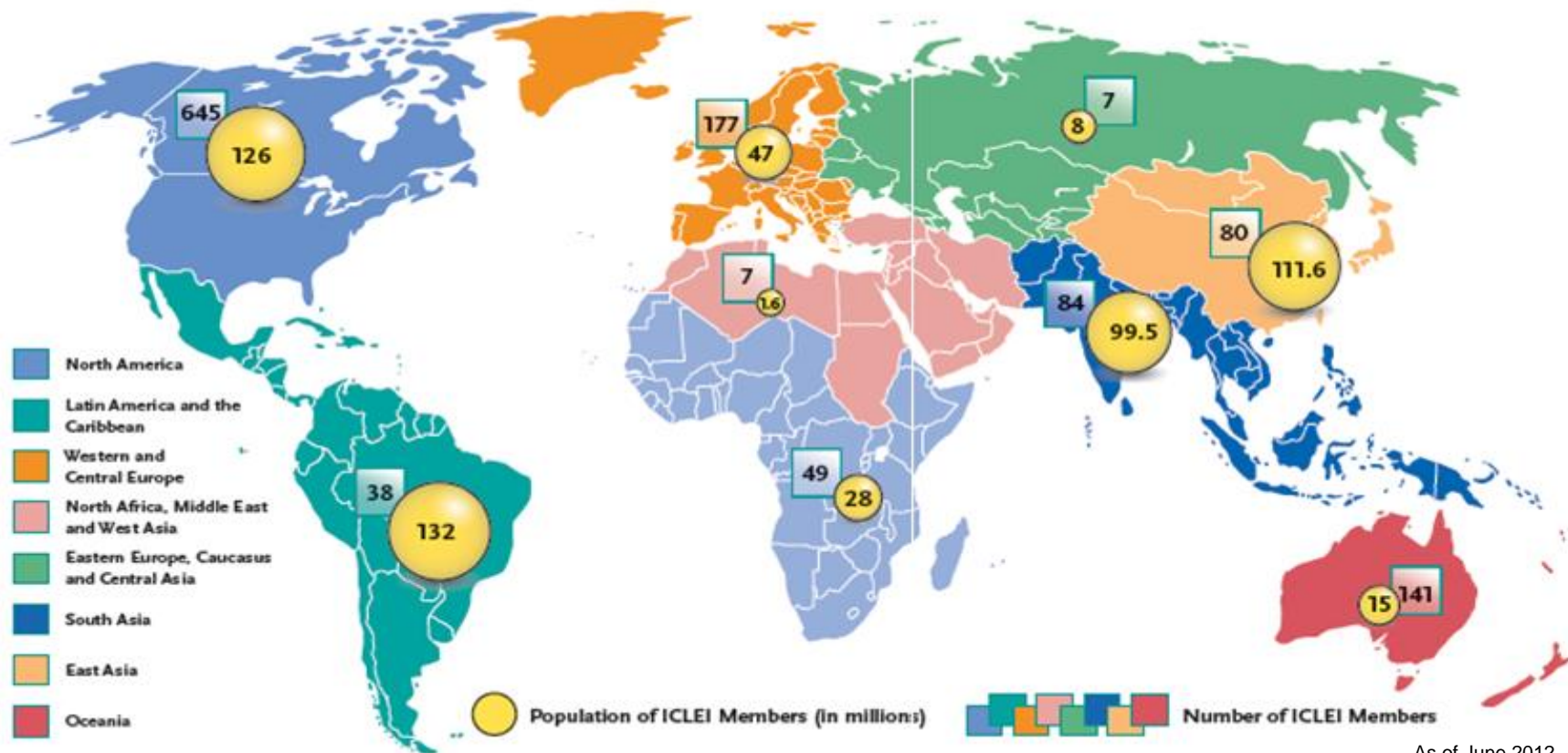# Enhancing safe, resilient and sustainable energy systems
through globally coordinated local climate action

Yunus Arikan, Head of Global Policy and Advocacy
ICLEI – Local Governments for Sustainability

