

# ***Achieving Paris Agreement and SDGs in East Asia***

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# Summary

1. We are in the **age of Paris Agreement and SDGs**. What does this signify?
2. Paris Agreement and SDGs present **new world socio-economic visions**:
3. Socio economic development in the **safe and just space for humanity**, keeping **Ecological Ceiling** & improving **Social Foundations**.
4. **Transformation to Decarbonized Society** has already begun: new decarbonized business models, expansion of renewable energy and sharp decline of the cost of renewables.
5. Towards East Asia low carbon environment and energy communities.



The Stone Age did not end for lack of stone, and the Oil Age will end long before the world runs out of oil.

— *Ahmed Zaki Yamani* —

AZ QUOTES

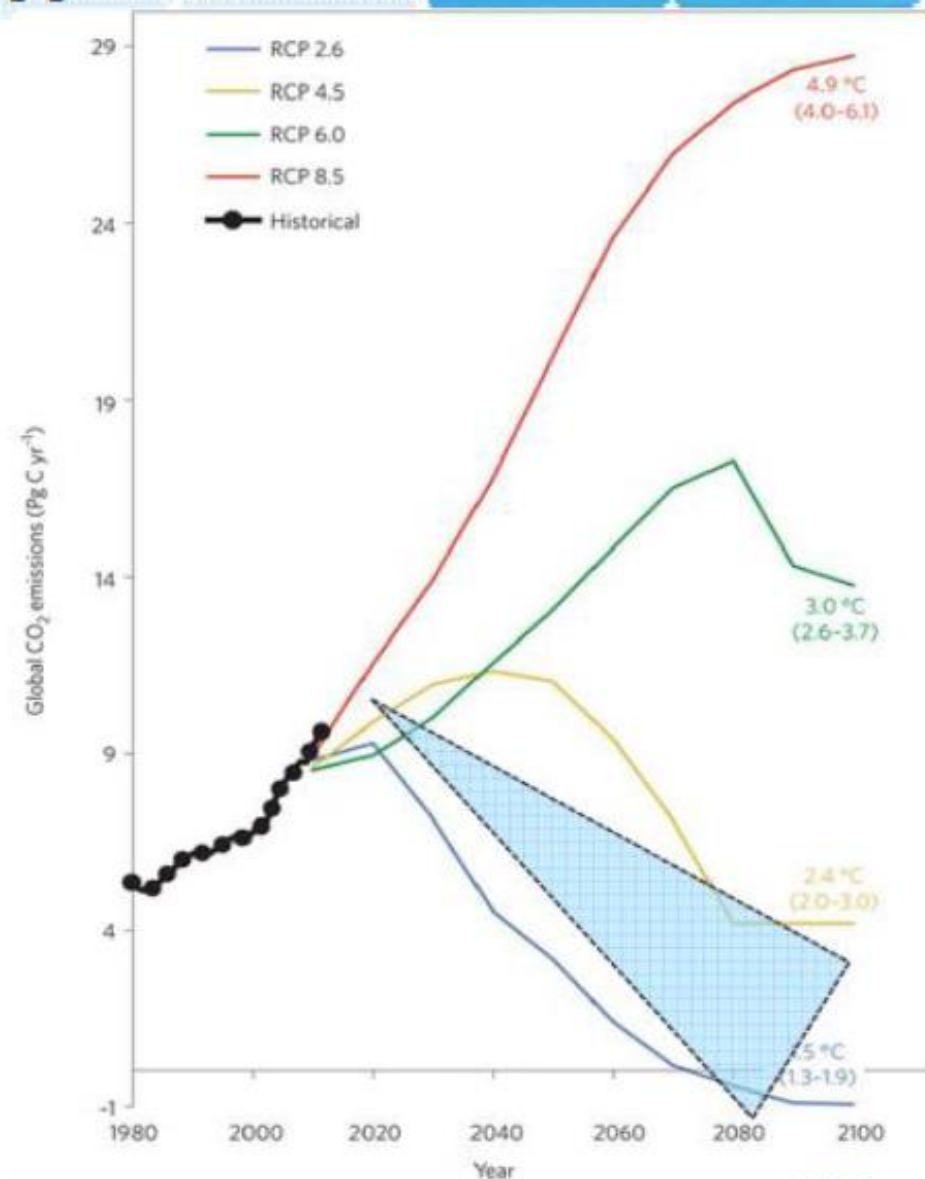
We are the first generation to be able to **end poverty**, and the last generation that can take steps to avoid the worst impacts of **climate change**. Future generations will judge us harshly if we fail to uphold our **moral and historical** responsibilities.

