Bogor, Bontang, Jakarta, Jambi, Kendari, Kupang, Malang, Mataram, Padang, Probolinngo, Sukabumi, Surabaya, Tanjungpinang, and Tarakan City.

**Governors' Climate and Forests Task Force (CGF)**–There are seven provinces (Aceh, Central Kalimantan, East Kalimantan, North Kalimantan, Papua, West Kalimantan, and West Papua) in Indonesia that are part of the Governors' Climate and Forests Task Force (GCF) which is a collaboration between multiple countries to reduce emissions from rural development, promote low emission rural development, and reduce emissions from deforestation and land-use (REDD+). This network encompasses 25% of the world forests. This 25% includes half of Indonesia's forests. Papua alone has 1.2% of the world forest area.

**Learn More**
http://www.gcftaskforce.org/about/ and to see Papua's REDD+ implementation: http://www.gcftaskforce-database.org/ReddImplementation/Papua

Every province in Indonesia has adopted a RAD-GRK. They can be compared and assessed here: http://cait.wri.org/indonesia/compare?selected=Aceh

# ITALY

Submitted by Climate Scorecard Country Manager
**MARTA MORELLO**

## Regions/Provinces/States

**Emilia Romagna**–Emilia Romagna has a comprehensive plan to meet the European targets of 2020, 2030 and 2050 in the transportation, energy, and buildings sectors. Plans in the transportation sector are the most aggressive, with a heavy focus on electric vehicles. Overall goals are:

- 40% increase in electric car registration and 25% increase in hybrid cars registration
- 60% increase in electric buses for local routes
- Convert 20 to 40% of commercial vehicles to electric vehicles
- Increase cycling transportation by 20%
- Double the public transportation on rail by 50%
- Increase transportation of goods on rail by 10%

Funding for the above initiatives will come mainly from funds set aside at the regional level. Additional contributions will come from the European Union and the Italian government.

**Contact**
Stefano Bonaccini, President of Emilia-Romagna region
Telephone: +39-051 -5275800 ext 5801
Email: segreteriapreseident@regione.emilia-romagna.it

**Lombardy**–Lombardy's Regional Environmental Energy Program (PEAR) operates within the Regional Development Plan approved in 2013. PEAR will contribute to the transformation of the region's energy system, mainly with the implementation of the following policies: New buildings and buildings undergoing extensive renovations must comply with "nearly zero-energy building" (NZEB) standards. Such efforts will be recorded and monitored through the Regional Registry of Building Energy. Retrofits of existing public and private buildings to improve energy efficiency are also underway. Other actions include the promotion of energy storage systems for photovoltaic systems, an increase in energy generation from biomass, and support of municipalities to replace public lighting systems. Overall, the Region of Lombardy aims to reduce GHG by at least 80% by 2050 over 2005 levels. The region represents the lion share of Italian GDP, which amounts to 20%.

**Contact**
Claudia Terzi, Governor for the Environment, Energy and Sustainable Development.
Telephone: +39-02-6765-4705
Email: segreteria_assterzi@regione.lombardia.it

## Cities

**Capannori**–A town of 46,000 inhabitants located in the North of Italy, Capannori has one of the highest municipal recycling rates in Europe. This zero waste town is an example of strong policy decisions and community participation achieving groundbreaking results. This model can be easily replicated elsewhere in Italy since 98% of Italian municipalities have fewer than 50,000 inhabitants, accounting for 66% of the total population.

A zero waste strategy was signed in 2007 and since then waste per capita dropped 40%, from 1,92kg to 1,18kg/person/year. In 2014, only 18% of waste produced was landfilled.
Strategies that led to the drastic reduction include:

- The creation of a door-to-door collection system designed to engage and educate residents on source separation practices.
- Taking a collaborative approach with community meetings to disseminate information, provide feedback, and distribute free waste separation kits.
- Household composting
- Creation of a Reuse Center where items such as clothes, footware, toys, electric appliances, and furniture can be repaired and sold to those in need. In 2012, 93 tonnes of objects were dropped at the center.
- A grocery store opened in 2009 that sells over 250 locally sourced food and drink products in bulk. The municipality provides small businesses with tax incentives to stock products that could be refilled with customers' own containers.

**Contact**
Gian Luca Bucci, Office of the Environment, Energy and Toponymy
Telephone: +39-0583-428207
Email: g.bucci@comune.capannori.lu.it

## Associations

Italian cities, regions and provinces are part of the following associations:

**Factor 20** is aimed at formulating a set of tools to support the planning of regional and national policies relating to the reduction of greenhouse gasses, the reduction of energy consumption and the use of renewable energy sources. Visit: www.factor20.it

**Under 2 MOU** (Memorandum of Understanding) is a global pact among cities, states, and countries to limit the increase in the global average temperature to below 2 degrees Celsius–the warming threshold at which scientists say there will likely be catastrophic climate disruptions. Collectively, 57 jurisdictions from 19 countries and five continents have now signed or endorsed the Under 2 MOU, collectively representing more than $17.5 trillion in GDP and 572 million people. Visit http://under2mou.org/

**Conurbant** starts from the consideration that EU small towns face strong difficulties in energy management and planning because of their lack of skills and resources, while medium and large cities have a higher responsibility related to their higher density of human activities, and complicated issues of sustainable land use, planning, and mobility. The Conurbant project aims at helping medium-large cities, and the smaller towns in their urban areas, through capacity building using peer-to-peer support and training between less and more experienced municipalities. Visit www.conurbant.eu

**C40** is a network of the world's megacities committed to addressing climate change. C40 supports cities to collaborate effectively, share knowledge, and drive meaningful, measurable and sustainable action on climate change. Visit www.c40.org

**Learn More**
To learn more about the Emilia-Romagna commitments under the under2mou, please read http://under2mou.org/wp-content/uploads/2015/05/Emilia-Romagna-Appendix.pdf

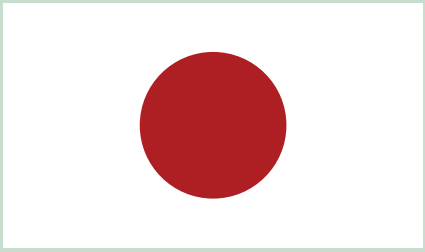
To learn more about Lomabardy's PEAR plan, please refer to http://under2mou.org/wp-content/uploads/2015/05/Lombardy-appendix-English.pdf

http://www.reti.regione.lombardia.it/cs/Satellite?c=Redazionale_P&childpagename=DG_Reti%2FDetail&cid=1213634677221&packedargs=NoSlotForSitePlan%3Dtrue%26menu-to-render%3D1213277017319&pagename=DG_RSSWrapper

To read further about Capannori's waste management achievements please go to http://www.comune.capannori.lu.it/node/3020 and also see "The story of Capannori" by Aimee Van Vliet, Case study #1, Zero Waste Europe, 2013.

# JAPAN

Submitted by Climate Scorecard Country Manager
**KENTA MATSUMOTO**



## Regions/Provinces/States

**Kyoto Prefecture**–Kyoto Prefecture is where the Kyoto Protocol climate treaty was developed at The 3rd Session of the Conference of the Parties (COP3), serving as an effective means to promote global warming countermeasures. The treaty introduced trade emission allowances among advanced nations and emissions trading between advanced countries and developing countries. In October 2011, the Kyoto Prefecture Global Warming Countermeasures Ordinance was enacted, and it started the "Kyoto CO2 Emissions Trading System" in cooperation with the government, economic groups, environmental NPOs.

The system aims to create credits, called "credits unique to Kyoto: Kyo-VER" from energy-saving countermeasures at small and midsize corporations, forest maintenance work conducted by companies and NPOs, eco-activities by Kyoto residents, and local communities. It also promotes the reduction in total GHG emissions in the Kyoto Prefecture. Meanwhile, it minimizes the total cost to society by establishing a mechanism to enable businesses with large volumes of emissions to utilize credits to achieve targets of GHG gas emissions reduction plans based on Kyoto Prefecture and Kyoto City Global Warming Countermeasure Ordinances and to take advantage of them for carbon offsets, CSR activities, etc.

The system is also a platform that creates and utilizes diverse credits adapted to industrial structures and local characteristics of Kyoto including "credits unique to Kyoto", supplementing the J-Credit Scheme and other emissions trading systems by different entities. A total of 145 cases or 5584.5t-CO2 credits have been created thus far, and they have been utilized to achieve corporate GHG emissions reduction targets and offsetting GHG gases emitted from the printing of printed matter. In 2014, it helped decrease its amount of CO2 by 15% from the reference year 1990.

