

# Greenhouse Gas Reduction and Management Act

Announced Date: 2015.07.01

Full text in 34 articles promulgated by Presidential Order Hua-Tsung-Yi-Yi-Tzu No. 10400077011 on July 01, 2015.

Chapter 1 General Principles
<p>Article 1</p> <p>Climate change concerns have led to the passage of the Greenhouse Gas Reduction and Management Act, establishing strategies to reduce and manage greenhouse gas emissions, strengthen environmental justice, and the shared responsibility of environmental protection and national development.</p>
<p>Article 2</p> <p>The Executive Yuan's Environmental Protection Administration is the central competent authority at the central government level, while municipal governments execute authority at the county or city level.</p>
<p>Article 3</p> <p>This glossary of terms are to be interpreted with the following meanings:</p> <ol style="list-style-type: none"><li>1. Greenhouse Gas (GHG) refers to the following substances: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydro fluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), nitrogen trifluoride (NF<sub>3</sub>), and others designated by the central competent authority.</li><li>2. Climate change adaptation means responses to actual or expected climate stimuli and their effects, which moderate harm or exploit beneficial opportunities. Adaptation may include "preventive and/or responsive actions," "private and/or public actions" and "autonomous and/or programmatic" adaptations.</li><li>3. GHG emission source (Emission Source) means any unit or process that directly or indirectly releases GHG into the atmosphere.</li><li>4. Global-warming potential (GWP) measures how much heat a GHG traps in the atmosphere. It compares the amount of heat trapped by the gas when compared to a similar mass of carbon dioxide. GWP is calculated over a specific time interval, commonly 20, 100, or 500 years. GWP is expressed as a factor of carbon dioxide (whose GWP is standardized to 1).</li><li>5. Greenhouse Gas Emissions are the sum of different GHG emissions and their corresponding GWPs, which shall be described by CO<sub>2</sub> equivalent (CO<sub>2</sub>e).</li><li>6. Entity means a legal person, non-corporate representative or manager, institution, or others who have Emission Sources designated by the central competent authority.</li><li>7. Carbon sink means any process or mechanism which removes a GHG from the atmosphere such as trees, forests, soils, oceans, stratum, facilities, or other sites.</li><li>8. Net quantity of the carbon sink means the net quantity of GHG removed from the atmosphere. This quantity can include GHG removed from the Emission Source or atmosphere due to sequestration.</li></ol>

9. Mitigation means any intervention to reduce the sources or enhance GHG sinks
10. “Low-carbon green growth” means green economic development that boosts greening of existing industries, energy conservation, carbon emission reduction, developing green energy, and R&D into low-carbon energy technologies.
11. Emission Intensity is the average emission rate of GHG per equipment/product/other specified unit from a source, which is described by CO<sub>2</sub>e.
12. Offset means the use of reduction credits to compensate for or deduct emissions made elsewhere by an entity.
13. GHG Early Action Project (Early Action) refers to an offset project proposed by the owner, user or supervisor of the Emission Sources before enactment of the Act in compliance with the emission intensity designated by the central competent authority.
14. Validation means the review of a GHG Offset Project to ensure the project design document complies with regulations under this Act.
15. GHG Offset Project refers to a project created to earn reduction credits. The project design document shall be validated by the verification body and approved by the central competent authority. Documents must indicate all the facilities, raw materials, items and activities directly associated with the emission reduction or sink enhancement.
16. GHG emission performance standard (EPS) is a benchmark set by the central competent authority in conjunction with the central industry competent authority according to the facilities, products or input/output units of the specific sectors or Emission Sources.
17. Cap means the total permitted amount of emissions for a certain period of time under the cap-and-trade scheme.
18. Allowance trading means to exchange emission allowances domestically or internationally in compliance with the designated cap under the cap-and-trade scheme.
19. Emission allowance means the allowance distributed by designated authorities from government allocation, auction, sale, Early Action, GHG Offset Project, EPS or allowance trading under the cap-and-trade scheme. One unit of emission allowance equals to one metric ton of CO<sub>2</sub>e.
20. Periodic regulatory goal means a goal of GHG emission for a certain period of time based on national GHG reduction action plan.
21. Verification is an independent assessment by interview, document review, data analysis, inspection or test to determine the validity and reliability of the GHG inventory and emission reduction (and sink) by the verification body.
22. Accounting is a process to collect, calculate and analyze emissions or sinks.
23. Registration means reporting emissions, sinks, allocations, reductions, auctions, sales or transactions of CO<sub>2</sub>e to the national registry (Registry) designated by the central competent authority.
24. Allocated emission allowance (allowance) is an emission allowance issued to an Emission Source for a specific period of time by the central competent authority in conjunction with the central industry competent authorities.
25. Sold allowance (sale) is an emission allowance sold to an Emission Source at a fixed price from the central competent authority.
26. Holding account is an account created by the central competent authority to track an