Ban Ki-moon  
Secretary-General  
United Nations



# The Paris Agreement: Huge ambition

- Global goal of keeping warming **between 2° and 1.5° C (Art. 2)**
- **Global peaking** “as soon as possible” (Art. 4.1)
- Achieve **balance of emissions and sinks** by **second half of century** (Art. 4.1)
  - Excludes **solar radiation management**
- **Global stocktake** on progress towards these goals every 5 years from **2023** (Art. 14.1 and 2)





# Implications of Paris Agreement

- **Massive transformation** by 2050 –
  - Advanced nations reduce 80 – 90 %, emerging economies reduce growth significantly
- **Net zero goal** (sources = sinks) by 2nd half of century
- Current targets closer to 3°C than 2°C
  - ⇒ expect targets to strengthen over time

**2°C target = Net zero CO<sub>2</sub> emission society**

# Sustainable Development Goals(SDGs)

Adopted as a core part of 2030 Development Agenda at UN/GA(2015.9.25)

Leave no one behind.



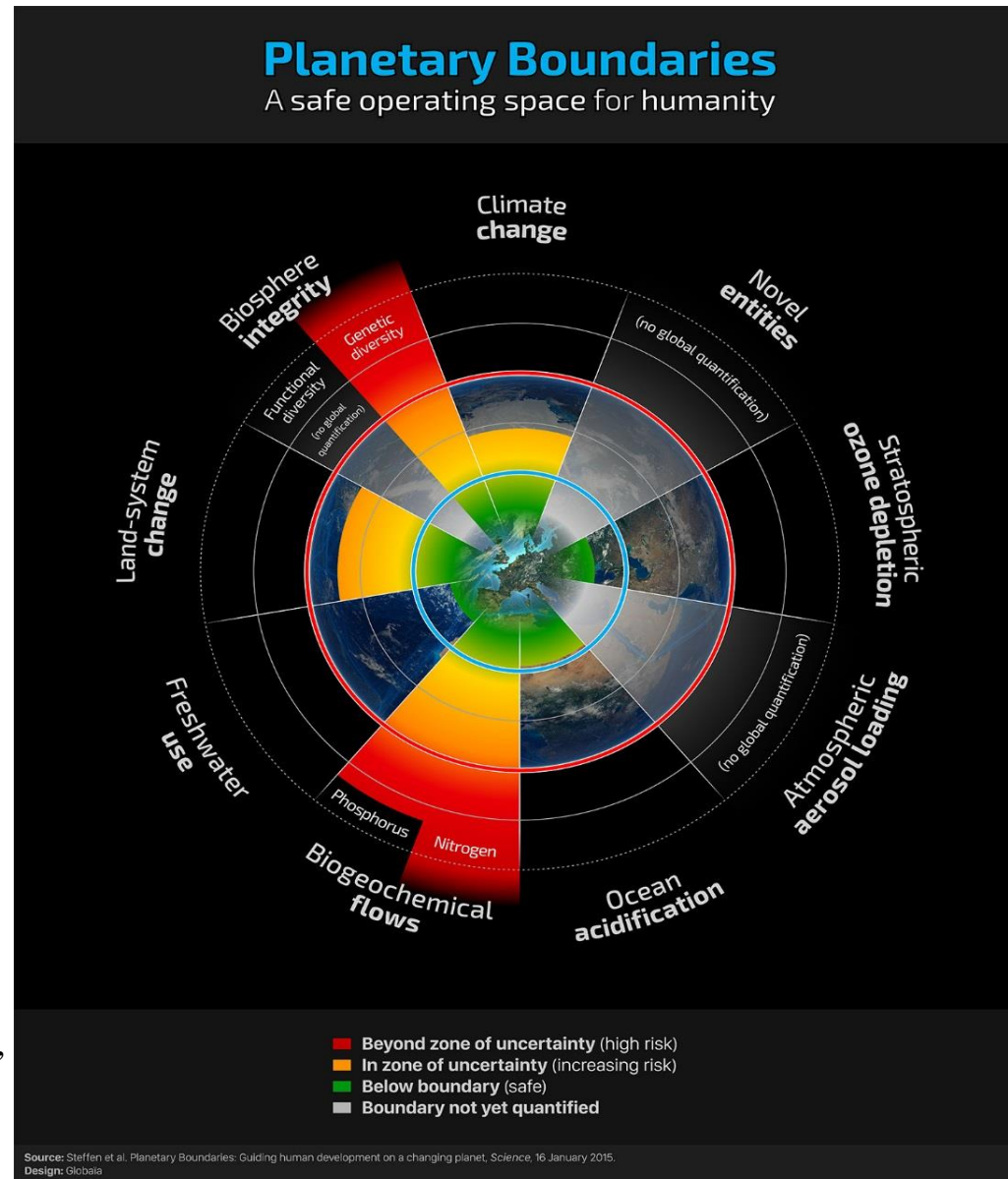
# What do SDGs & Paris Agreement signify?