**Contact**
Department of the Environment, Global warming Countermeasures Division
Telephone: 81 - 75 - 414 - 4830
Email: tikyu@pref.kyoto.lg.jp

## Cities

**Toyota City**–Toyota City (Aichi Prefecture) is aiming to transform from an automotive city to one of the world's leading eco-conscious cities. This is where everyone can live a comfortable life at his or her own pace in a low-carbon society while taking into account a reduction of wasteful consumption. To this end, the city has strived to encourage the spread of Smart Houses as a part of its initiatives.

Toyota City is the first city in Japan that introduced the Smart House Tax Break system. A discount of one-half of the municipal real-estate tax on buildings will be given to residents who build new Smart Houses which are fully equipped with solar power generation panels, home energy management systems (HEMS), and storage batteries, or who install these systems and devices in their current dwellings. In addition, the city provides special subsidies through the "Eco-Family Support Subsidy Program" to assist households with installing home solar power generation systems, home fuel battery systems, HEMS and home lithium-ion storage battery systems.

It also established "the Center for Renewable Energy in Toyota City", which has encouraged citizens and companies to install facilities run by renewable energy. In addition, it held a "High Level Symposium regarding Sustainable Cities" associated with the United Nations in 2014 and is constructing a global network of innovative environmental cities.

**Contact**
Model Environment City Promotion Division, Planning Department
Telephone: +81 - 565 - 34 - 6982
Email: hybrid-city@city.toyota.aichi.jp

**Yokohama**—In 2010, Yokohama City was nominated as one of the 'Next-generation Energy and Social Systems Demonstration Areas' by the Ministry of Economy, Trade and Industry. Since then, the city has been promoting the Yokohama Smart City Project (YSCP) demonstration projects. In cooperation with Japan's 34 leading companies in the fields of energy, electronics, and construction businesses, Yokohama City has introduced a system to optimize the energy supply-demand balance in existing city areas with houses and commercial buildings. Through this project, the city had set target numbers for HEMS adoption, solar panels, and electric vehicles and achieved these targets by FY2013. From now on, the YSCP will be updated from the demonstration stage to the implementation stage. It was able to help decrease the amount of greenhouse gas by 2.8% from previous year, and by 5.9% from the reference year 2005.

**Contact**
Climate Change Policy Headquarters, Coordination Division
Telephone: +81 - 45 - 671 - 2661
Email: on-chosei@city.yokohama.jp

**Learn More**
Low-carbon and Resilient Cities - Local Governments in Japan
The result of Evaluation of "Environment Model City" in 2014: Toyota
Report: The Emission of Greenhouse Gas in Kyoto Prefecture in 2014
Report: The Emission of Greenhouse Gas in Toyota City in 2013
Report: The Emission of Greenhouse Gas in Yokohama City in 2014

# MEXICO

Submitted by Climate Scorecard Country Manager
**RAIZA PILATOWSKY GRUNER**

## Regions/Provinces/States

**Baja California**–Baja California is a pioneer state in renewable energy developments. In 2010 it participated in the building of 200 houses with solar panels. Moreover, the same year the wind park "La Rumorosa I" opened with a capacity of 10 MW. There is an on-going energy efficiency program that replaces air conditioners, refrigerators, light bulbs and installs thermal insulation in buildings.

Regarding the transport sector, the cities of Tijuana and Mexicali also implemented a BRT system. Thanks to a State Reforestation Program, three plant nurseries were created in the cities of Tijuana, Mexicali and El Hongo with the goal of planting 1 million trees per year.

**Contact**
Raúl Alberto Tovar Gerardo, Air Quality Department, Secretary of Environmental Protection of the State of Baja California.
Telephone: +52 (686) 566-22-68 Ext: 109
Email: artovar@baja.gob.mx

**Chiapas**–In 2010, the state of Chiapas established REDD+ (Reducing emissions from deforestation and forest degradation) committees to collaborate in the development of a REDD+ framework at regional and local levels. In 2011, it joined the R20 (Regions of Climate) Group, a coalition of sub-national governments and other actors that implements low-carbon and climate-resilient projects. It also became part of the Governor's Climate and Forest Taskforce (GCF), an international group of 16 states with high coverage of tropical forests.

**Contact**
José Alfredo Ruíz Samayoa, Undersecretary of Climate Change, Secretary of Environment and Natural History of the State of Chiapas.
Address: Calzada Cerro Hueco S/N., El Zapotal C.P. 29094 Tuxtla Gutiérrez, Chiapas
Telephone: +52 (961) 614700 Ext. 51008
Email: cambioclimatico@semahn.chiapas.gob.mx

## Associations

Broadly, in Mexico there are around 20 provinces or municipalities that have clear and effective mitigation and adaptation strategies which were developed with the help of ICLEI–Local Governments for Sustainability. ICLEI has also been involved at the state level, where in collaboration with the National Institute of Ecology and Climate Change and state governments they have developed State

Climate Change Action Programs. The states of Quintana Roo, Yucatán, and Campeche also established their own Regional Commission of Climate Change to coordinate actions and strategies.

Of the 32 states of Mexico, 25 are associated with ICLEI, while 66 municipalities have taken sustainable development actions from ICLEI's program. 40 cities or municipalities have also signed the Mexico City Pact. However, only 12 have subscribed to the Pact's idea of globally measurable, reportable, and verifiable (MRV) local climate actions, which must be reported on the Carbon-Climate Registry platform.

## Cities

**Mexico City**–Mexico City has considerable experience in implementing mitigation strategies in various sectors. In 2010, it hosted and promoted the Global Cities Covenant on Climate or "The Mexico City Pact", a voluntary initiative of mayors and local authority representatives that aims to advance climate actions. Some of the mechanisms implemented to mitigate greenhouse gas emissions during that period were the following:

- Approval on a new Norm for the Use of Solar Power, which resulted in the installation of photovoltaic cells in parks, use of solar power for Metro (subway) and Metrobús (a Bus Rapid Transit-BRT system) facilities and the publication of an Energy Efficiency Program.
- New policies to improve air quality led to the substitution of taxi fleets, acquisition of middle-sized buses of more capacity, increased restrictions on the 'Hoy No Circula' Program (restriction of diesel and gasoline powered vehicles depending on the day of the week, the last digit on the vehicle's license plate and the efficiency of their engines) and the installation of new Metrobús lanes.
- Reforestation campaigns.
- Expansion of the composting plant at the Bordo Poniente landfill.
- Wastewater management.
- Improvement of buildings and housing units.

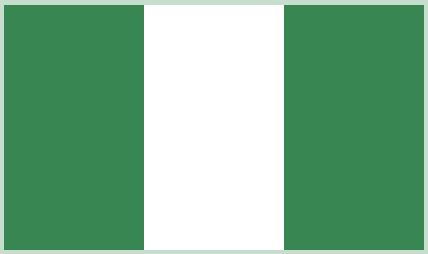
Mexico City's Climate Action Program 2014-2020 sets a reduction goal of 8 MtCO2 eq., with an added 2 MtCO2 eq. of indirect mitigation.

**Contact**

Oscar Alejandro Vázquez Martínez, Director of the Climate Change and Clean Development Processes Program, Secretary of Environment of Mexico City.
Telephone: +52 (55) 5278 9931 ext. 6852
Email: ovazquez@cdmx.gob.mx

# NIGERIA

Submitted by Climate Scorecard Country Manager
**CHIUDO EHRIM**



## Regions/Provinces/States

**Cross River State**–Cross River State is part of the Compact of States and Regions; a group that currently includes 62 states, provinces and regions of the world, and represents over 17% of the global economy. The group provides incentives for its members to report on climate change mitigation on an annual basis. Cross River State is also part of the Governors' Climate and Forests Task Force (GCF), a sub-national association of states and provinces around the world which supports low emissions rural development and reduced emissions from deforestation and land use (NCF, n.d.). A planned super highway across the state's high tropical forest however, threatens its efforts to offset carbon emissions with potential loss of carbon credit that the state receives as part of the Green Development Paradigm of the United Nations Reducing Emissions from Deforestation and forest Degradation (REDD) programme (The News, 2016).

**Contact**
Nigerian Conservation Foundation
Mail: Km19, Lekki-Epe Expressway, Lekki, Victoria island, Lagos, Nigeria
Telephone: +2347063369257, or, 2348127556291
Email: info@ncfnigeria.org

**Delta State**–Delta State is also part of the Compact of States and Regions. In 2013, the state launched its own climate change policy territorial climate change plan, and was the first to do so in Nigeria. In collaboration with the United Nations Development Program, the state's Territorial Approach to Climate Change Program included obtaining inventories of greenhouse gas emissions levels of sectors within the state and developing climate change mitigation and adaptation strategies for vulnerable communities.

