

ONE LESS NUCLEAR POWER PLANT SEOUL SUSTAINABLE ENERGY ACTION PLAN



“One Less Nuclear Power Plant” initiative

Seoul’s Energy Policy for Future Generations

Why “One Less Nuclear Power Plant”?



Fukushima Nuclear Accident (’11)



Nationwide Rolling Blackouts (’11)



Worsening Climate Change

“One Less Nuclear Power Plant” initiative

Korean Nuclear Industry

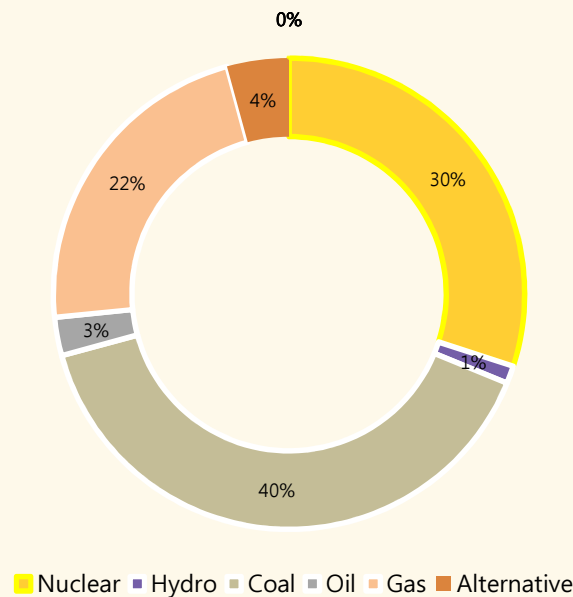
- Nuclear Power Plant Status
- Operating : 24
- Under Construction : 5
- Planned : 2
- Permanent Shutdown : 1



Source: Korea Atomic Industrial Forum, Inc. (December 2017)

Power Generation

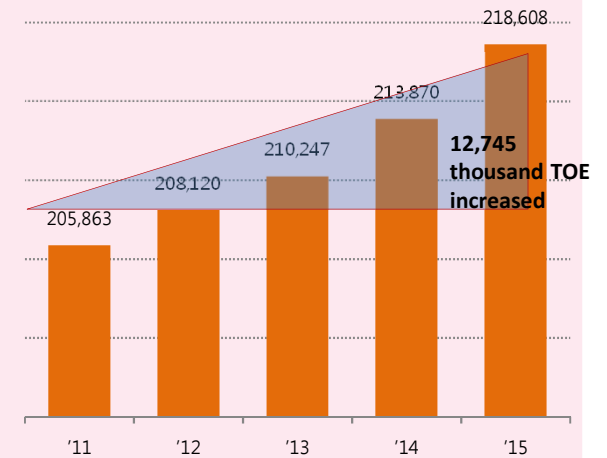
Trends in Power Generation Facilities per Source(2016)



Power Consumption

National Energy Consumption

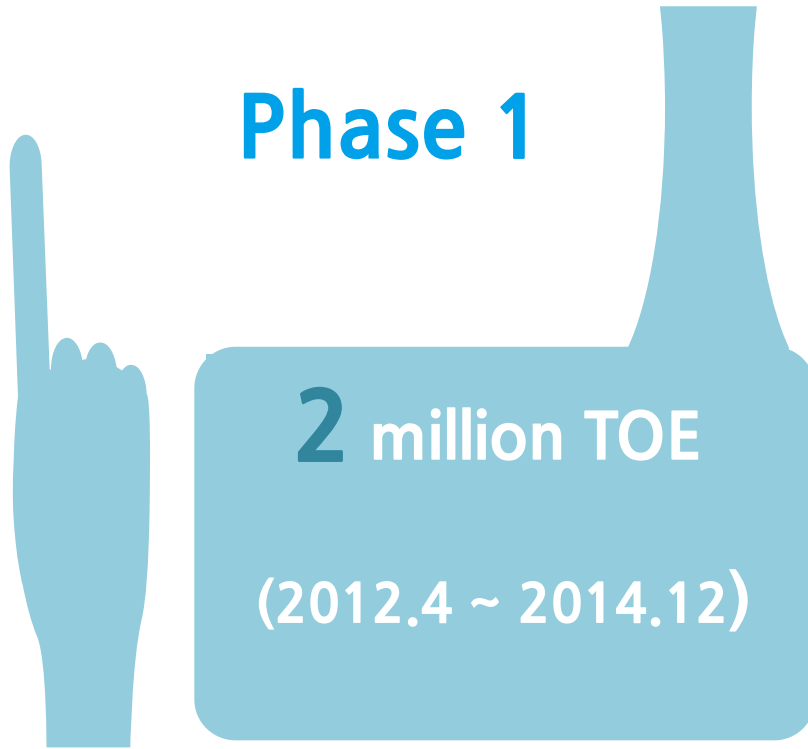
(unit : thousand TOE)