Presented at IEA 5th Forum on Climate-Energy Security Nexus
4 November 2014, Paris, France

URBAN LEDS
URBAN LOW EMISSION DEVELOPMENT STRATEGIES

A global network of cities for sustainability

1000+ members in mega-cities, super-cities, urban regions, large cities, medium-
and small cities & towns in 88 countries, representing more than 660 million
(i.e. ~ 20% of world´s urban population)

As of June 2012

Connecting leaders – accelerating actions – gateway to solutions since 1990

·I·C·L·E·I·
Local
Governments
for Sustainability

Healthy and happy communities

World Mayors Council on Climate Change

Low-carbon cities

Green urban economy

Global Alliance for EcoMobility

Resilient cities

carbonn
bonn center for local climate action and reporting

LAB
Local Action for Biodiversity
AN ICLEI INITIATIVE

Procura+
Sustainable Procurement Campaign

Resource-efficient cities

Sustainable cities

FutureCityLeaders

Biodiverse cities

Smart infrastructure

Energy
Accessibility, affordability, resilience, reliability, safety, sustainability

I·C·L·E·I
Local
Governments
for Sustainability

Is the current <u>intergovernmental framework</u>

on <u>energy and resilience </u>robust enough

to ensure adequeate response of ***power sector*** on <u>all the above</u>?

- SE4ALL
- UNFCCC (Cancun Adaptation Framework - Warsaw Loss and Damage Programme
  - Nairobi Work Programme)
- Hyogo Framework of Action on Disaster Risk Reduction
  - Phase-I (2005 – 2015): 4.ii.f
  - Phase-II (post2015 –Co-Chairs text): 28.b
- Sustainable Development Goals (SDGs)
  - 1.5: build resilience of the poor and those in vulnerable situations
  - 7: Ensure access to affordable, reliable, sustainable and modern energy for all
  - 9: build resilient infrastructure, promote inclusive and sustainable industrializiation and foster innovation
  - 11: making cities and human settlements inclusive, safe, resilient and sustainable

Energy
Accessibility, affordability, resilience, reliability, safety, sustainability

·I·C·L·E·I·
Local
Governments
for Sustainability

ENERGY ACCESS

OVER 1 BILLION PEOPLE WORLDWIDE LACK ACCESS TO ELECTRICITY

OVER 95% OF THESE PEOPLE LIVE IN SUB-SAHARAN AFRICA OR DEVELOPING ASIA.

A GLOBAL OPPORTUNITY

UN Secretary-General Ban Ki-moon has called on governments, businesses and civil society to achieve universal access to modern energy services by 2030.

UNIVERSAL ENERGY ACCESS BY 2030 CAN BE ACHIEVED WITH LESS THAN $50 BILLION PER YEAR

CLEAN COOKING SOLUTIONS
A World Bank energy access project in Ethiopia led to the adoption of improved cookstoves by 2.6 million households in just five years.

MINI/MICRO GRIDS
Husk Power Systems provides power to 25,000 Indian households through biomass based mini-power plants that use discarded rice husks.

DECENTRALIZED SOLUTIONS
The company ToughStuff will provide up to 33 million people in Africa & Asia with low-cost solar technologies, saving consumers $520 million.

