Tackling Fine Dust and Climate Change in Korea

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709 million ton in 2017 highest in history (World ranking in 2016 = 11th)
1. Rising in coal heating power
2. Increase in the work of steel industry,
3. In the semiconductor industry (fluorine)
37% of GHG emissions reduction below the BAU level by 2030 (Submitting NDC to UN, ‘15.6)-revised July, 2018 (25.7%⇒32.5%, 11.5⇒4.5%) Reduced to 536 mil ton by 2030
Main causes of particulate matter (fine dust) in Korea are coal power plants and use of fossil fuel in transportation.
The higher level of fine dust concentration in Korea compared to other developed countries

Trends of PM 2.5 concentration in Korea and OECD countries

PM 2.5 concentration of Seoul and other Metropolitan cities

Challenge (Korea)

[Annual average of fine dust concentration]

[The number of days of the peak figure occurrences and the highest record]
“Coping with PM problems is my last assignment… Strong policies are required… Citizens are caring more about fine dust than NK’s nuclear missile… It is an important turning point…”

- ‘미세먼지 근원적 대책’ 포럼 held by SDSN Korea (2019. 5. 23) -
Coming Policies

Protection of vulnerable groups
- Free provision of air purifiers for all schools
- Free provision of masks for low-income group

Managing key emission sources
- Temporary shutdown of coal power plants (1/3) in winter
- Establishing real-time monitoring and surveillance on emission sources (drone)
- No permission to entry to downtown in Seoul of old diesel cars

Strengthening International Cooperation
- Sharing data and info and co-research among 3 countries
- Expansion of PM reduction projects based on lesson learned from pilot projects

Source: 이정용(환경부 푸른하늘기획과), “미세먼지 대책 추진현황 및 향후 계획” 발표자료, 한국과학기술단체총연합회 주최 제1회 미세먼지 국민포럼, 2019. 2. 25
"Cheap production prices were considered the priority while the public's life and safety took a back seat. But it's time for a change.

3020 RE Plan

- increase the role of **renewable energy** (7 ⇒20% of electricity by 2030)-3020 project
- Shutdown old **coal power** plant(61 + 7 under construction, 40% GHG ,2018)
- phase out the country’s dependence on **nuclear power** (nuclear free era)

“2nd Basic plan on CC(2030)” : Transportation
3M EV, 0.85M Hydrogen car, Expansion of LNG use in Shipping
NGOs’ Pressure (ESG)
The world’s most influential companies, committed to 100% renewable power.

• RE100 initiative, led by the Climate Change Group

Global companies and NGO pressure Korean companies (supply chains) to use RE

Response: KEPCO, Green pricing system (certificate of origin)

191 companies (Aug. 2019)
challenges

• RE seems to be an answer to tackle FD and CC, but...

• No coal, no nuclear power, no LNG: 100% RE is feasible in Korea?
  - transition of energy sources; high rate of manufacturing

• Long term/ Mid-term target: Business sector’s acceptability vs. NGO’s perspective:
  - technology issue, political commitment

• Korea’s initiative for Regional ETS
Case) Jeju Carbon Free Island by 2030

Triple Crown of UNESCO
Biosphere Reserve, Worldwide Natural Heritage, Global Geopark
Vision

- Transform Jeju into a Carbon Neutral Global Green City
- ☞ Foster high-value added industries with a combination of clean environment and technologies
- ☞ Achieve greenhouse emission reduction targets by responding well to climate change

Source: Carbon Free Island Jeju 2030
Goals by projects (by 2030)

**EV**
- 100% replacement with EVs (about 377,000),
- create a world-class city for EVs

**RE**
- 4,311MW through wind and solar power, meeting 100% of the island’s electricity demand

**Smart Grid**
expand the smart grid across the entire island of Jeju

Source: Carbon Free Island Jeju 2030
Thank you!