- Zero poverty/hunger by 2030
- Net zero GHG emissions by the latter half of the 21<sup>st</sup> century
- Socio economic development in the safe and just space for humanity, keeping Ecological Ceiling & Improving Social Foundations.

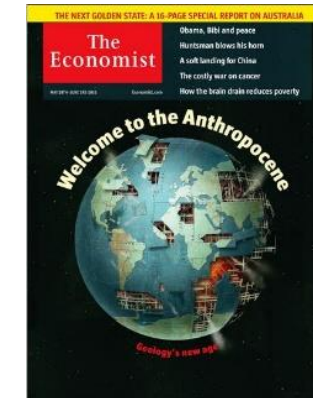
⇒ How do we attain these goals in a mutually reinforcing and equitable way?

# Preconditions in the 21<sup>st</sup> Century

## - Planetary Boundaries -



Steffen et al.,  
Science  
(2015)

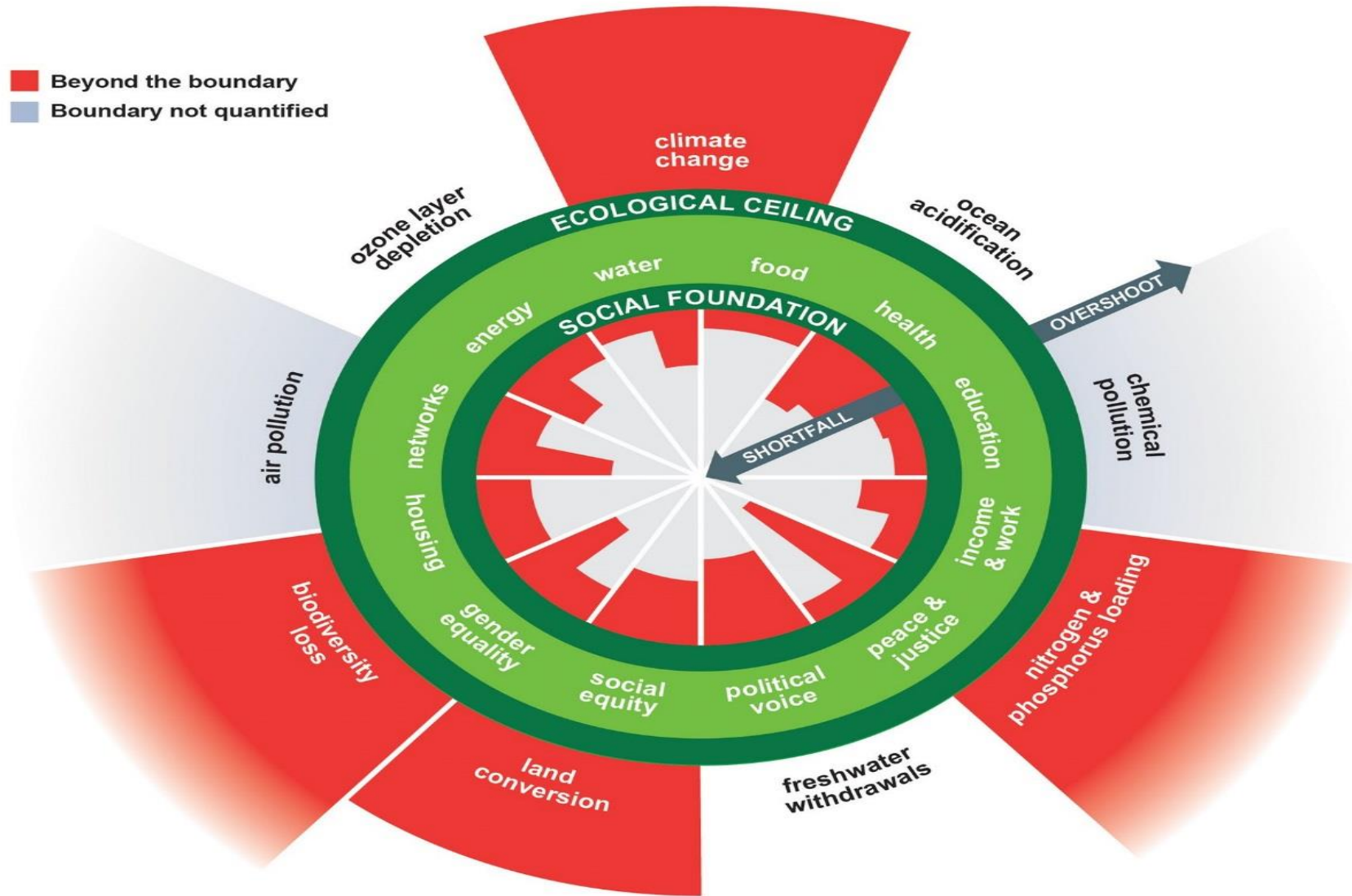


⇒ from Environmental Problems to Earth System Transformation  
c.f. Anthropocene  
(Crutzen 2002)



# Donut Economy: The safe and just space for humanity. Source: Kate Raworth, 2012

## Ecological Ceiling & Social Foundations



# Some Good news

- **Marginal cost zero society to shared economy** (Jeremy Lifkin(2015) )  
More and more goods & services are provided with zero marginal cost and less energy and materials inputs.
- Sharp decline in the cost of low carbon technology, renewable energy.
- Under the current low or negative interest rate, the cost of financing is low and there are abundant funds available.  
**What we need is a mechanism to channel funds.**

Transformation to Decarbonized  
Society has already begun.

# IPCC Chair Hoesung Lee

- The 6th assessment report of IPCC will present research results which demonstrate **CO2 reduction activities** would open up **new economic opportunities** rather than economic burdens.
- **Carbon pricing** stimulate technological innovation, low-carbon technologies will gain market competitiveness, which will result in **economic development**.

(Source: Interview by Joseon Ilbo(朝鮮日報) dated 21/12/2015, provided by Prof. Soochaeol Lee of Meijo Univ.)