**Contact**
Delta State Ministry of Environment
Mail: Eric Isichei Street, behind Delta Line Workshop
Along Asaba-Benin Expressway, Asaba
Telephone: +23456281997, or, +23456281996

## Cities

**Lagos State**–Lagos State has the most populated city in Africa, with an estimated population of about 18 million persons. The state's transportation sector, which moves 7 million persons per day, contributes a substantial amount to Nigeria's greenhouse gas (GHG) emissions. To manage its

transportation challenges, the state operates a Bus Rapid Transit (BRT) system that reportedly has contributed to reducing GHG emissions by 13% in project areas (Taiwo, n.d.). The state annually hosts the Lagos State Summit on Climate Change, a forum where government personnel, the academia, business persons, and other stakeholders share ideas and discuss climate change issues affecting the state. The deliberations usually conclude with recommendations for implementation by the state government.

**Contact**

Ministry of the Environment
Mail: Block 16, The Secretariat Annex
Alausa, Ikeja, Lagos, Nigeria
Telephone: +2349095555580, or +2349055555878
Email: info@moelagos.gov.ng or publicaffairs@moelagos.gov.ng

**Learn More**

The 2016 disclosure report of the Compact of States and Regions is available here.

For more information on the Governors' Climate and Task Force, see http://www.ncfnigeria.org/about-ncf/item/128-ncf-cross-river-secure-governors-climate-funds-to-reduce-carbon-emission

Details of the work of the Governors' Climate and Task Force and Cross River State is available here: http://www.network.gcftaskforce.org/subnational?locationID=nigeria.cross_river_state

For more information on the Cross River State super highway, see http://thenewsnigeria.com.ng/2016/03/criver-super-highway-can-deny-nigeria-12m-un-carbon-credit/

For more information on Delta State's climate change policy and plan, see http://www.frontiersnews.com/delta-launches-climate-change-policy-plan/

Further information on the UNDP and Delta State climate change programme is available here: http://www.ng.undp.org/content/nigeria/en/home/operations/projects/environment_and_energy/taccdelta.html

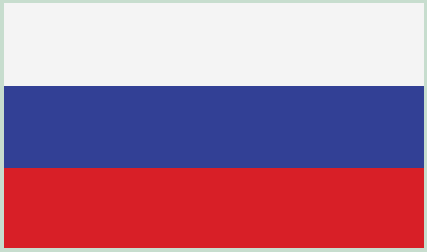
More information on the Lagos State transportation system is available here: http://www.unep.org/transport/pcfv/PDF/cba_june/CBA_PublicTransportationLagos.pdf

The remarks of the German Consul General on the occasion of the 7th Lagos State Climate Change Summit is available here: http://www.nigeria.diplo.de/Vertretung/nigeria/en/03_20Generalkonsulat/Aktivit_C3_A4ten_20des_20GKs/Rede___Climate_20Change_20Summit.html

More information on the Lagos Eko Atlantic City project is available here: http://www.vanguardngr.com/2016/12/lagosthreecitieswrestleclimatechalle

# RUSSIA

Submitted by Climate Scorecard Country Manager
**DR. ELENA ZAIKA**



## Provinces/States/Regions

**Yamalo-Nenetskyi Autonomous Okrug Region (YaNAO)**–YaNAO is a region well known for its active and regular work for reduction of GHG emissions since 2008. The YaNAO Government developed and is implementing the Action Plan for GHG emission reduction by 2020, which is aimed as well at creation of effective tools for air pollution reduction and decrease of energy intensity of the regional economy. The GHG management system was developed at the regional level, including the monitoring and control of GHG sources and emissions. As a result, GHG emissions have gradually decreased since 2008. The recent achievement is the decrease of GHG emissions from 30.5 mln.t of CO2 in 2012 to 25.2 mln.t of C02 in 2014. There are many climate change initiatives that are being implemented in YaNAO such as:

- Forecast and assessment of global climate changes in the Arctic zone;
- Development of climate models and provision of monitoring programs;
- Promotion of a gas-fuel transport;
- Construction of gas-fired power plants with waste heat recovery;
- Development of wind farms:
- Promotion of rational use of associated gas (in 2014 9.2 bln.m3 of associated gas were produced and 92% of this amount was used effectively);
- Support of the industrial pilot projects aimed at GHG emissions.

## Cities

**Moscow**–Moscow's GHG emissions are controlled in the framework of a Carbon Disclosure Project, and they are increasingly reduced year by year. The priorities are given to the transportation streams and parking management, modernization of infrastructure, development of environmental standards for trucks and vehicles and awareness raising.

## Associations

The first association of regions was created for fighting climate change in the Baltic Sea area, consisting of Murmanskaya Oblast, Arkhangelskaya Oblast, Republics of Komi, Kareliya and Nenetskyi Autonomous Okrug. The have joint action plans for collaboration and development of climatic strategies in the region of the Barentsevo sea.

At the moment there is no information on another associations of cities, states or regions in respect to the climate change in Russia. It seems to be the next step which the most active cities or regions will have to undertake in order to improve their efficiency further.

# SOUTH AFRICA

Submitted by Climate Scorecard Country Manager
**LEE-ANN STEENKAMP**

## Regions/Provinces/States

**KwaZulu-Natal**–The Durban Adaptation Charter (DAC) commits Local Governments to local climate action in their jurisdiction that will assist their communities to respond to and cope with climate change risks. By signing the Durban Adaptation Charter they commit to inter alia:

1. Key information of all local government development planning;
2. Ensuring that adaptation strategies are aligned with mitigation strategies;
3. Promoting the use of adaptation that recognizes the needs of vulnerable communities and ensuring sustainable local economic development;
4. Prioritizing the role of functioning ecosystems as core municipal green infrastructure;
5. Seeking innovative funding mechanisms.

To aid in the implementation of the DAC, a Central KwaZulu-Natal Climate Change Compact (CKZNCCC) was formed to facilitate information sharing and collaboration on climate change adaptation projects. As the metropolitan, district and local municipalities of central KwaZulu-Natal are signatories to the Durban Adaptation Charter they have committed themselves to take local climate action in their jurisdiction.

**Contact**
Dr. Sean O'Donoghue
Telephone: +27 31 322 4304
Website: http://www.durbanadaptationcharter.org/contact

**Gauteng**–The Gauteng Climate Adaptation Forum is an avenue for cities in the province to hone their skills and cross-pollinate ideas in climate change adaptation for sustainable development and the wellbeing of their residents. The focus is especially on the urban poor (such as residents of informal settlements) who bear the brunt of climate change in developing countries. The forum also aims to promote coordination of climate change issues amongst institutions.

The forum provides a platform for sharing experiences, practical approaches and frameworks relating to climate change adaptation. Membership includes representatives from civil society, government, parastatals, academia and business.

**Contact**
Rina Taviv
Telephone: +27 11 240 2700
Email: rina.taviv@gauteng.gov.za

## Cities

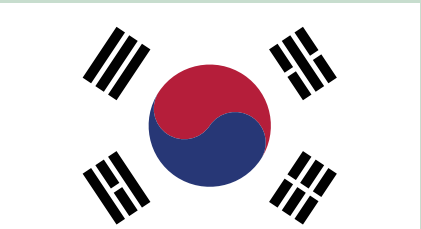
**Cape Town**–Atlantis is a town in the City of Cape Town Metropolitan Municipality and is located in the Western Cape. GreenCape is a local non-profit organisation which was established in 2010 and aims to unlock the investment potential of green business, technologies and manufacturing.

The GreenCape initiative has undertaken the project management on behalf of the Department of Trade and Industry (DTI), the Western Cape Government and the City of Cape Town in the application for the designation of a GreenTech Special Economic Zone (SEZ) in Atlantis. The term 'Greentech' refers to low-carbon and resource-efficient technologies. This SEZ has the potential to create 2,500 direct jobs, while also contributing to environmental efforts. For companies operating within an SEZ, significant tax breaks are offered.