Emission Source's emissions, and transactions of allocations, auctions, sales or reduction credits.

27. Carbon leakage means implementation of cap-and-trade scheme may result in relocation of energy-intensive production in less-constrained regions.

28. "Best Available Technology" (BAT) is a commercial technology that provides the greatest reduction in GHG emissions after taking into consideration energy, economic, and environmental impacts.

#### Article 4

Long-term national GHG emission reduction goal shall be to reduce GHG emissions to no more than 50% of 2005 GHG emission by 2050.

The goal pursuant to the foregoing Paragraph shall be timely adjusted by the central competent authority, in consultation with the central industry competent authorities, by taking into consideration the United Nations Framework Convention on Climate Change (UNFCCC), its agreements and or related international conventions decisions, together with domestic circumstances, subject to the Executive Yuan's approval; and in line with the required periodical review.

#### Article 5

The national government shall ensure the sustainable utilization of the nation's resources, maintain balanced energy supply and demand, mitigate and respond to the impacts of climate change, and place balanced emphasis on environmental protection, economic development, and social justice.

All levels of government shall encourage technological innovation, research and development, enhance financial mechanisms, spur economic momentum, encourage competition, promote low-carbon green growth, create employment opportunities, and boost national competitiveness.

In order to respond to the impact of climate change, the government shall uphold the following legal and policy principles:

1. To ensure the nation's energy security, the government shall draft mid-to long-term strategies for gradually reducing dependence on fossil fuels with a mid-to long-term aim of renewable energy policies, and the gradual realization of a nuclear-free homeland.
2. In line with the "user charge" principle of environmental justice, the free allowances allocation method will be gradually replaced by allowances sold at a fixed price.
3. To respond to the impact of climate change, under the principle of equality and social welfare promotion, the government should implement tax mechanisms on imported fossil fuels based on carbon dioxide equivalent.
4. The government should actively help traditional industries achieve energy conservation and carbon reduction or transition, develop green technology and green industry, create new employment opportunities and green economies, and promote a low-carbon, green growth plan for the nation's infrastructure.
5. In order to lessen environmental pollution and GHG emissions, the government should promote resource use efficiency, energy use efficiency, and resource recycling.

#### Article 6

GHG management programs and plans shall comply with the following principles:

1. National reduction targets and schedule shall seek to realize the common but differentiated responsibilities specified in UNFCCC, while also furthering the sustainable development of the nation's environment, economy, and society.
2. The determination of sector-based periodic regulatory goals shall take cost effectiveness into consideration, and strive to achieve GHG reductions at the lowest possible cost.
3. The government shall actively adopt preventive measures, seek to forecast, avoid, or reduce the causes of climate change, and mitigate the adverse effects of climate change.
4. The government shall actively strengthen international cooperation, and strive to maintain the international competitiveness of domestic industries.

#### Article 7

The competent authorities and industry competent authorities may mandate qualified organizations to conduct investigation, verification, consultation, training, and research regarding climate change adaptation and GHG mitigation.

### Chapter 2 Authority and Responsibility of Government Agencies

#### Article 8

The Executive Yuan shall invite relevant central government agencies, non-governmental organizations, experts and scholars to determine and review the division, integration, implementation and compilation of the work of GHG reduction and climate change adaptation.