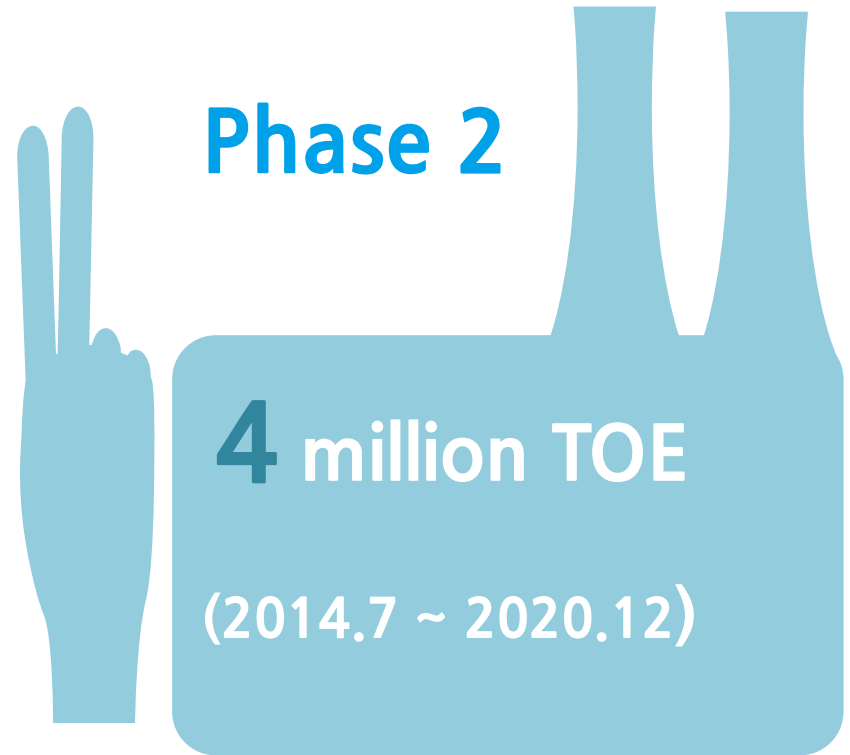
1 Nuclear Power Plant = 2 million TOE
 Seoul City Energy Consumption 15 million TOE in 1 year =
 8 Nuclear Power Plants
 Save 2 million TOE = One Less Nuclear Power Plant

“One Less Nuclear Power Plant” initiative

Phase 1



Phase 2



Less 1 Nuclear Power Plant = 2 million TOE

Less 2 Nuclear Power Plant = 4 million TOE

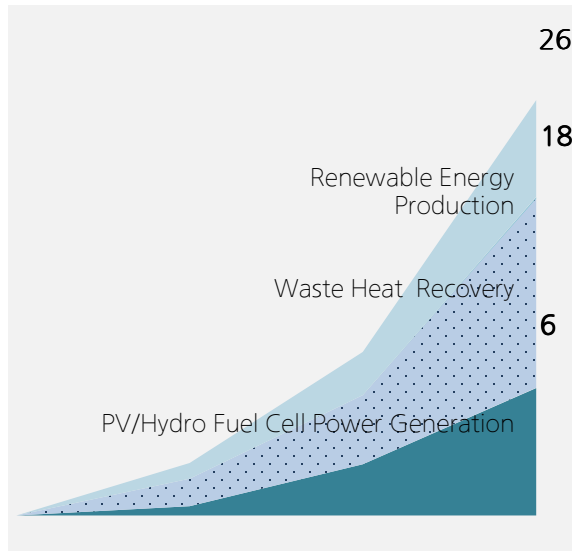
“One Less Nuclear Power Plant” initiative