GOVERNMENT LEADERSHIP
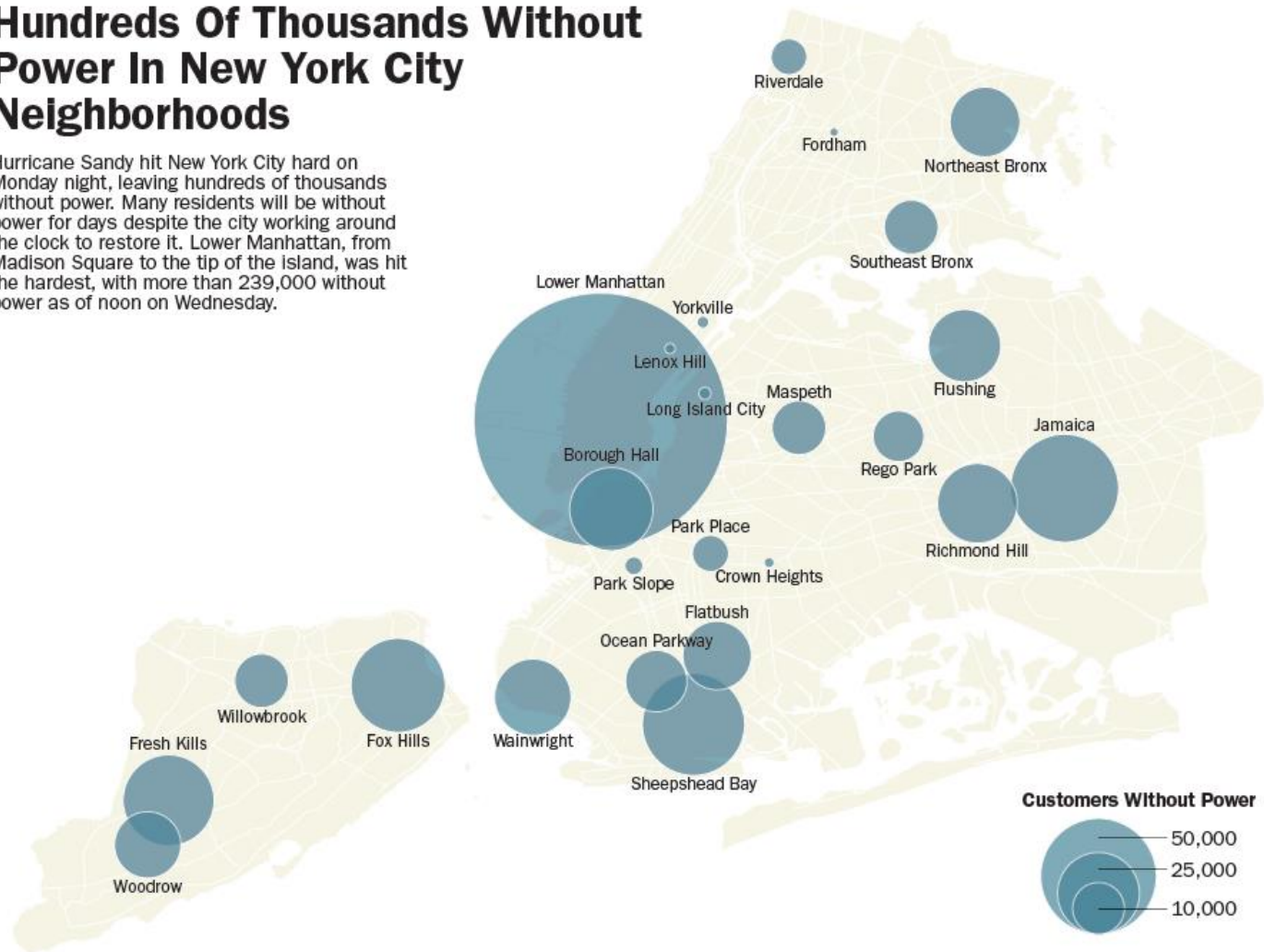Vietnam has increased electricity access by 1,960% IN 35 YEARS.

SMALL-SCALE LIGHTING SOLUTIONS
Solar Sister has trained nearly 150 women entrepreneurs across Africa to start businesses selling solar lamps.

SUSTAINABLE ENERGY IS POWERING *the future we want.* www.SustainableEnergyForAll.org

Sources: IEA, 2011 | SG's Sustainable Energy for All Vision Statement 2011 | Global Alliance for Clean Cookstoves | UN-DESA Framework for Action, 2012 | Practical Action, 2012 | UNDP 2012 | Husk Power of systems | The World Bank, 2011 | Solar Sister

Hundreds Of Thousands Without Power In New York City Neighborhoods

Hurricane Sandy hit New York City hard on Monday night, leaving hundreds of thousands without power. Many residents will be without power for days despite the city working around the clock to restore it. Lower Manhattan, from Madison Square to the tip of the island, was hit the hardest, with more than 239,000 without power as of noon on Wednesday.