Relevant central government agencies shall promote GHG reduction and climate change adaptation through the following actions:

1. Development of renewable energy and energy technology.
2. Improvement of energy efficiency and energy conservation.
3. Reduction in GHG emissions by industrial sectors.
4. Transportation management, development of mass transit systems, and reduction in GHG emissions by other transportation sectors.
5. Implementation of low carbon energy transportation.
6. Reduction and management of GHG emissions from buildings.
7. Waste recycling and reuse.
8. Forest resource management, biodiversity conservation, and strengthening of forests' carbon sequestration.
9. Reduction and management of GHG emission from agriculture and guarantee of food security.
10. Green finance and GHG reduction incentive mechanisms.
11. Assessment of impact of GHG reduction on the economy as a whole and planning of response measures.
12. Establishment of GHG cap-and-trade scheme including allocation, auction, allowance sale, trade, and facilitation of international emission reduction cooperation mechanism.
13. Research, development and implementation of GHG reduction technologies.
14. Study of international GHG conventions and laws and participation in international

conferences.

15. Development and implementation of matters connected with climate change adaptation.
16. Education and advocacy of climate change adaptation and GHG reduction.
17. Other climate change adaptation and GHG reduction matters.

#### Article 9

In order to implement the nation's GHG reduction policy, the central competent authority shall develop a National Climate Change Action Guideline ("Action Guideline") and GHG Reduction Action Plan ("Action Plan") reflecting the nation's economy, energy supplies, environment, current international situation, and the assignment of responsibilities mentioned in Paragraph 1 of the previous Article, and shall implement the Action Guideline and Action Plan in consultation with the central industry competent authorities after requesting approval from the Executive Yuan.

The Action Guideline pursuant to the foregoing paragraph shall be reviewed once every five years; the Action Plan shall include periodic regulatory goals, implementation timetables, implementation strategies, expected benefits and an evaluation mechanism.

The central industry competent authorities charged with the nation's energy, manufacturing, transportation, residential and commercial, and agriculture sectors shall determine GHG Emission Control Action Programs for the sectors under its supervision on the basis of the Action Plan pursuant to the foregoing paragraph; the Action Programs shall include GHG emissions target, timetables, and economic incentive measures.

#### Article 10

The central industry competent authorities shall regularly review and revise the Action Programs on the basis of changes in the industry and energy supply and demand and deliver an annual report on the implementation of GHG emissions target and shall propose improvement plans if failing to meet emission targets.

Implementation, revision, improvement plans and annual reports of Action Programs pursuant to the foregoing paragraph should be submitted to the Executive Yuan for approval.

#### Article 11

Regulatory goals will be set in stages on a five-year basis. The central competent authority shall invite scholars, experts, and non-governmental organizations, in conjunction with the central industry competent authorities, to form an advisory committee to set the regulations for the goals and regulatory approaches.

The central competent authority shall, in consultation with the central industry competent authorities, set for each stage's regulatory goal pursuant to the foregoing regulations. Each stage's regulatory goal shall be submitted to the Executive Yuan for approval after public hearings are held.

Apart from the regulatory goal for the first stage, the regulatory goals shall be set two years ahead of the beginning of each respective stage.

#### Article 12

After the regulatory goals for each stage have been approved, the central competent authority shall compile their status and report to the Executive Yuan annually.

Implementation of the regulatory goals shall take into account the following matters and make

- necessary adjustments upon the Executive Yuan's approval:
1. Scientific knowledge concerning climate change and relevant technologies.
  2. The state of economic and industrial development.
  3. Fiscal and social conditions.
  4. Energy policy.
  5. UNFCCC and its agreements, or relevant decisions made under international conventions.

#### Article 13

The central industry competent authorities shall survey emission, compile relevant statistics, develop climate change adaptation strategies, and regularly submit survey, statistics, and adaptation results to the central competent authority annually.

The central competent authority shall assess climate change impact, compile national emissions statistics, and establish a national GHG emissions inventory; the central competent authority shall compile a national GHG report every three years for submission to the Executive Yuan whose approval will then pave the way for release to the general public.

#### Article 14

The industry competent authorities shall assist entities in the accounting of emission sources, verification, registration, reduction, and participation in domestic or international offset projects.