Goal :
Save 2.04m TOE

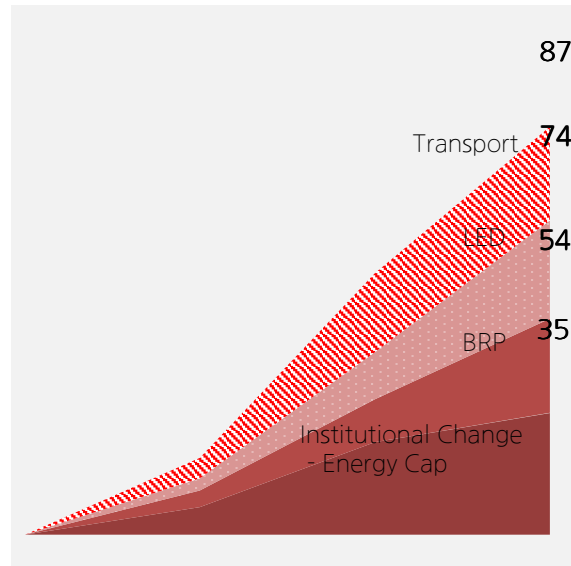
- Met 6 months ahead of schedule

Sector	Goal	Total	2014 performance	Total by end of 2013
Total	200	204	79	125
Energy production	41	26	15	11
Efficient use	111	87	40	47
Energy saving	48	91	24	67

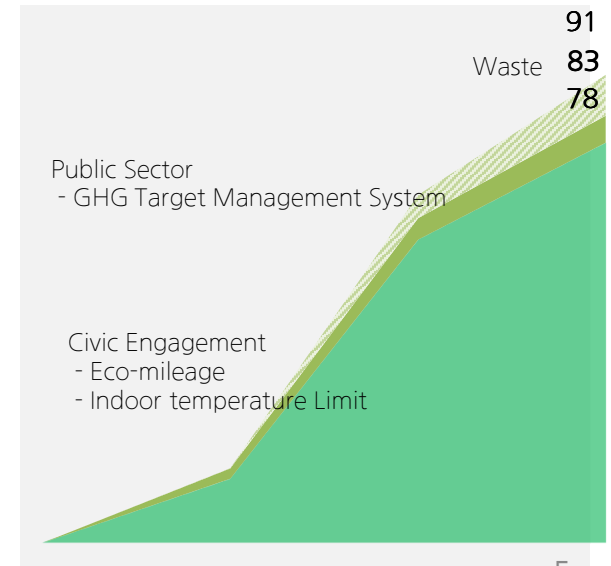
Energy Production



Efficient Use of energy



Energy Saving



“One Less Nuclear Power Plant” initiative

One Less Nuclear Power Plant Phase 2

VISION

“Citizens; energy producers & efficient energy consumers”

Energy self-reliant City. Seoul



VALUE

- Shift to a **responsible energy consuming city**
- Production of **safe, sustainable energy**
- Promotion of **energy industry & job creation**



- Citizens **sharing** their **energy services** with the underprivileged & future generations
- Fair **energy distribution** & easing **energy poverty**

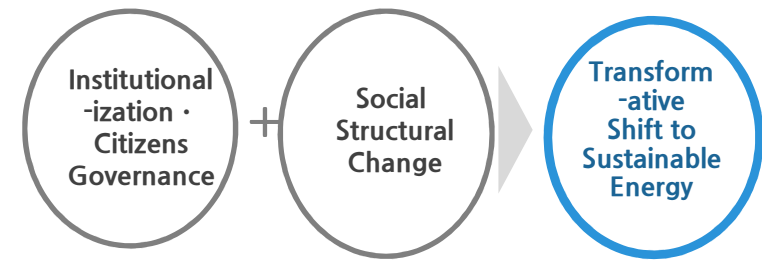


- Open **energy governance** for energy policy setting and implementation
- Disclosure of **energy information** and provision of opportunities for **education and training**



STRATEGY

- 10million citizens become energy producers from mere consumers
- Energy production and efficient use of energy takes roots in daily lives
- Sustainable jobs are created by fostering the energy industry
- Virtuous cycle of energy participants making profits and donations