Riverdale
Fordham
Northeast Bronx
Southeast Bronx
Lower Manhattan
Yorkville
Lenox Hill
Maspeth
Flushing
Long Island City
Jamaica
Borough Hall
Rego Park
Park Place
Richmond Hill
Crown Heights
Park Slope
Flatbush
Ocean Parkway
Willowbrook
Fox Hills
Wainwright
Fresh Kills
Sheepshead Bay
Woodrow

Customers Without Power
- 50,000
- 25,000
- 10,000

Source: Consolidated Edison/Note: Data as of Wednesday, Oct. 31 at 12 p.m. EST. Areas with fewer than 250 outages not shown.

THE HUFFINGTON POST

„One Less Nuclear Power Plant" Action Plan by Seoul Metropolitan Government (2011-2014)

- Response to Rolling Black-out on 15.09.2011 and Fukushima Disaster in March 2011
- Goals:
  – 8% energy self sufficiency rate by 2014 (1.8% by 2011)
  – Savings: 2 million TOE energy / 7.3 million tCO2e GHG / US$1.8 billion
  – 40,000 new jobs

「One Less Nuclear Power Plant」
10 Key Action Plans

Establish and operate Seoul **10** Natural Energy Foundation

Create citizen lifestyle with **09** energy-saving actions

Produce job-creating **08** effect in green industries (e.g. new and renewable energy industry)

Secure 150,000 memberships **07** for car-sharing scheme

Reinforce design standards for **06** new buildings by introducing energy cap and other measures

01 Make Seoul a city of sunlight where the entire city is a PV plant (320 MW)

02 Ensure energy self-sufficiency of core facilities by fuel cells (230 MW)

03 Improve energy efficiency of buildings (houses, commercial buildings, schools, etc.)

04 Realize a Smart Lighting City by LED (delivery of 8 million LED units)

05 Launch '2030 City Master Plan' with a view to energy-efficient urban structure

„One Less Nuclear Power Plant" Action Plan by Seoul Metropolitan Government from Phase:I to Phase:II (2014-2020)

ICLEI
Local Governments for Sustainability

(unit: 10,000 TOE, as of June, 2014)

Sector	Goal	Total	2014 performance	Total by end of 2013
Total	200	204	70	134
Energy production	23	26	16	10
Efficient use	82	83	30	53
Energy saving	95	95	24	71

- Phase:I goal of 2 MTOE energy savings is surpassed by 6 months in advance
- Key achievements by June 2014
  - 52 MW of PV, (in 2011; 28 MW)
  - 61 MW of fuel cells
  - -1.4% electricity, -3.5%gas, -1.7% oil consumption in 2012-2013 (despite increase at the national level)
  - 2,267 Building-Retrofit-Programme (475 in 2011)
  - 6.79 million LED replacement
  - Engagement with business, national government, citizens and global community

Achievement of 20% Self-Sufficiency Ratio in Electricity by 2020

4 million TOE in renewables production plus energy conservation	10 million-ton reduction in GHG emissions

"Seoul, an Energy Self-Reliant City" where citizens produce energy and consume it efficiently

Energy self-reliance + Energy sharing + Energy participation

BAU Electricity consumption (GWh) (A)	50,330
Planned savings (GWh) (B)	9,553
Planned reduced Electricity consumption (GWh) (EE=B-A)	40,777
Electricity production by new and renewable energy (GWh) (NRE)	8,155
Self Sufficiency Ratio (NRE/EE)	**20% (4.2% in 2011)**