#### Article 15

Special municipality, county and city competent authorities shall develop GHG control implementation plans in accordance with the Action Plan approved by the Executive Yuan and the Action Program determined by the central industry competent authorities; such implementation plans shall be finalized after requesting the approval of the central competent authority in consultation with the central industry competent authorities.

### Chapter 3 Emission Reduction Measures

#### Article 16

Emission Sources designated by the central competent authority shall conduct annual accounting and registration to their holding accounts in the Registry by the deadline. The GHG inventory and relevant information shall be verified by a verification body at least once every three years.

The verification body pursuant to the foregoing paragraph shall be internationally recognized or establish a domestic branch office. Before operating validation and or verification business in accordance with the Act, the verification body must apply and acquire accreditation certificate and permit by the central competent authority or its appointed accreditation body.

The regulations governing verification body permits include prerequisite application, review processes, granting, withdrawal, revocation, as well as prerequisite for dedicated personnel shall be specified by the central competent authority. The regulations governing appointed national accreditation body shall be specified by the central competent authority.

The regulations regarding accounting of GHG emissions, reporting elements, frequency, and verification process, emissions source account and other requirements of emission sources mentioned in foregoing paragraph, are determined by the central competent authority.

Article 17

The central competent authority may establish a GHG EPS to incentivize designated Emission Sources to reduce GHG emissions prior to the cap-and-trade scheme.

The EPS pursuant to the foregoing paragraph shall be determined and reviewed regularly by the central competent authority in conjunction with the central industry competent authorities, considering facilities, products or other raw materials, output, and consumptions of Emission Sources.

Article 18

The central competent authority shall implement the domestic cap-and-trade scheme by considering the UNFCCC and its agreements, or relevant international conventions decisions in response to international GHG reduction requirements.

After implementing accounting, verification and registration as well as establishing regulations of allocation, offset, auction, sale and allowance trading, the cap-and-trade scheme shall be implemented by the central competent authority in consultation with the central industrial competent authorities upon approval by the Executive Yuan.

Article 19

The central competent authority shall establish the GHG Management Fund (Fund) from the following sources:

1. Proceeds from allowances auctioned or sold pursuant to the foregoing Article;
2. Fees collected pursuant to Article 21;
3. Government grant via budget appropriation;
4. Revenues collected under fines and penalties prescribed in the Act;
5. Money received from persons, liable entities or organizations; and
6. Other incomes.

The Fund shall serve the following purpose only for GHG emissions reductions and adaptation to climate change:

1. Reduce GHG emissions;
2. Inspect emission sources;
3. Provide emission sources with assistance, subsidies and grants for voluntary efforts to reduce GHG emissions;
4. Administrative affairs of holding accounts establishment in the Registry, auctions, sales and allowance trading;
5. Employ staff to carry out administrative services;
6. Coordinate, plan and implement adaptation to climate change;
7. Educate, promote, and award grants;
8. Conduct international affairs;
9. Carry out research and analysis.

Special municipalities, counties and cities shall be subsidized for activities pursuant to the foregoing paragraph no less than 30 percent of the net proceeds collected from allowances auctioned or sold for a fixed price pursuant to Paragraph 1 minus the administrative costs and

fees incurred.

The ratios and distribution methods of subsidies pursuant to the foregoing paragraph shall be determined and reviewed regularly by the central competent authority, after consultation with municipalities or county (city) governments, considering population, geographical area, and relevant factors.

Pursuant to Paragraph 1, the central competent authority may establish a committee supervising the operation of the Fund in accordance with regulations specified by the Executive Yuan regarding revenues, expenditures, safeguard, and utilization.

#### Article 20

The central competent authority shall announce the designated Emission Sources which are included in the cap-and-trade scheme, apply aggregate cap limits of each compliance period, take into account factors including trade intensities of the various sectors, the costs affected by the cap-and-trade program to prevent carbon leakage which may compromise the international efforts to reduce GHG emissions and overall national competitiveness. The central competent authority shall allocate emission allowances to entities freely, through auctions, or for a fixed price.

The percentage of the emission allowances on sale shall be determined by regulatory goals in stages and gradually increased to 100%.

The percentage of sales pursuant to the foregoing paragraph may be adjusted by the tax mechanisms imposed on imported fossil fuels.

