

What are CDM and CERs?

CDM allow developed countries to fulfill their GHG reduction obligation by investing in developing nations

CDM 은 개발 도상국에 투자를 함으로써 온실가스 감축 의무를 수행할 수 있도록 하게 합니다.

CERs allow for companies/nations that exceed their GHG reduction obligations to sell GHG reduction certificates to other companies

CER 은 그린 하우스 감소 의무가 초과하는 회사나 국가가 온실가스 감소 증서를 다른 회사에게 팔도록 합니다.

CERs allow for the most efficient way to achieve GHG reduction across industries / jurisdictions

CER 은 산업 단체와 법인 단체들이 온실가스 감축을 할 수 있는 가장 효율적인 방식을 제공합니다

CERs market value is expected to reach USD 3.5+ trillion, which is even higher than today's oil market

CER 의 시장 가치는 3.5+ trillion 입니다. 이 가치는 유류 마켓의 가치를 호가합니다.

CDM (Clean Development Mechanism)

The CDM program was invented to lighten the burden that countries have to invest for GHG (greenhouse gas) reduction activities. CDM encourages GHG reduction activities and allows commercial trades of GHG reduction amounts.

Defined in Kyoto Protocol's Article 12, CDM enables a business model to benefit for both developed and developing countries.

According this Kyoto Protocol Article, developed countries must reach a given GHG reduction amount target. Developing countries do not have such obligation. When developed countries, with obligation to reduce GHG, invest in developing countries and execute GHG reduction activities, the reduced GHG amount can be accredited. This is called as Clean Development Mechanism (CDM) because developing countries can have foreign investment and eco-friendly technologies.

The idea behind CDM is congruent with the arguments for global trade, it allows GHG reductions to be conducted where it is the most efficient (highest input-output ratio).

Similarly, global trade allows for fabrication of products in countries where it is the most efficient from an macro-economical standpoint.

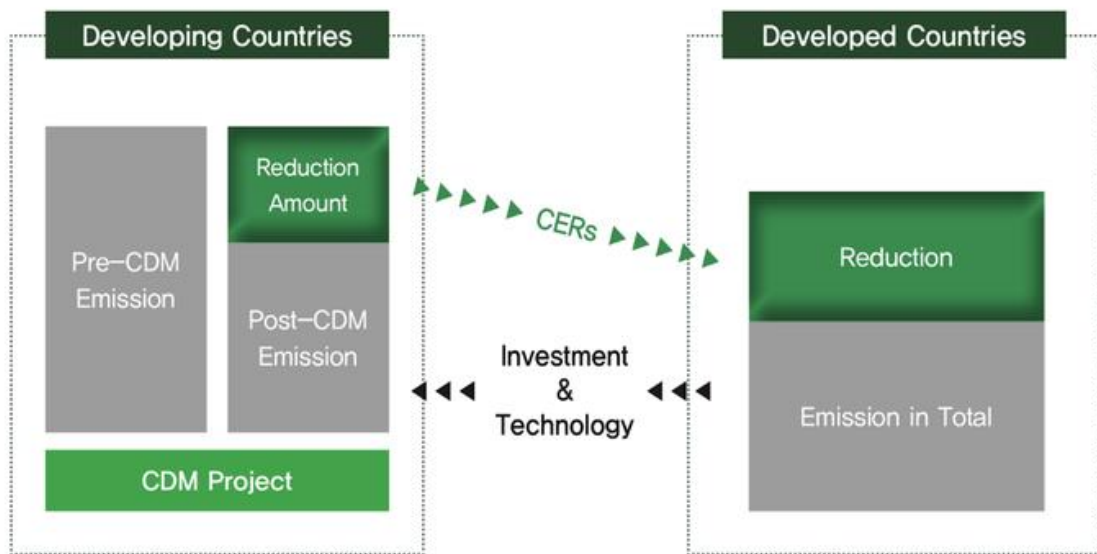
“The purpose of CDM is to support developing countries with sustainable developments and to reach GHG reduction target simultaneously.” Kyoto Protocol Article 12 Section 2

In order for a CDM activity to be approved, the investment must fulfill the following elements:

GHG must be reduced

The activity must be safe to environment

The investment must ensure a sustainable development of a developing country

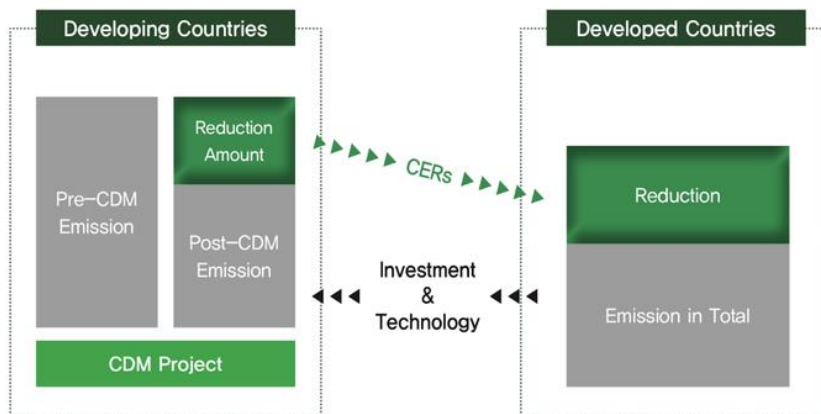


CERs (Certified Emission Reductions) Trade

The amount of GHG reduction is described as CER (Certified Emission Reduction) and this must be approved by a DOE (Designated Operational Entity) to be officially accredited. Nations and companies that fail to reach GHG reduction targets must purchase CERs on the market. Companies in nations that adopt the 2015 Paris Agreement must follow GHG reduction regulations accordingly.

According to the Kyoto Protocol, the obligatory parties must reduce their carbon emission by on average 132% from 2008 to 2012 (based on emission amount of 1990). Those countries or companies that succeeded in reduction are allowed to sell their CERs.

As a result, **companies must either reduce GHG emission by saving energy and developing relevant technologies or they must purchase carbon emission credits from companies that have an excess of CERs. This is the carbon emission credit trade system.** The UNFCCC (UN Framework Convention on Climate Change) issues CERs, which is tradable in markets.



Since the EU first established a carbon emission credit trade market, the market has expanded to 39 nations with the market size reaching USD 40 billion by today.

After the Paris Agreement COP21 in 2015, carbon emission credit trade market is getting bigger and the World Bank forecasts that international Carbon Emission Credit Trade market will

worth more than USD 3.5 trillion, even exceeding the market value of oil.

The estimated market value, USD 3.5 billion, is only related to the Big-Grid market value from major corporations. Adding to that the market value of Micro-Grid and TTN (Transport-Network) the entire market size could even increase to USD 4.4 trillion.

However, because of problems in current market system, individuals (prosumers like Micro-Grid and TTN) cannot easily participate in trade markets today.