Key milestones of global efforts by local governments with relevance to climate change and safe, resilient, sustainable energy systems
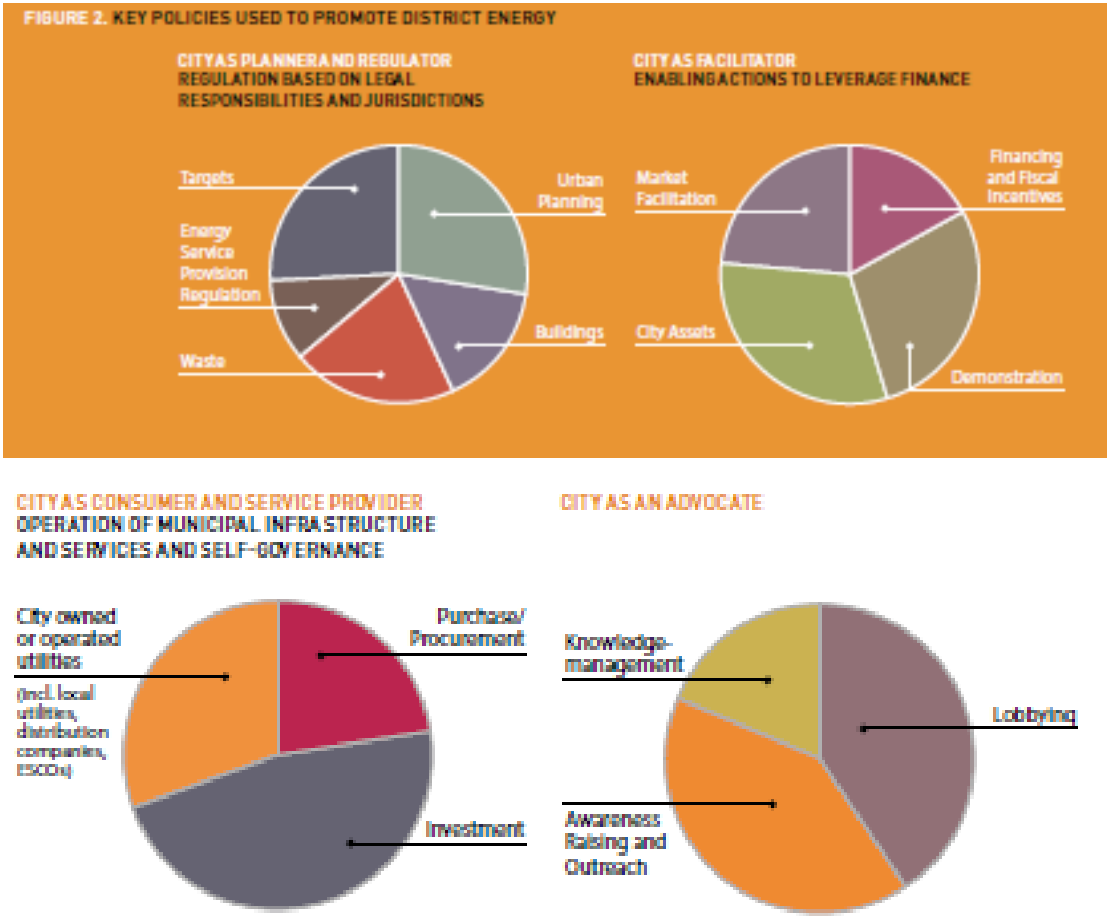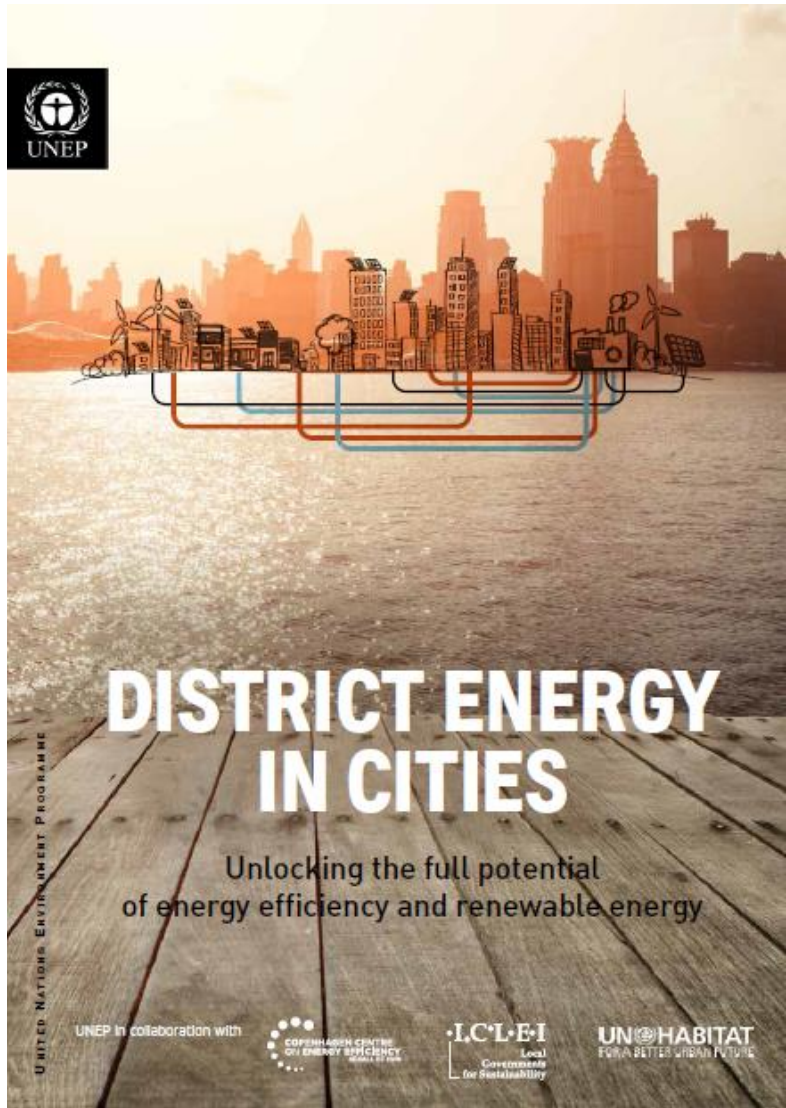
- 2014: **Energy Safe Cities Symposium** by ICLEI East Asia Secretariat