# Expansion of renewable energy

- **Wind Power** Generation Capacity: **59GW⇒432GW** (2005 to 2015, **7 folds**)
- **Solar Power** Generation Capacity: **5.1GW⇒234GW**(2005 to 2015, **46 folds**)
- **Global Investment for Renewable Energy** Power Generation (excluding large scale hydro) in 2015: 286 billion US\$ (more than **6 folds increase** compared to 2004),
- While for Investment for **Fossil Fuel** was 130 billion US\$, **less than half** of the renewables

# New business model: Companies committed to 100% Renewable Energy



**RE 100**



100 OF THE WORLD'S MOST  
INFLUENTIAL COMPANIES WILL COMMIT TO  
**100% RENEWABLE POWER**



**WHY RENEWABLES?**  
MAKING THE SWITCH IS A SMART BUSINESS DECISION. IT CAN PROVIDE ENERGY SECURITY, CURB FLUCTUATING COSTS, IMPROVE REPUTATION AND DELIVER EMISSION REDUCTION GOALS. IN ADDITION TO PROVIDING CLEAN POWER FOR A BUSINESS, RENEWABLES INVESTMENT CAN PROVIDE FINANCIAL RETURNS COMPATIBLE WITH - AND IN SOME CASES EVEN HIGHER THAN - OTHER MAINSTREAM INVESTMENT OPTIONS.



INCREASING CORPORATE DEMAND WILL DRIVE RENEWABLE POWER SCALE-UP AND HELP US DELIVER A BETTER, HEALTHIER AND MORE SUSTAINABLE WORLD FOR WHAT WILL SOON BE **9 BILLION PEOPLE.**



**WE MEAN BUSINESS**

**THE CLIMATE GROUP**

# ESG Investment, Green Investment, Green Bond, Divestment

- **ESG** (Environment, Society, Governance) Investment:  
Global :18.3 trillion US\$(2014)  $\Rightarrow$  22.9trillion US\$(2016)  
Japan: 7 billion US\$(2014)  $\Rightarrow$  474billion US\$(2016) (2% of the world)
- **Green Investment** : 54 trillion US\$ for renewable energy & energy efficiency required by 2035(IEA)
- **Green Bond**: 81 trillion US\$(2016, twice as that of 2015)
- **Divestment**: fossil fuel divestment in response to global warming

# Long-term Low Carbon Development Strategy GOJ (under preparation)

- Long-term national development strategy for the future.
- CO2 reduction activities would open up new economic opportunities rather than economic burdens.
- Innovations of technology, socio-economic system and life style are required, which aims to simultaneously address drastic reduction of GHGs and issues that Japanese society faces such as shrinking and aging population, declining of rural areas.



# Promising new market for de-carbonization

- Additional Investment of 9 trillion US\$ ( 2016 to 2050) is required for decarbonizing electricity sector (IEA)
- Additional Investment of 3 trillion US\$ ( 2016 to 2050) is required for energy efficiency improvement for building, industry and transportation sector (IEA)
- Huge promised market
- Climate change measures ⇒ reduction of energy expenditure, improving international competitiveness, job creation, reduction of climate change risk, energy security
- Low interest rate ⇒ abundant fund available, lack of investment opportunities
- What we need is a mechanism to channel funds.

# China, Japan, Korea

- China: Low carbon energy cooperation under One Belt, One Road (Chinese development strategy)
- Korean President Moon: proactive position on climate change
- Japan: Need new measures to address climate change and other issues simultaneously, including carbon pricing

# East Asia Low-Carbon Community

- shaping a sustainable and dynamic East Asia regional society that features harmonization of economies, environment and communities, in addition to global warming countermeasures.
- innovative **low-carbon technology** and transfer of existing technology,
- **low-carbon-oriented economic and industrial systems** as well as reformation of material and product life cycles,
- **Co-benefit effects** of CO2 countermeasures
- **international cooperation** for energy and materials cycles,

# Concluding remarks

- **Paris Agreement and SDGs**: demonstrated the need for fair and equitable zero carbon society, implies **massive economic & social transformation**.
- **Put climate change measures at the center of development policies** – including a robust and credible carbon price, fossil fuel subsidy reform, well-designed renewable energy incentive policies and clear, long-term climate policy goals, as well as addressing other social issues simultaneously.
- **Low carbon and decarbonizing technologies and business models** are becoming economically rational.
- **New environmental financing mechanisms** are emerging: ESG Investment, Green Investment, Green Bond, Divestment
- Towards East Asia Low-Carbon Community