**Contact**
Telephone: +27 21 811 0250
Website: http://greencape.co.za/contact-us/

# SOUTH KOREA

Submitted by Climate Scorecard Country Manager
**EUNJUNG LIM**



## Cites

**Incheon City**–Incheon City received a commendation for reduction of greenhouse gas emission from the Korean Ministry of Environment. On October 26, the Ministry of Environment held a conference for awarding public sectors in the recognition of greenhouse gas emission reduction and efficient energy management. Incheon won the first place in reduction of greenhouse gas emission among 243 local governments. Compared to the emission in 2015, which was 30,397tCO2eq, Incheon emitted only 19,665tCO2eq greenhouse gas, which resulted in the reduction of its greenhouse gas emission by 39.6%. Incheon City developed and managed renewable energy facilities, replaced existing lighting equipment to LED lights, strengthened supervision on the CO2 emissions in waste water-disposal plants. In April 2016, Incheon City declared that the year of 2016 is 'the First Year of Greenhouse Gas Reduction'. Incheon City presented a target strategy to maintain the greenhouse gas emission level below the emission level of 2016. Also, Incheon City developed 'Comprehensive Plans for Climate Change Response (2016-2035)', which is a five-year plan for enhancing green environment in Incheon City. The city will focus on practicing green life habits, green transportation, green construction, green resources, green businesses, R&D and outreach system. According to its announcement, Incheon presented its target greenhouse gas reduction rate as 25.9% (3,000 thousand tons) by 2030 based on Business As Usual (BAU) levels.

**Contact**
Mr. Sang-bum Lee, Incheon City Director of the Department of Green Environment
Mail: 9, Jeonggak-ro, Namdong-gu, Incheon, Republic of Korea 21554
Telephone: +82-32-440-2085

**Gimhae City**—Gimhae City also won an award provided by the Minister of Environment for its reduction in greenhouse gas emissions and its energy target management system. According to Gimhae in News, Gimhae City won first place among primary local governments ranked 9th among 814 public institutions in the greenhouse gas reduction by reducing its emission amount by 36.2%.
Gimhae City achieved the reduction in greenhouse gas emission by enhancing the cogeneration in Jangyu incineration plant, promoting green roof gardens, and replacing lighting equipment, and changing A/C and heating systems in Gimhae City's offices to highly efficient ones.

**Contact**
Mr. Sung-sul Bang, Head of the Department of the Ecological Environment
Mail: 2406 Gimhae-daero, Gimhae-si, Gyeongsangnam-do, Gimhae City, Republic of Korea 50935
Telephone: +82-55-330-2440

**Suwon City**—Suwon City took tenth place in the same conference hosted by the Ministry of Environment following Gimhae City. The major projects in reducing their greenhouse gas emission were replacing lighting in government offices to LED lights, enhancing photovoltaic systems and facilities, establishing smart-grid systems, increasing the use of green-touch computers, and regulating indoor temperatures. As a result, Suwon City reduced the greenhouse emission by 36.2% (reduced more than the national target rate of 20%) and was awarded as 'high-performing authority' in greenhouse gas reduction for two years.

**Contact**
Mr. Byung-gu Min, Director of the Department of Environment, Suwon City
Mail: 241, Hyowon-ro, Paldal-gu, Suwon-si, Gyeonggi-do, Republic of Korea 16490
Telephone: +82-31-228-2029

# SPAIN

Submitted by Climate Scorecard Country Manager
**ANDREA DELMAR-SENTIES**

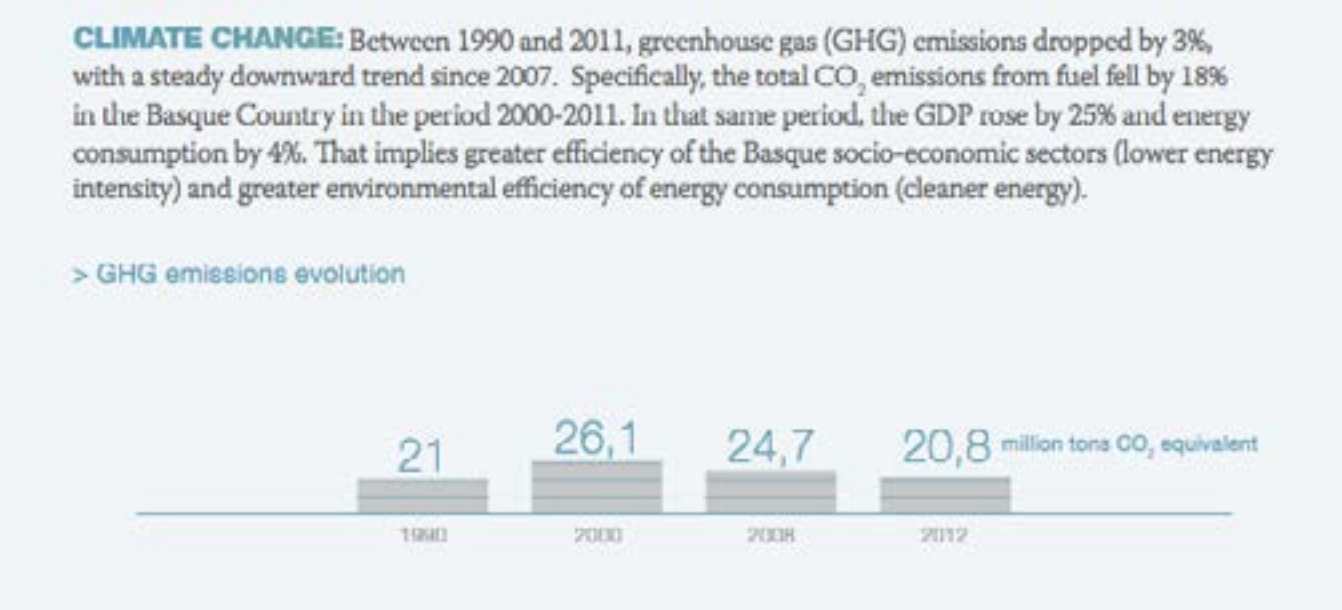
## Regions/Provinces/States

**The Basque Region**–Spain's Basque Region is arguably the most proactive region with regard to the environment and climate change. The Region has developed a Basque Environmental Strategy for Sustainable Development, publishes periodic reports on the state of its environment, and is home to the renowned Basque Center for Climate Change (BC3).

The Basque Environmental Strategy for Sustainable Development is composed of a series of Environmental Framework Programs (I-IV). The first Environmental Framework Program was implemented in 2002, and each lasts approximately three to four years. This allows the region to reevaluate what its problem areas are and what the most effective way of combating climate change is given any recent developments in technology or research.

The main objectives of the Environmental Framework Program are depicted in the image below:


The Basque Region periodically publishes its "State of the Environment of the Basque Country" report. As a result of this ongoing monitoring of the environment, the following conclusions can be made about the state of the environment in the Basque Region since the implementation of the Basque Environmental Strategy for Sustainable Development:




**Contact**
The Basque Center for Climate Change is home to some of the country's most prolific scientists and environmentalists, including Maria Jose Sanz Sanchez, the Center's Scientific Director.
Address: Sede Building 1, 1st floor, Scientific Campus of the University of the Basque Country, 48940 Leioa
Telephone: +34 94 401 46 90 ext. 178
Email: mj.sanz@bc3research.org

**Castile-Leon Region**–Castile-Leon's landscape is flat and elevated, which helps make it a leader in wind energy production and farming. This region is the country's largest producer of wind energy with an installed wind power capacity of 5,560.01 MW. The large number of wind farms in Castile-Leon is mostly a result of the feed-in tariff scheme that Spain use to have. During Spain's economic crisis, many of these feed-in tariff schemes were suspended. However, the wind farms that were built continue to function and Castile-Leon's success in wind energy production could serve as an incentive to once again implement such policies as Spain recovers financially.

Being that Castile-Leon contains vast areas of farmland, it is essential to its environment that farm machinery be fuel-efficient. During its course, the PIMA TIERRA Plan encouraged swapping older, less efficient farm tractors for newer ones. This Plan was highly successful in Castile-Leon, and has aided in the reduction of carbon emissions.

The Castile-Leon region is also home to a wide variety of wildlife, many of which inhabit the Guadarrama Mountains. In 2013, the Guadarrama Mountains were named a national park, thus legally protecting the area. Furthermore, the Law 30/214 of 3 December on National Parks aims to "considerably strengthen and consolidate their protection."

**Contact**
Within the autonomous Castile-Leon Regional government is the Ministry of Development of Environment. The Director's name is Juan Carlos Suarez-Quinones.
Address: c/ Rigoberto Cortejoso, 14, 7th Floor – CP: 47014 – Valladolid
Telephone: 983 419 000

## Cities

**Madrid**–The city of Madrid is the country's capital and the largest in population with over three million inhabitants. As a result, Madrid has high levels of carbon emissions. Spain's biggest cause of carbon emissions is transportation. In order to reduce its carbon emissions, Madrid is making an effort to streamline its methods of transportation and make them more environmentally friendly. One way of doing this is to implement hybrid buses into Madrid's city bus fleet. In 2016, the city received 51 hybrid buses that are within the European Union's suburban and short distance Class II regulations. Madrid has also adapted the ISO 14001, the internationally recognized Environment Management System, to its subway system in order to provide a guideline for its own procedures. Both of these measures aim to reduce carbon emissions in Spain's most problematic sector, giving a renewed sense of hope for Spain's environment and breathing fresh air into efforts that were stalled by the financial crisis.