- 2014: **Climate Summit 2014;** Compact of Mayors, SE4ALL – Global Energy Accelerator Initiative, Invest-Divest Global Movement

- 2013: UNFCCC COP19 Decision to engage cities and subnational authorities in pre2020 ambition

- 2013: Nantes Declaration, Launch of **Resilient Communities for America**

- 2013: **Resilient Urban Infrastructure** Sessions at Resilient Cities Congress

- 2012: **ICLEI – IRENA Case Studies**

- 2012: Seoul Declaration on Energy and Climate Mitigation

- 2010: Mexico City Pact and carbon*n* Climate Registry

- 2011: Durban Adaptation Charter

- 2009: First Local Governments Section in the **REN21 Global Update**

- 2007: Local Government Climate Roadmap and **Local Renewables Conference Series**

- 2005: US Mayors Climate Protection Agreement

- 1993: ICLEI´s Cities for Climate Protection Campaign

Climate Summit 2014
SE4ALL – Global Energy Accelerator Platform
District Energy Accelerator

I·C·L·E·I
Local
Governments
for Sustainability

UNEP

DISTRICT ENERGY IN CITIES

Unlocking the full potential
of energy efficiency and renewable energy

UNEP in collaboration with

FIGURE 2. KEY POLICIES USED TO PROMOTE DISTRICT ENERGY

CITY AS PLANNER AND REGULATOR
REGULATION BASED ON LEGAL
RESPONSIBILITIES AND JURISDICTIONS

Targets
Energy Service Provision Regulation
Waste
Urban Planning
Buildings

CITY AS FACILITATOR
ENABLING ACTIONS TO LEVERAGE FINANCE

Market Facilitation
City Assets
Financing and Fiscal Incentives
Demonstration

CITY AS CONSUMER AND SERVICE PROVIDER
OPERATION OF MUNICIPAL INFRASTRUCTURE
AND SERVICES AND SELF-GOVERNANCE

City owned or operated utilities
(incl. local utilities, distribution companies, ESCOs)
Purchase/Procurement
Investment

CITY AS AN ADVOCATE

Knowledge-management
Awareness Raising and Outreach
Lobbying

City Cases: Copenhagen, Dubai, Frankfurt, Helsinki, Milan, Vancouver, Paris, Ansan, Cyberjaya……..