The central competent authority shall allocate emissions allowances to public utilities, excluding GHG emissions related to energy generation provided to emission sources for consumption as the indirect GHG emissions in CO<sub>2e</sub>.

The central competent authority may reserve partial allowances, and may allocate for designate entities with specific scales of new entrants or modified Emission Sources which adopt the designated BAT.

The central competent authority shall retire the emission allowances returned from Emission Sources upon closure, permanent shutdown or dissolution, and the ownership of emission allowances shall not be transferred. In the case that Emission Sources cease operation, the central competent authority shall execute administrative discretion regarding the disposition, if necessary, retirement of emission allowances.

The central competent authority shall work in conjunction with the central industry competent authority to determine regulations regarding the allowance of the entity, the eligibility, approach and processes of allocation, the approaches of auction or sale, revocation and termination of emissions allowances; Pursuant to Paragraph 4, the reserve of emission allowances, specific scale of new or modified Emission Sources, the designated BAT, the process of ceasing and resuming operation of Emission Sources and the impact recognition of carbon leakage to the overall national competitiveness and other requirements.

#### Article 21

GHG emissions of an entity over a period of time specified by the central competent authority, along with emissions allowances procured, shall not exceed the amount of allowance available to meet the compliance obligation in the entity's account upon compliance deadline obligations determined by the central competent authority.

Before the deadline for compliance obligations determined by the central competent authority,



an entity may procure emissions allowances from the Early Action, Offset Project, EPS, carbon trading, or other approaches to register in its holding account to offset the amount of GHG emissions in excess of the emissions allowances for an entity. Prior to the deadline for surrender of compliance obligations, the remaining emissions allowances not used for offsetting the excess emissions cannot be traded before verification.

The procurement of reduction credits from the Offset Project and allowance trading pursuant to the foregoing paragraph shall give priority to domestic efforts.

The central competent authority, in consultation with the central industry competent authorities, shall make regulations of emissions credits procured from external GHG trading schemes by taking into consideration the United Nations Framework Convention on Climate Change (UNFCCC), its agreements and or related international conventions decisions, as well as factors that include but are not limited to, energy efficiency, domestic emissions allowances and the long-term national GHG emission target. For the purpose of meeting a compliance obligation to offset the excess emissions, an entity may surrender reduction credits procured from external GHG trading schemes recognized by the central competent authority by up to ten percent of the entity's total allowances.

The verification bodies which provide verification services related to international reduction credits shall be recognized by the associated mechanisms of UNFCCC or the central competent authority.

The regulations regarding administration of emission source accounts, and the registration and surrender of emissions allowances pursuant to Paragraph 1; regarding the eligibility, procedure, proceeds and other requirements specified pursuant to Paragraphs 2 and 4, are determined by the central competent authority, in consultation with the central financial authorities.

#### Article 22

GHG Offset Project operators may request the central competent authority to issue reduction credits representing emission reductions including carbon sinks verified by verification bodies.

The central competent authority shall register the issued reduction credits, along with eligibility conditions for use and expiry date, to the respondent holding accounts in the Registry for those who participate in the Early Action, the GHG Offset Projects, EPS and are not under the cap-and-trade scheme but with voluntary emission reductions.

The regulations regarding the Offset Project, Early Action, EPS, voluntary reduction action of emissions sources not covered under the cap-and-trade scheme and other requirements pursuant to Paragraphs 1 and 2, the central competent authority shall be in consultation with the central industry competent authorities to determine the criteria of reduction actions, prerequisites, process of application, review, and approval as well as the calculated methodology from emission reduction towards emission allowances, requirements of validation and verification, eligibility conditions and expiry date for reduction credits, and usage limit of reduction credits.

#### Article 23

The competent authorities or the industry competent authorities may direct officers, with credentials or proof of authorization presented, to conduct a site visit for the purposes of inspecting an Emission Source's facility operation or requesting relevant information. Emission Sources owners, operators or managers shall not evade this request.