**Contact**
The Minister of Agriculture, Food and the Environment has her office in the city of Madrid.
Address: Plaza de San Juan de la Cruz, Madrid
Phone: 91 597 60 68

**Learn More**

http://www.bc3research.org/

https://www.irekia.euskadi.eus/uploads/attachments/6057/Environmental_Framework_Programme_2020.pdf?1426067174

http://www.aeeolica.org/en/about-wind-energy/wind-energy-in-spain/wind-map/

http://www.lamoncloa.gob.es/lang/en/espana/spaintoday2015/environment/Paginas/index.aspx

http://www.jcyl.es/web/jcyl/Portada/es/Plantilla100Directorio/1248366924958/1279887997704/1284181158082/DirectorioPadre

https://www.scania.com/group/en/scania-delivers-51-hybrid-buses-to-madrid/

https://www.metromadrid.es/en/conocenos/responsabilidad_corporativa/medio_ambiente/

# THAILAND

Submitted by Climate Scorecard Country Manager
**NEEBIR BANERJEE**

## Cities

**Bangkok**–Bangkok is one of the leading cities in Thailand and it is taking steps for reducing greenhouse gas emissions. In this regard, the BKK Action Plan on Global Warming from 2007 to 2012 was implemented for the city of Bangkok. The objective of this Action Plan is voluntary and it aims to reduce Greenhouse Gas emissions (GHG) below the 2012 emission level by 15% or around 10 mil tCO2e/year. Bangkok recently received US $300 million from the Clean Technology Fund (CTF) around which US $70 million will be used to support the Urban Transformation for Bangkok. To achieve this, the key emphasis for the city of Bangkok will be on efficient and clean Urban Transport (i.e. Bus Rapid Transit System) along with the improvement of Building Energy Efficiency.

**Contact**
For more information regarding the urban transformation which is taking place in Bangkok in the context of reducing GHG emissions, Chanin Manopiniwes
Address: World Bank Office, 30th Floor, Siam Tower, 989 Rama 1 Road, Pathumwan, Bangkok 10330
Telephone: 66 (0) 2686 8300 and fax at 66 (0) 2686 8301
Email: cmanopiniwes@worldbank.org

**Muangklang**–In the Rayong Province in Thailand, Muangklang is a small-sized municipality. The Muangklang municipality is taking effective steps for reducing GHG emissions. To achieve this, Muangklang, which is under the leadership of a local government supportive of sustainability principles, partnered with the Thailand Greenhouse Gas Management Organization (TGO) to implement the Low Carbon City approach. The main objectives of the Low Carbon City approach are to enhance the city's good practices and create a model that other small cities in Thailand can replicate and follow.

**Contact**
For more information regarding the Low Carbon City approach in Thailand's Rayong Province, contact CDKN Asia
Address: Pakistan's LEAD House F 7, Markaz, Islamabad 44000
Telephone: +92-51-2651511
Email: asia@cdkn.org

**Nakhon Sawan**–Another city in Thailand that is taking active initiatives to decrease GHG emissions is the central Thai city of Nakhon Sawan. This city is situated at the origin of the Chao Phraya River. It will soon become a flagship "green city" and will be a role model for other cities in Thailand. Nakhon Sawan received an award of the second ASEAN Certificate of Recognition in the category of Clean Water for Small Cities in 2014 because of the city's efficient wastewater system. In terms of addressing

climate change induced threats like water scarcity, this city has policies in place regarding efficient supply of water, and the systematic use and management of water resources. These policies include access to good water quality for consumers; protection of water resources; wastewater treatment before discharge; construction and operation of a water supply system to cover the city's area; and acquisition of raw water resources to feed the water supply that fulfills Thailand and World Health Organization standards. There also are plans for developing a low-carbon strategy in Nakhon Sawan city. To stress upon the facilitation of low-carbon strategy, Tanapat Saengkiettiyuth who is the Head of Water Quality Management Subdivision of Nakhon Sawan says he wants the city to become a "city of trees" at a ratio of at least five square meters of greenery or park per resident. Recycled water from the wastewater plant would be used for the irrigation of these parks. Similarly, this city has a plan in place to address waste generation concerns. The aim of this plan is to reduce solid waste by at least 10% through the switch from plastic bags to paper bags and to facilitate sustainable consumption by using non-toxic vegetable farming.

**Contact**
For more information regarding initiatives that Nakhon Sawan is taking for GHG emissions reduction contact the Environment Division of the ASEAN Secreteriat
Telephone: +62-21 7243372, +62-21 7262991
Email: public@asean.org

## Associations

**Asian Cities Climate Resilience Network**–A leading network that works in the field of climate change in Thailand is Asian Cities Climate Change Resilience Network (ACCCRN). ACCCRN has had projects in Thai cities like Hat Yai and Chiang Rai from 2009 to 2016 that have been funded by The Rockefeller Foundation. ACCCRN's main objective is related to sharing success stories along with encouraging cities in different parts of the world to take effective measures and initiatives in terms of mitigating, coping or adapting with climate change.

**Contact**
Website: https://www.acccrn.net/country/thailand

**Thailand Greenhouse Gas Management Organization**–Another influential association that is undertaking national-level project activities in Thailand is the Thailand Greenhouse Gas Management Organization (TGO). The key vision of TGO is to develop effective greenhouse gas management strategies for the purpose of benefitting the economy, saving the environment and protecting the society at large. The activities of TGO include facilitating development projects, as well as adopting strategies for marketing and trading greenhouse gas emissions; providing the public with information about the operation of greenhouse gas; giving advice to the respective government departments and the private sector about how to manage greenhouse gas emissions.

**Contact**
Website: http://www.tgo.or.th

**Learn More**

1) To know more about climate change initiatives Bangkok is taking: http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/Chanin_Manopiniwes_Nat_Pinnoi_Bangkok_Urban_Transformation.pdf

2) To know more about climate change initiatives in Muangklang Municipality: http://cdkn.org/2013/03/feature-thailands-low-carbon-city-initiative/?loclang=en_gb

3) To know more about climate change initiatives in Nakhon Sawan: http://investvine.com/thai-city-excels-in-environmental-strategy/

4) To know more about the awards received by cities in Thailand for their climate change best practices: http://environment.asean.org/asean-working-group-on-environmentally-sustainable-cities/

5) To know more about the city of Songkhla going green and the Green City Action Plans (GCAP): https://www.adb.org/sites/default/files/related/41570/imt-gt-green-cities-initiative-brochure-2016.pdf

6) To know more about the climate change initiatives of Thai cities like Phuket and Phitsanulok: http://environment.asean.org/recipients-of-asean-esc-award-2011/

7) To know more about the Climate Change Master Plan 2013-2023 for Bangkok and the Green Growth Project for Bangkok: http://resilientcities2016.iclei.org/fileadmin/sites/resilient-cities/files/Resilient_Cities_2016/PPTs/H2_combined_presentations_Part4.pdf

8) To know more about the Green City Action Plan specifically for Songkhla and Hat Yai municipalities: https://www.adb.org/sites/default/files/related/41572/imt-gt-green-city-action-plan-songkhla-hat-yai-municipalities-march-2015.pdf

9) To know more about strategies related to Climate Change Best Practices in Bangkok and Samui Island: https://enviroscope.iges.or.jp/contents/APEIS/RISPO/p_report_2nd/14_3_4_1_development_of_environmentally_sustainable.pdf

10) To know more about the city of Chiang Mai in Thailand and its steps for reducing greenhouse gas emissions: http://www.citiesforcleanair.org/documents/Chiang%20Mai%20Vision%20for%20Clean%20Air.pdf

11) To know more about the measures Bangkok, Chiang Rai and Hat Yai are taking to tackle

climate change:
http://cleanairasia.org/wpcontent/uploads/portal/files/documents/Climate_Change_Plans_and_Infrastructure_in_Asian_Cities_-_Low_Res.pdf

12) To know more about the low-carbon strategies developed in Samui Island:
http://aperc.ieej.or.jp/publications/reports/lcmt/Policy_Review_for_Koh_Samui_Thailand.pdf

13) To know more about the development of solar power in Nakhon Sawan province, Thailand:
http://renewables.seenews.com/news/energy-absolute-to-install-570-mw-of-renewables-by-2017-report-435525

14) To know more about the climate change initiatives in Chiang Rai, Thailand:
http://citistates.com/award-urban-innovation-2013/

# TURKEY

Submitted by Climate Scorecard Country Manager
**OZLEM DUYAN**

## Cities

**Eskişehir**–Eskişehir is one of the 12 new cities that recently joined the Building Efficiency Accelerator program that is now working in 23 communities worldwide. The participating cities will implement recommendations from a World Resource Institute's Report that focuses on eight categories of policies and actions that can help decision-makers to plan changes in their cities. Eskisehir is currently pursuing multiple district redevelopment projects to improve construction quality and public spaces. The mayor and his team are finding ways to include building efficiency measures within the plan to lower energy use while reducing pollution and waste.