The Compact of Mayors

"If we are to bring down global temperatures, we must step up, scale up, speed up local climate action globally. Together, let's innovate, integrate, collaborate!

The designated central repository of the Compact, the carbon$n$ Climate Registry, will enable the compilation of data through existing national, regional, global city reporting platforms. carbon$n$ Climate Registry represents the ultimate level of our collective efforts."

Park Won-soon,
Mayor of Seoul, Republic of Korea

Link to the webcast of Cities Action Area at Climate Summit 2014

carbon*n* Climate Registry
World´s leading reporting platform
of local and subnational governments
serving 12% of world's urban population

Local Government Climate Roadmap

I.C.L.E.I
Local Governments for Sustainability

In Numbers (as of September 2014):

465 Number of reporting cities & local governments	**44** Countries	**423** Population (million)
940 Climate & Energy Commitments	**4244** Mitigation and Adaptation Actions	**GHG 2.28** Reported GHG Emissions (GtCO2e/yr)

Reporting platform of:

COMPACT OF MAYORS

RESILIENT COMMUNITIES FOR AMERICA
www.resilientamerica.org

GLOBAL CITIES COVENANT ON CLIMATE
THE MEXICO CITY · PACT

EARTH HOUR CITY CHALLENGE *by WWF*

dac | durban adaptation charter

In Partnership with:

I.C.L.E.I Local Governments for Sustainability

C40 CITIES CLIMATE LEADERSHIP GROUP

UCLG CGLU

R20 REGIONS OF CLIMATE ACTION

MICHAEL R. BLOOMBERG | UN Secretary-General's Special Envoy for Cities and Climate Change

UN HABITAT FOR A BETTER URBAN FUTURE

WWF

EcoMobility ALLIANCE

carbon*n* Climate Registry Japan Project

PACMUN Plan de Acción Climática Municipal

URBAN LEDS URBAN LOW EMISSION DEVELOPMENT STRATEGIES

CONNECTING THE DOTS*

A Scenario for Global Climate Advocacy Framework of
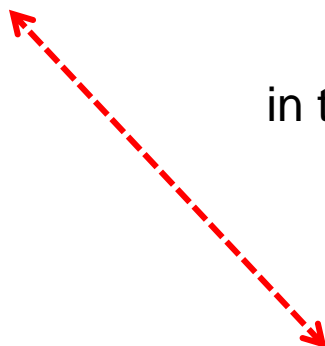Local and Subnational Governments between September 2014 – December 2015

**Engaging in the
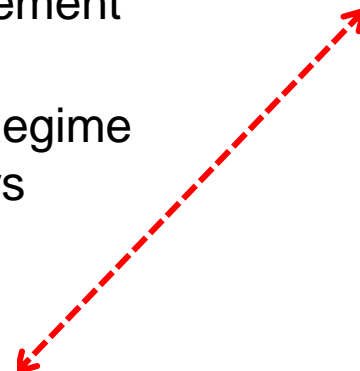Paris 2015 Outcome
(ADP Process)**

GOAL:
Scaling-up and mainstreaming climate action by full Recognition, Engagement and Empowerment
in the Post 2015 Global Climate Regime as governmental stakeholders

**Follow-up on the
Climate Summit 2014, including
the Compact of Mayors**

**Advancing with the implementation of the
2013 Nantes Declaration of Mayors and
Subnational Leaders on Climate Change**

*This analysis, developed by ICLEI, in support of Local Government Climate Roadmap, is not an official position. It aims to to support local leaders worldwide through a simple interpretation of existing global political processes related to climate change.