Chapter 4. Education and Grants
<p>Article 24.</p> <p>All levels of government shall promote public awareness of climate change mitigation and GHG reduction among citizens, schools and industries, proactively assisting non-governmental organizations in the following manner:</p> <ol style="list-style-type: none"> <li>1. Develop and promote education plans on climate change and its impact;</li> <li>2. Provide the public with easy access to relevant information about climate change;</li> <li>3. Engage industries and the public about relevant measures based on local conditions;</li> <li>4. Train scientific, technological and managerial personnel;</li> <li>5. Encourage research in combination with environmental education on climate change;</li> <li>6. Promote energy saving and enhance energy efficiency;</li> <li>7. Support low-carbon products by establishing a carbon-labeling plan;</li> <li>8. Execute other actions officially announced by all levels of government.</li> </ol>
<p>Article 25</p> <p>All levels of government, public education institutions and government-run enterprises shall promote energy saving and use energy-efficient products or services to reduce GHG emission.</p>
<p>Article 26</p> <p>Electricity suppliers and distributors shall encourage energy conservation and energy efficiency amongst customers.</p>
<p>Article 27</p> <p>The central competent authority and central industry competent authorities shall reward well-performing facilities, enterprises, schools, organizations or individuals with grants or subsidies.</p> <p>Conditions, criteria and selection processes for such grants or subsidies shall be determined by the central competent authority or central industry competent authorities.</p>
Chapter 5. Penalty Provisions
<p>Article 28</p> <p>When an entity fails to surrender designated amount of allowances within deadline and therefore violates Article 21, Paragraph 1, a monetary penalty of three times carbon market price per metric ton within a maximum of NT\$1,500 per metric ton.</p> <p>The central competent authority shall, in conjunction with the central industry competent authorities, set the aforementioned carbon market price and review regularly, taking into consideration domestic and international carbon market trading price.</p>
<p>Article 29</p> <p>The owner, user, or manager of a covered Emission Source with inventory and registration obligation pursuant to Article 16, Paragraph 1, or with registration obligation pursuant to Article 21, Paragraph 2, shall be subject to a fine from NT\$200,000 to NT\$2,000,000 when the person provides information that the person knows to be false. In addition to the monetary penalty, the person shall make corrections within a prescribed period of time, and the amount of allowances equal to the registered false information shall be subtracted from the next</p>

allocation. Failure to correct within the prescribed period of time will result in monetary penalty, fined each time an offense occurs. Under severe circumstances, a person may be charged with suspension of operation or business, and be constrained or prohibited from trading.

The prescribed period of time as mentioned shall not exceed 90 days.

#### Article 30

The owner, user, or manager of an Emission Source who evades, impedes, or refuses investigation or information request from the competent authorities pursuant to Article 23 shall be subject to a fine from NT\$200,000 to NT\$2,000,000. The competent authorities may fine each time an offense occurs.

#### Article 31

Verification bodies in violation of Article 16, Paragraph 2 regarding qualification conditions, permit, and verification rules shall be subject to a fine from NT\$100,000 to NT\$1,000,000, and shall make corrections within a prescribed period of time. Failure to correct within the prescribed period of time will result in monetary penalty each time an offense occurs.

The owner, user, or manager of an Emission Source in violation of Article 16, Paragraph 3, regarding inventory, registration content and registration time, shall be notified to make improvements within a prescribed period of time. Failure to improve within the prescribed period of time will result in a fine from NT\$100,000 to NT\$1,000,000. The person will then be notified again to make improvements within a prescribed period of time. Failure to improve within the prescribed period of time thereafter will result in monetary penalty each time an offense occurs.

The prescribed period of time as mentioned in Article 31, Paragraphs 1 and 2 shall not exceed 90 days.

#### Article 32

Emission Source or entity in violation of Article 21, Paragraph 6 regarding qualified trading entity or applicable methods, or in violation of Article 23, Paragraph 3, regarding user condition or deadline, shall be subject to a fine from NT\$100,000 to NT\$1,000,000 and shall make corrections within a prescribed period of time. Failure to correct within the prescribed period of time will result in restriction or suspension of trading.

The prescribed period of time shall not exceed 90 days.

#### Chapter 6. Supplementary Provisions

#### Article 33

The enforcement rules of this Act shall be determined by the central competent authority.

#### Article 34

This Act shall enter into effect on the date of promulgation.