**Contact**
World Resources Institute (WRI) Turkey
Director of WRI Sustainable Cities-Turkey: Arzu Tekir
Email: arzu.tekir@wri.org

**Gaziantep**–Gaziantep has developed the first municipal climate change action plan in Turkey with the help of the French Development Agency. The plan analyzes Gaziantep's current energy usage and GHG emissions. It also develops sustainable urban development solutions. Gaziantep Province Directorate of Environmental and Urban Planning published in 2016-2019 A Clean Air Action Plan. Throughout the implementation of this action plan, compliance with EU emission regulations is targeted.

**Contact**
Hasan Alan, Director of Gaziantep Province Environmental and Urban Planning
Email: gaziantep@csb.gov.tr

**Kocaeli**–Kocaeli is part of the European Council's Opportunities for Low Carbon Urban Transportation Project. The target is to develop and share information on innovative and environmentally friendly transportation solutions among selected cities and to support the implementation of these solutions. Sustainable Transportation Association–EMBARQ is a project partner that is helping Kocaeli implement this Project. Throughout the Project, the applicability of solutions such as public transportation, transportation infrastructure, urban logistics, sustainable urban mobility plans/integrated transportation will be discussed.

**Contact**
Tuğçe Üzümoğlu Project Assistant of EMBARQ-Turkey
Email tugce.uzumoglu@wri.org

**Learn More**

"World Resource Institute Turkey – Sustainable Cities" http://wrisehirler.org/calismalarimiz/proje-sehir/buildinglab-eski%C5%9Fehir

"Gaziantep Clean Air Action plan 2016-2019"
https://www.csb.gov.tr/db/gaziantep/webmenu/webmenu36792.pdf

Düşük Karbonlu Kent İçi Ulaşım Çözümlerinin Paylaşılması
http://wrisehirler.org/calismalarimiz/proje-sehir/solutions-sharing-opportunities-low-carbon-urban-transportation-d%C3%BC%C5%9F%C3%BCk

# UKRAINE

Submitted by Climate Scorecard Country Manager
**ANDRIY KLYMCHUK**

## Cities

All the cities below are signatories of the Covenant of Mayors. These cities have voluntarily committed to reduce their CO2 emissions by at least 20% by 2020 through increasing energy efficiency and use of renewable energy sources on their territories.

Due to flaws of Soviet-period construction, the majority of housing stock in Ukraine is defined by very poor energy efficiency. Since optimizing energy consumption requires joint efforts of dwellers, housing

cooperative makes a useful ownership form for arrangements between apartment owners and state initiatives in the field of energy efficiency.

**Dolyna**–A small town in Ivano-Frankivsk region was among the first ten cities in Ukraine to sign The Covenant of Mayors. The first energy efficiency projects were launched in 2010. Today, energy consumption of public institutions in the city are monitored online, with 60 percent of the institutions having been insulated to reduce thermal loss. Gas consumption in the public sector has been decreased by 62 percent; the share of alternative energy sources already constitutes 31 percent. A project for thermal insulation of condominiums with the budget of over 1 million euro is currently being implemented in the city. It is expected that in three years about one third of housing facilities will be thermally modernized.

**Contact**
Mayor - Volodymyr Harazd
Address: Prospect Nezalezhnosti Dolyna, 77500 Ukraine
Telephone: +38 (03477) 270305
Email: v_harazd@ukr.net

**Lutsk**–Housing cooperatives (OSBB in Ukrainian) are being actively created in this city. In 2013, there were 10 OSBB associations, while today they are more than 300. Such a form of association allows co-owners to get loans from banks for thermal modernization of their houses. Also, interest rate payments within these loans are being partly reimbursed from the government budget. Lutsk was one of the first cities that began financial support for housing cooperatives (reimbursed from municipal budget up to 70%.) Notable improvements in public institutions started after approval of a Municipal Energy Plan a few years ago. Thanks to the activities for energy efficiency and online monitoring program in public institutions, gas consumption has decreased by 58%, hot water - 33%, heat – 37% since 2013.

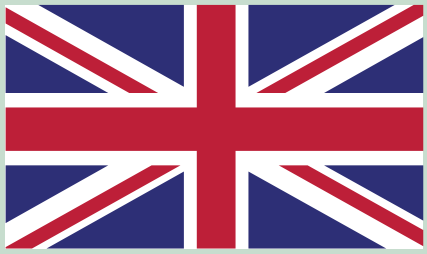
**Contact**
"Luchany" Condominium Association
Address: 22a, Vidrodzennya Street, Lutsk 43000 Ukraine
Telephone: +38 (0332) 28 66 72
Email: osbblucan@ukr.net

**Lviv**–Among Ukrainian cities, Lviv has been a pioneer in promoting energy efficiency. Since 2005, the city has implemented energy management in public institutions. Housing cooperatives are being actively created in the city. 357 were created in 2016 (37% of the total number of registered). The municipal program provides financial rebates for thermal modernization of condominiums. The City of Lviv implements a host of measures to improve public transport, walking and cycling. The city has an ambitious program to build a 268 kilometer cycling network by 2020. Ninety km of cycling paths were built by the end of 2016. For the first time in the last 10 years, a new tram line was built in Lviv. The new route connects the biggest residential area, Sykhiv, where almost 150 thousand residents live, with the city center.

**Contact**
Mayor - Andrii Sadovyy
Address: 1, Rynok Sq, Lviv 79008 Ukraine
Telephone: +38 (032) 297-59-00
Email: a.sadovyy@city-adm.lviv.ua

# UNITED KINGDOM

Submitted by Climate Scorecard Country Manager
**FRIDAH SIYANGA-TEMBO**



## Regions/Provinces/States

**Scotland**–In the UK, Scotland has taken strong leadership in reducing greenhouse gas emissions, and for the first time last year met and exceeded its emissions targets. According to the Evening Express, the figures released by the Scottish Government revealed that the country managed a reduction of 39.5% from 1990 to 2014 whereas England's and the UK's reductions were 34% and 33% respectively. In terms of carbon emissions reductions in Europe, Scotland came second only to Sweden that had a decline of 54.5% over the same period.

## Cities

**Aberdeen**–According to the Aberdeen Council, the city has reduced its carbon emissions and is committed to continue doing so in different ways. Earlier this year, Aberdeen became the first city in Western Europe to have hydrogen-powered cars for public use on a pay-as-you-go basis. This is part of the "City Council's next step in expanding hydrogen infrastructure in the city". This comes a year after the city got a fleet of hydrogen buses that replaced 10 diesel fuelled buses as part of the Aberdeen Hydrogen Bus Project. The fleet travelled about 250,000 miles in the past year without releasing any harmful emissions during its 1,600 refuels. The buses have also proven to be four times more efficient than diesel engines of the same kind. The Aberdeen Hydrogen Bus Project is part of the H2 Aberdeen initiative which is enabling development and deployment of additional hydrogen infrastructure and vehicles.

**Bristol**–Bristol was the first city in the UK to be granted a European Green Capital in 2015. It was also the second Greenest City in the World the same year. With more cyclists than any other city in the UK and the lowest carbon emissions of any major UK city, it has continued to put more efforts into reducing its carbon emissions. Like Aberdeen, Bristol has also introduced a new fleet of 20 low carbon buses which are fitted with the latest Euro VI engines. The engines produce 95% less oxides of nitrogen (NOx) emissions. They also have start-stop technology which cuts out the engine when a bus is stationary. Glasgow was coined one of the global top 25 cities for environmental sustainability. Glasgow city council has partnered with a number of businesses on different sustainable projects that provide jobs

and create green capital growth. Some past initiatives include funding for 10,000 LED street light replacements and funding for renewable projects. One such project diverts over 90% residual waste from landfill into an energy-waste-facility. Both projects have been in partnership with businesses.

