

# Carbon Free Energy (CFE) Initiative

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Concept Paper of CFE Initiative  
COP28 Roundtable Meeting in Dubai



# I. BACKGROUND



## THE WORLD IS AT AN INFLECTION POINT

The United Nations' Intergovernmental Panel on Climate Change (IPCC) released its Synthesis Report of the Sixth Assessment on last March 2023. The report informs that, unless governments set more ambitious targets and take stronger actions, global warming of 3.2°C by 2100 will be unavoidable.

Already, a warming of 1.1°C above pre-industrial intensified extreme weather events such as rainfall, heatwaves, droughts, and intense cold. Furthermore, the IPCC has made it clear that an increase of 1.5°C could lead to irreversible consequences. To limit the degree of global warming to 1.5°C, the level of greenhouse gas emissions must be reduced by 43% from 2019 level by 2030 and reach net-zero no later than 2050.

## DECARBONIZE ELECTRICITY AND INDUSTRY

To avoid the worst-case scenario of climate change, a rapid transition in the global power system is strongly required. Fossil fuels currently dominate electricity production: 76% of electricity comes from fossil fuels and this source accounts for 23% of the world's emissions. Reducing our reliance on electricity generated from unabated fossil fuels, such as coal, is an essential prerequisite for decarbonizing the power sector and achieving carbon neutrality.

Industrial processes also need to be decarbonized. Unlike the power sector, where commercialized options like renewables and nuclear energy are available, the decarbonization of industrial processes is more complicated and difficult. This is because it requires the development of innovative technologies that enable carbon-free fuels and feedstocks to replace conventional ones, including chemical reductants for steel-making processes and naphtha for petrochemical processes. Decarbonization of industrial processes is another essential prerequisite for achieving carbon neutrality and therefore must not be left undone.

## ALL CARBON FREE ENERGY SOURCES SHOULD BE CONSIDERED

What is most important in addressing the urgent climate crisis is not about whether certain energy source must be adopted or ruled out, but how we can reduce greenhouse gas emissions while producing and using energy. Countries should be allowed to take into consideration their respective resource endowments and other relevant conditions for tackling climate crisis, examine every available energy source, and choose the most suitable pathway for themselves.

This is the approach that is consistent with the spirit of the Paris Agreement. By adopting technology-neutral and pragmatic Carbon-Free Energy (CFE) concepts such as renewables, SMR, clean hydrogen, etc., CFE can be seen as a solution to the climate crisis and trigger the growth of new technologies and industries in the future. It will also help the economy grow sustainably by increasing the reliability of energy supply while being cost-effective.

# II. CFE INITIATIVE



## 1. Purpose and Goals

To achieve carbon neutrality, supply-side actions (government policies to expand CFE) are important, but demand-side actions (companies' investment and utilization of CFE) are also indispensable. The question here is, how we can create conditions where businesses can easily gain access to them.

The Korean government has proposed "CFE Initiative" with the purpose of reducing reliance on unabated fossil fuel generation and accelerating the transition to a carbon free society. Specifically, CFE Initiative aims for early achievement of carbon neutrality within major industries by facilitating both decarbonization of electricity and decarbonization of industrial processes.

## 2. Key Action Plans

| Goals   | Plans  |
|---|--|
| ① Decarbonization of electricity (Scope 2)                                  | Establish an international certification scheme to recognize each company's utilization of carbon free electricity |
| ② Decarbonization of fuels and feedstocks in industrial processes (Scope 1) | Drive collaboration to promote the use of carbon-free fuels and feedstocks across all industries                   |
| ③ Narrowing the climate gap between countries                               | Proceed demonstration projects to improve access to CFE in climate vulnerable countries                            |

## 3. Expectations

| Governments  | Companies   |
|--|---|
| Provide a wider range of policy options to achieve carbon neutrality                   | Achieve carbon neutrality early through innovating technologies for, investing in, and expanding use of CFE |
| Reduce costs for achieving carbon neutrality   | Secure a reliable power supply with a variety of CFE sources  |
| Promote industry growth and create jobs through innovation of various CFE technologies | Create novel business models following from the growth of CFE-related markets                               |

## 4. Proposal

A Global Working Group is intended as a body in which experts from both public and private sectors work together to develop a series of CFE-related certification schemes and international standards. CF Alliance welcomes and expects participation from governments, businesses, public agencies, as well as NGOs around the world.

**CF Alliance calls for cooperation from governments and businesses:**

- 1) Support for CFE Initiative
- 2) Recommend all the parties to join in Global Working Groups



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**CARBON FREE**  
ALLIANCE | CF연합



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