www.iclei.org/climate-roadmap

Local Government Climate Roadmap
Recognize • Engage • Empower

Vision towards Paris 2015
Based on key positions announced at the Nantes Declaration of Mayors and Subnational Leaders on Climate Change in September 2013

I·C·L·E·I
Local Governments for Sustainability

- **ADP Workstream-1 Outcome:** An ambitious and *„inclusive"* Paris Treaty , with full recognition local and subnational governments as *governmentals stakeholders*

- **ADP Workstream-2 Outcome:** A COP Decision for 10-Year Action Plan for City and Subnational Action, including :
  - immediate support for „low-hanging fruits" (pre-2020 action)
  - 5-year preparatory phase to design and support transformative processes – scale up vertically integrated, low-carbon, climate-resilient urban development for action over 30-40 years in post-2020 period

- **Step-by-Step Approach**
  - *A specific focus on Cities and Subnational Authorities within the COP20 Decision in Lima* (Official Outcome of ADP Technical Expert Meeting on Urban Environment)
  - *Full Implementation of COP20 Decision at COP21 in Paris*; i.e. announcements of commitments and actions for enhanced mobiliziation of technical and financial resources at the local, subnational, national, regional and global levels

ICLEI World Congress 2015
SUSTAINABLE SOLUTIONS FOR AN URBAN FUTURE
8 - 12 April 2015 · Seoul, Republic of Korea

SEOUL METROPOLITAN GOVERNMENT · 서울특별시

I·C·L·E·I
Local Governments for Sustainability

Ensuring Sustainability of the Urban World -
Local and subnational governments in global efforts on sustainability in the post-2015 development agenda

·I·C·L·E·I·
Local
Governments
for Sustainability

Intergovernmental Framework

Initiatives led by local and subnational governments

Policy Document:

Rio+20 Outcome - The Future We Want

Local Government Climate Roadmap
Recognize • Engage • Empower

Sustainable Development Goals (SDGs)

Post-2015 Global Climate Regime

GLOBAL TASKFORCE
OF LOCAL AND REGIONAL GOVERNMENTS
FOR POST-2015 DEVELOPMENT AGENDA
TOWARDS HABITAT III

Implementation Processes:

Hyogo Framework for Action on Disaster Risk Reduction (HFA)

10-Year Framework Programmes on Sustainable Consumption and Production (10YFP-SCP)

2010-2020 Nagoya Biodiversity Action Plan on Cities and Subnational Authorities

#urban SDG

communitas

UN General Assembly 2015 (UNGA70)

Sendai Disaster Risk Reduction Conference 2015 (WCDRR)

High-level Political Forum (ECOSOC/GA)

UN Paris Climate Conference 2015 (COP21/CMP11)

Milestones for decision making:

UN Environment Assembly (UNEA)

HABITAT-III 2016

Local Government Biodiversity Roadmap

For further information:

http://talkofthecities.iclei.org/iclei-climate-summit-2014/

www.iclei.org/climate-roadmap

www.carbonn.org

Phase:II of Seoul´s One Less Nuclear Power Plant Action Plan
http://carbonn.org/uploads/tx_carbonndata/One%20Less%20Nuclear%20Power%20Plant%20Phase%202_17.pdf

Energy Safe Cities East Asia Programme - http://eastasia.iclei.org/our-activities/our-programs-projects/energy-safe-cities-east-asia-program.html

Resilient Communities America - http://www.resilientamerica.org/

Local Renewables Conference Series - www.local-renewables-conference.org/

Resilient Cities Congress Series - http://resilient-cities.iclei.org/

Urban-LEDS Project and Solutions Gateway - www.urban-leds.org / www.solutions-gateway.org

ICLEI World Congress, 8-12 April 2015, Seoul - www.iclei.org/worldcongress2015

carbonn@iclei.org - yunus.arikan@iclei.org