## Associations

**Scottish Cities Alliance**–Scottish Cities Alliance is a collaboration of Scotland's seven cities. Its goal is to achieve a stronger economic future for Scotland through a joint effort. The Alliance's other goal is to drive the agenda for a low carbon future forward in order to help reduce the impact of climate change as well as ensure the future economic prosperity of Scotland.

**Contact**
Website: http://www.scottishcities.org.uk/about-us

**Climate UK**–Climate UK is a not for profit organization that describes itself as the national face of local climate action. It is made up of a network of organizations as well as individuals supporting local action in the devolved UK countries. It works to facilitate a bottom up nationwide response to climate change by uniting knowledge and technical expertise from every part of the UK to tackle the challenges and opportunities faced.

**Contact**
Website: http://climateuk.net/content/about-us

**Core Cities**–Core Cities describe themselves as a unique and united local authority voice that promotes the role of its cities in driving economic growth and the case for city devolution. Represented in this group are the councils of England's eight largest city economies outside London: Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham and Sheffield. Glasgow and Cardiff are also part of this group. They are not necessarily focused on climate change, but that is one of the functions.

**Contact**
Website: https://www.corecities.com/

**Covenant of Mayors**–Formed in 2008 by the European Union, the Covenant of Mayors is a European movement that involves both local and regional authorities who voluntarily commit to increasing energy efficiency and the use of renewable energy sources in their respective regions. Signatories to this movement abide by the EU's target to reduce greenhouse gas emissions in their states by at least 20% by 2020. Thirty of the UK's cities including Aberdeen and Bristol are members of this movement.

**Contact**
Website: http://www.covenantofmayors.eu/about/covenant-of-mayors_en.html
http://tools.energysavingtrust.org.uk/Organisations/International/Covenant-of-Mayors

**The Under2 MOU**–The Under2 MOU is a pledge by sub-national governments to reduce their carbon emissions to net-zero by 2050. The core to this pledge is the commitment by all the parties to reduce

their emissions by 80-95% from 1990 levels by 2050. The 165 jurisdictions that represent 33 countries and six continents that have signed the MOU are collectively referred to as the Under2 Coalition. The UK members of the Coalition include Scotland, Wales, Greater Manchester City and Bristol City.

**Contact**
Website: http://under2mou.org/the-mou/

**Learn More**

For more on how Scotland met its emissions target see: https://www.theguardian.com/environment/2016/jun/14/scotland-beats-climate-emissions-reductions-target-six-years-early

Could be useful. http://www.ukgbc.org/resources/blog/global-cities-set-pace

For more on Scotland's carbon emission reductions see: https://www.eveningexpress.co.uk/pipe/news/scotland/scotland-second-to-sweden-in-reducing-greenhouse-gas-emissions-in-western-europe/

Convent of Mayors- http://www.covenantofmayors.eu/about/covenant-of-mayors_en.html

See UK's greenest here: http://www.mcleanross.com/blog/what-are-the-greenest-cities-in-the-uk--blog-61919161858

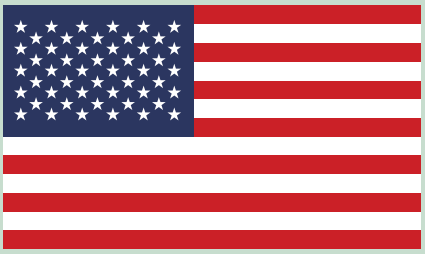
For more on Aberdeen's investment into cycling infrastructure: https://www.eveningexpress.co.uk/fp/news/local/council-cycling-spend-to-pass-6m-by-tax-year-end/

How businesses play a role in low carbon cities: http://www.edie.net/news/6/Businesses-will-play-a-crucial-role-in-the-transition-to-low-carbon-cities/

For more on Aberdeen's hydrogen buses: http://www.aberdeencity.gov.uk/CouncilNews/ci_cns/pr_h2busanniversary_110316.asp

# UNITED STATES

Submitted by Climate Scorecard Country Manager
**STEPHANIE GAGNON**



## Regions/Provinces/States

**California**–California's work has had the most impact on national emissions, because of its large population and strong state policy. California's Assembly Bill 32: the Global Warming Solutions Act of 2006 set a target of reducing emissions to 1990 levels by 2020, representing a 15% reduction in 2006-level emissions in a period of 14 years. Implementation is supported by a core "Climate Action Team," which includes 18 state government departments working hard to reduce state-wide emissions. It is largely funded by a fee collected from the highest emitting sources in California, namely power plants and factories. As one of the first emissions reduction plans in the US, Bill 32 is at the forefront of the fight against climate change and sets an example for the rest of the nation to follow.

The California Energy Commission is also a strong player in the fight against climate change. The Commission runs California's Renewable Energy Program, including the Renewables Portfolio Standard. The Renewables Portfolio Act requires that all electricity retailers obtain a minimum of 33% of their electricity from renewables by 2020. This works as a huge level of support for renewable electricity generation, and has worked to expand capacity not only in California, but in other states as well. Another important initiative in the fight against climate change is the Western Renewable Energy Generation Information System, inspired by California's Renewables Portfolio Act, which is based in Salt Lake City and works to certify electricity in the western US as "green" while helping to expand capacity throughout the western region.

Because emissions from electricity generation represent the largest proportion of all US emissions, California's actions to encourage renewable electricity generation while also requiring an overall emissions reduction represents a strong step forward in the fight against climate change, and works as an example to states across the country who may follow its lead.

In a show of defiance to the incoming Trump administration, California Governor Jerry Brown, a Democrat, and legislative leaders said they would work directly with other nations and states to defend and strengthen what were already far and away the most aggressive policies to fight climate change in the nation. That includes a legislatively mandated target of reducing carbon emissions in California to 40 percent below 1990 levels by 2030.

"California can make a significant contribution to advancing the cause of dealing with climate change, irrespective of what goes on in Washington," Mr. Brown said in an interview. "I wouldn't underestimate California's resolve if everything moves in this extreme climate denial direction. Yes, we will take action." (NY Times Dec 28 Adam Nagourney and Henry Fountain, California at Forefront of Climate Fight, Won't Back Down to Trump."

**Contact**
Alana Matthews, Public Advisor
Telephone: 916-654-4489
Email: publicadviser@energy.ca.gov

**New York**–New York leads the nation in reducing emissions from transportation, with a state-wide vehicle miles traveled reduction target. The state also has stringent goals for reducing emissions, with a 40% overall reduction by 2030 with a 50% reduction by 2050, including a standard for 50% of electricity generated in New York to come from renewables. New York also emphasizes not only generation of energy, but end-use efficiency–the plan includes a target for a 23% decrease from 2012 levels in energy consumption of buildings.

A large portion of New York State's success comes from New York City's success in reducing emissions, and its stringent goals for the future. Together, the city and state lead the way in improving end use efficiency and conservation to reduce the overall amount of energy required, and therefore continue to reduce emissions.

**Contact**
Telephone: 518-862-1090
Email: info@nyserda.ny.gov

**Massachusetts**–Massachusetts is at the forefront of emissions reductions, with a plan signed into law in 2008 to reduce greenhouse gas emissions by 25% of 2005 levels by 2020, with a 80% reduction plan by 2050 to follow. By 2012, the state had already achieved a 24% emissions reduction, and is on target to overshoot its 2020 target.

A large contributor to the reductions is an increase in end-use efficiency, and another is the growth in renewable electricity generation. Recently, the state passed "An Act to Promote Energy Diversity," a bill requiring the state to generate 1,600 megawatts from offshore wind. Construction of "Cape Wind," a new offshore wind farm with a capacity of 468 megawatts, will begin soon.

Massachusetts has one of the most aggressive emissions reduction targets in the country, and works hard to create policies that will support these reductions. Based on its success so far, the state can stand as an example to other states in the nation to achieve their own reductions through policy and efficiency.

**Contact**
Executive Office of Energy and Environmental Affairs
Telephone: (617) 626-1000
Email: env.internet@state.ma.us

**Learn More**

California Assembly Bill 32:

https://www.arb.ca.gov/cc/ab32/ab32.htm

California Energy Commission:
http://energy.ca.gov

New York State Energy Plan:
https://energyplan.ny.gov

Massachusetts Global Warming Solutions Act:
http://www.mass.gov/eea/air-water-climate-change/climate-change/massachusetts-global-warming-solutions-act/

## Cities

**Boston, Massachusetts**–Boston has committed to a 25% GHG emissions reduction by 2020, and an 80% reduction by 2050. The city hit its 2020 goal in 2014, and is currently aiming for a 35% emissions reduction goal. The city is committed to expanding its energy efficiency programs, increasing local and low-carbon energy sources–including direct energy and co-generation, and reducing emissions from public transportation, while reducing overall emissions from both residential and commercial buildings. Currently, the city has 14.3MW of installed solar power, and hopes to generate 15% of its energy from cogeneration by 2020. It has also committed to reducing vehicle miles traveled 5.5% from 2005 levels by 2020.