“One Less Nuclear Power Plant” initiative



One Less Nuclear Power Plant Phase 2

Electricity Self-reliance Rate :
20% by 2020

- Aim for an energy producing city
- No blackout even in electricity crisis

TOE : 400m Save

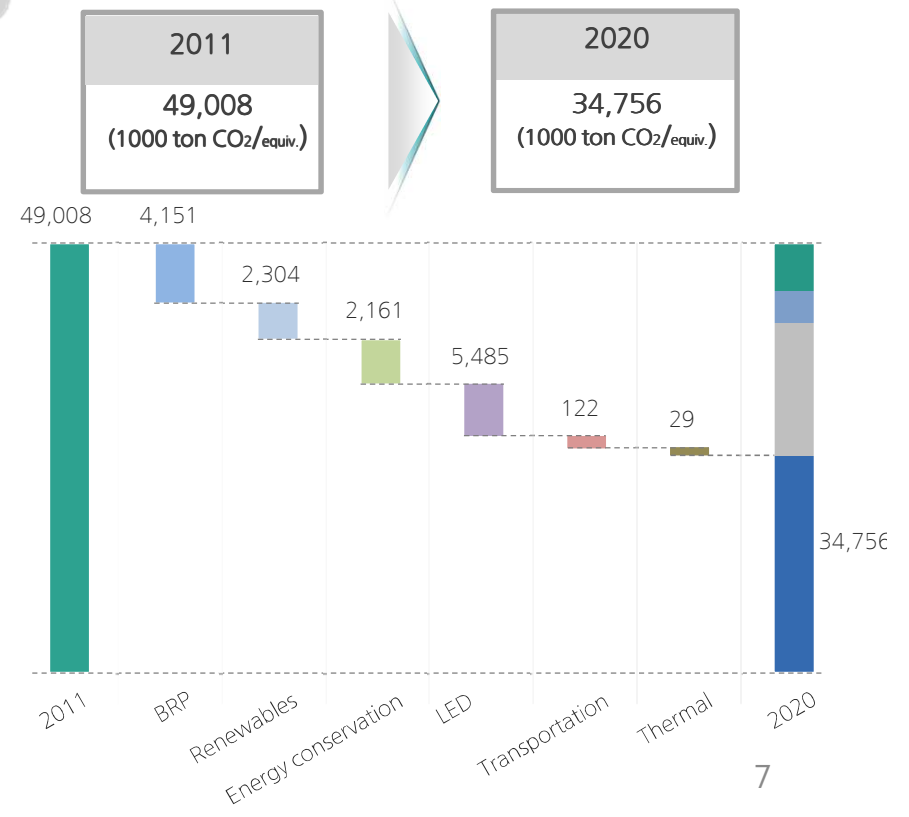
GHG emissions :

1.5 million-ton reduction by 2020

Goal



	2014	2015	2016	2017	2018	2020
Demand (GWh)	47,076	47,603	48,137	48,676	49,221	50,330
Production (GWh)	2,285	3,137	3,960	5,181	6,344	8,155
Reduction (GWh)	1,382	2,791	4,134	5,505	6,923	9,553



Seoul meets its energy needs for itself

Goal :
Expansion of decentralized power supply through increased new and renewable energy and cogeneration

De-centralized Energy Production

Citizens' Participation

40,000 mini PV

Decentralized Power Supply

61MW non-utility cogeneration

Production of New & Renewable Energy

300MW solar power and fuel cell

Local Specific Energy

1.13million Goal cooling heat and incineration heat



Production of healthy and clean electricity by citizens' solar power generation



Distribution of decentralized electricity including "Mini-Building Power Plants"



Small Scale PV Power Generators



Installation of solar power station at empty site of Arisu Water Purification Center

Efficient energy consumption is a way of energy production

Goal :
Efficient and low energy consumption

Efficient & Low Energy Consuming Culture

BRP

Systematic energy diagnosis('15) / Disclosure of information on energy efficiency('15)

LED Promotion

Public 100%('18)
Private 25% → 65%('18)

Eco-friendly Transportation

Increase in congestion charge
EV 15,000 cars

Urban Planning

Publication of energy maps / Enhanced environmental reviews



Improvements in Building Energy Efficiency through Institutional Arrangements and Application of Market Principles



<Energy Zero Building>



<BRP-Replacing window>

Efficient energy consumption is a way of energy production

Goal :
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Efficient & Low Energy Consuming Culture

BRP

Systematic energy diagnosis('15) / Disclosure of information on energy efficiency('15)



City of LED Lighting

- 100% LED replacement - Public (by 2018)
- Promotion of **voluntary LED replacement** through cooperation with the private Sector
- Improvement of technologies and expansion of LED market

LED Promotion

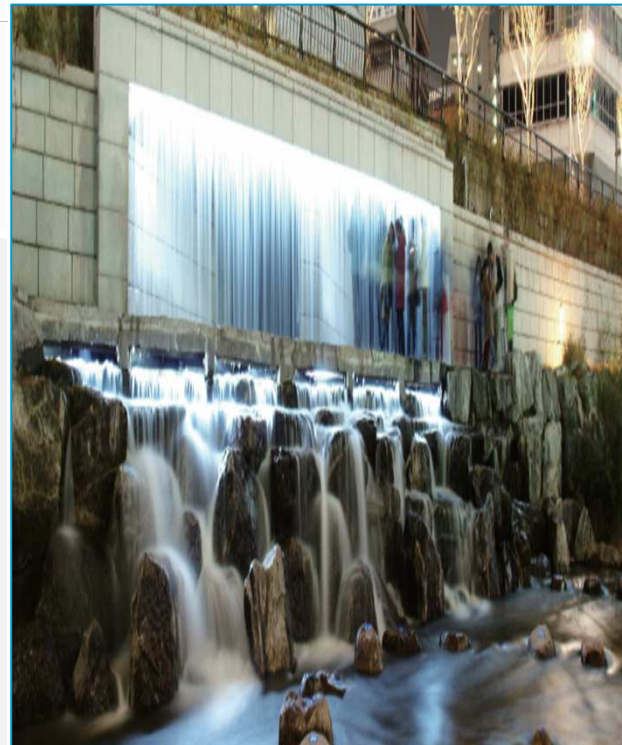
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<Chenggyecheon LED>