**Contact**
Boston's Climate Action Plan can be found here: http://www.cityofboston.gov/eeos/pdfs/Greenovate Boston 2014 CAP Update_Full.pdf

**Burlington, Vermont**–Although Burlington is not a member of the Compact of Mayors, it is the first city in the US to be powered by 100% renewable energy. The city is also committed to reducing its GHG emissions from transportation to reduce its overall emissions.

**Contact**
Burlington's Climate Action Plan can be found here: https://www.burlingtonvt.gov/sites/default/files/CEDO/Sustainability/Climate%20Action%20Plan.pdf

**New York, New York**–New York City's #OneNYC plan includes sustainability as one of its four pillars, and has so far been successful in accomplishing many of its goals, while maintaining a strict commitment to future targets. It is committed to an 80% GHG emissions reduction by 2050, with a commitment to reducing emissions from buildings 30% by 2025. In 2015, the city completely phased out the use of No. 6 fuel oil, the "dirtiest fuel oil," and planted 1,000,000 new trees. Between 2013 and 2016, New York's solar energy capacity tripled to become 75MW. Additionally, the city is committed to sending zero waste to landfills by 2030, and between 2014-2015 it increased the number of recycled goods by 5% while expanding its curbside organics collection program by more than 700,000 homes.

**Contact**
New York's #OneNYC plan can be found here: http://www1.nyc.gov/html/onenyc/index.html

**Oakland, California**–Oakland is committed to a 36% reduction in GHG emissions from 2005 levels by 2020 and an 83% reduction by 2050. The commitment will be fulfilled through a reduction in vehicle miles traffic; a decrease in electricity consumption through renewable generation, conservation, and efficiency; a decrease in natural gas consumption through retrofitting buildings, expanding solar hot water capacity, and natural gas conservation. Additionally, the city will divert waste from landfills through waste reduction, reuse, recycling, and composting. By 2015, the city had reduced its GHG emissions by 14%.

**Contact**
Oakland's Climate Action Plan can be found here: https://data.bloomberglp.com/mayors/sites/14/2015/08/Oakland-action-plan.pdf

**Portland, Oregon**–Portland is committed to a 40% GHG emissions reduction by 2030 and an 80% reduction by 2050. By 2015, the city had reduced its emissions 14% from 1990 levels, with a 29% reduction in gasoline usage since 1990, and 3 million new trees planted since 1996. Additionally, the city's overall recycling rate is 70% and currently over 250 green building projects are in progress.

**Contact**
Portland's Climate Action Plan can be found here: https://www.portlandoregon.gov/bps/article/531994

**San Francisco, California**–San Francisco is committed to an 80% reduction by 2050, with a commitment to supplying 100% of residential and 80% of commercial electricity from renewable sources by 2050. The city is also committed to reducing automobile travel 50% by 2017 and 80% by 2030. The San Francisco Energy Watch program helps businesses and individuals to complete energy efficiency projects, and by 2016 they had reduced GHG emissions by 53,367 mT. By 2015, San Francisco had reduced its citywide emissions 14.5% of 1995 levels.

**Contact**
San Francisco's Climate Action Strategy can be found here: http://sfenvironment.org/sites/default/files/engagement_files/sfe_cc_ClimateActionStrategyUpdate2013.pdf

**Seattle, Washington**–Seattle is committed to reducing its GHG emissions 58% by 2030 and 100% by 2050. In order to accomplish its aggressive emissions reduction targets, it has incorporated input from community groups and individuals when writing its climate action plans. Seattle is committed to expanding public transit and walking/biking infrastructure. It is also committed to a 10% reduction in energy use of commercial buildings and a 20% reduction in energy use of residential buildings by 2030. Additionally, the city requires minimum energy performance standards for newly-constructed buildings and retrofitting of existing buildings to increase efficiency and reduce waste heat.

**Contact**
Seattle's climate action plan can be found here: https://www.bbhub.io/mayors/sites/14/2015/08/2013_

CAP_20130612.pdf

**Washington D.C.**–Washington DC is committed to an 80% GHG emissions reduction by 2050. By 2032, the district has committed to decreasing energy use by 50% and increasing the use of renewable energy by 50%, supplying 25% of the district's food from within 100 miles of the city, and increasing public transit, walking, and biking to 75% of all commuter trips.

**Contact**
Washington D.C.'s sustainability plan can be found here: http://www.sustainabledc.org/wp-content/uploads/2013/04/sustainable-dc-summary.pdf

## Associations

**US Climate Action Network**–The goal of the Climate Action Network is to bring together a "bigger, better, and broader" network of organizations and communities working to combat climate change. The network includes over 150 organizations representing every state and climate interest.

**Contact**
Website: http://www.usclimatenetwork.org/about-us/members

# ABOUT

**Climate Scorecard** is a participatory, transparent, and open data effort to engage all concerned citizens in supporting the implementation of the new 2015 Global Climate Agreement.

### Background

Over 190 countries endorsed a new global climate agreement in December 2015 at a United Nations meeting in Paris (known as COP21). The Paris Agreement is designed to stabilize the earth's climate and prevent our atmosphere from heating-up above a global warming tipping point of 2 degrees Celsius, beyond which scientists warn extreme ecological disasters will occur. The success of the new agreement is contingent on the efforts all countries, as well as non-state actors, must make to increase and honor their commitments to reduce greenhouse gas emissions.

In 2015, in preparation for COP 21, most countries submitted pledges, also known as Intended Nationally Determined Contributions (INDCs), to reduce their greenhouse gas emissions by 2030 or earlier. The Paris Agreement recognizes that these pledges, while good starting points, are insufficient to avoid having the planet warm beyond 2 degrees Celsius. Therefore, all countries are encouraged to revisit and strengthen their pledges before the agreement goes into effect in 2020.

Climate Scorecard is a mechanism for supporting efforts needed to implement the new Paris Agreement. Such efforts include encouraging countries to increase their emission reduction pledges, tracking efforts to strengthen pre-Paris INDCs, making sure that countries put in place policies and programs to achieve their reduction targets, and holding nation-states accountable for fulfilling the promise of the Paris Agreement.

# HOW IT WORKS

The Climate Scorecard team has established a website - www.climatescorecard.org - where everyone – citizens, organizations, businesses, researchers, members of governments, journalists – can share information related to emission reduction efforts in the top 25 greenhouse gas-emitting countries. Each of the 25 top greenhouse gas emitting countries has a page on our website where concerned stakeholders can post information related to the status of their country's pledge. Climate Scorecard's website also provides a set of 6 targeted results (see below) that we believe each country needs to achieve by 2020 in order to successfully implement the new Paris Agreement. These results are based on recommendations from the agreement itself, benchmark country emission reduction pledges, and our own research that has identified goals that all countries need to reach. Our targeted results provide a framework for tracking progress made by the top 25 greenhouse gas-emitting countries.

**Results for the Top 25 Greenhouse Gas-Emitting Countries to Achieve by 2020**

- Strengthens its 2015 agreement pledge, or adheres to a pledge that meets Result 3 in the Framework
- Agrees and implements measures to reach the target of 20% unconditional emission reduction by 2020
- Agrees and implements measures to reach the target of 30% unconditional emission reduction by 2025
- Adopts the UN suggested baseline year of 2010 from which to calculate future reductions
- Agrees to and implements policies that achieve 100% renewable energy by 2050
- Make all aspects of its emission reduction process, including policy development and implementation, transparent and inclusive

# WHO WE ARE

An outstanding team of organizations and individuals is implementing Climate Scorecard. Coordination of our effort is through a partnership between The Global Citizens' Initiative (TGCI) and EarthAction- non-profit organizations with missions focused on environmental protection and citizen engagement. TGCI and EarthAction worked together to successfully implement last year's Citizens' Campaign for a 2015 Global Climate Agreement (www.climateagreementcampaign.org).

TGCI and Earth Action have recruited a team of 25 environmental graduate students and young professionals who serve as Country Managers, building and supporting networks of organizations and people to contribute and share information related to the post-Paris progress of each of the top 25 greenhouse gas-emitting countries.

In addition, university-based experts provide quality control and address technical questions related to documents that are proposed for posting on the Climate Scorecard website.

For further information about Climate Scorecard please contact Ron Israel, Executive Director, The Global Citizens' Initiative (roncisrael@gmail.com) or Lois Barber, Executive Director, EarthAction (lois@earthaction.org).