<Seoullo 7017 LED>

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City of Human-centered, Energy-Saving Green Transportation

- Introduction of a new incentive program called **Driving Mileage Program**
- Increase in Traffic Inducement Charge
- Expansion of **Car-sharing, Pedestrian-only zones, and Car-free day**



<Hi Seoul Bike Festival>



<Car-Sharing>

Efficient energy consumption is a way of energy production

BRP

LED Promotion

Eco-friendly Transportation

Urban Planning

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Increase in congestion charge
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Publication of energy maps / Enhanced environmental reviews



Social Culture of Saving Resources and Energy

- Improvement of 「Eco-Mileage」 to connect production & efficiency
- Expansion of Recycling Stations into all districts

Goal :
Efficient and low energy consumption

Efficient & Low Energy Consuming Culture



<Eco-Mileage Card>



<Awarding ceremony of membership certificate for Eco-Mileage enterprises>



<Recycling station>

Responsibility for Energy Welfare

Citizen Engagement

Transfer & Efficiency

Communities

Seoul ensures all citizens use energy

Energy Welfare Ordinance
- Korea's first

100,000 citizens participating in the Welfare Fund

Weatherization for 1,100 low-income households

200 energy self-reliant villages



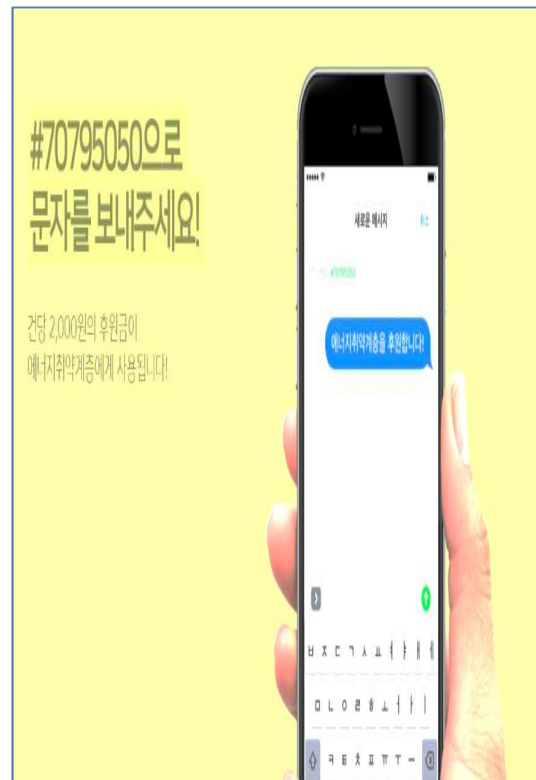
Secure Energy Welfare through Institutional Arrangements

- Enactment of 「Energy Welfare Ordinance」
- Establishment of 「Energy Welfare Platform」 to be made and operated by citizens

Goal :

Presentation of Basic to **Energy Welfare** and Realization of Sharing through **Communities**

Energy-sharing Community



<Winter preparation support project - 'Dagaon' campaign >



<Seoul Citizen Energy Welfare Fund Citizen Board of Directors>

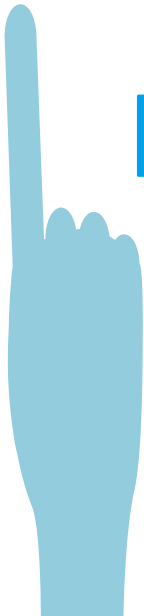


<Seoul Citizen Energy Welfare Fund Supporters>

“One Less Nuclear Power Plant” initiative



Phase 1



 **Target: 2** million TOE
(2012.4 ~ 2014.12)



Phase 2 -Until Now



Target: 4 million TOE
(2014.7 ~ 2020.12)
So Far: **2.61** million TOE

Less 1 Nuclear Power Plant =
2 million TOE

Less 2 Nuclear Power Plant =
4 million TOE

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Lesson Learned

Successful
Local
Energy
Policy

Energy
Policy Vision

- Clear vision statement

Citizen is
the Energy

THANK YOU!