

Green Productivity Excellence Awards Framework for Asian Productivity Organization Member Economies



ASIAN PRODUCTIVITY ORGANIZATION

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Introduction

The Asian Productivity Organization (APO) first conceived of Green Productivity (GP) in 1994 as “a strategy for simultaneously enhancing productivity and environmental performance for overall socio-economic development.” The Republic of China (ROC) has long endeavored to enhance industrial GP and has received recognition for this from the APO and its 19 member economies. In 2012, after rigorous competition, the ROC was selected by the APO to establish the Center of Excellence on Green Productivity (COE on GP) for promoting green innovation and sustainable development in the Asia-Pacific region. This COE will work with APO members as well as other countries to make the Asia-Pacific region the most competitive area in terms of GP.

The COE on GP undertook several initiatives between 2013 and 2014. One was collaborating with the APO to establish the Green Productivity Excellence Awards framework. Based on the definition of GP, this framework integrates other relevant international frameworks for green enterprises and sustainable awards, making it capable of assessing the environmental performance and productivity of enterprises. The aim is to encourage organizations to contribute positively to society while gaining corporate competitiveness through innovation.

Selection Guidelines

a. Purpose

The Green Productivity Excellence Awards are meant to recognize and promote green, sustainable businesses in APO member economies. Selected enterprises should follow replicable, transferrable, implementable practices in innovation, green operations, and sustainable value creation. Recipients of the awards will be publicized among APO member economies to promote adoption of best practices and enhance public awareness of GP.

b. Industry Types: Businesses in all sectors can participate.

c. Qualifications of Applicants

The awards are aimed to reinforce qualified national programs related to sustainable development. Any enterprise interested in this award must meet the following qualifications or prerequisites:

1. Supporting and demonstrating green and sustainable activities that have achieved remarkable results;
2. Recognized by green- and sustainability-related awards at national level;
3. No serious wrongdoings resulting in significant fines or penalties over the previous three years.

d. Nominations, Awards, Awardees, and Promotion

1. Nomination:

The GP Excellence Awards are conferred biennially on enterprises that have made outstanding contributions with a significant impact on enhancing GP and environmental performance for overall socio-economic development in APO member economies. The following stipulations are applicable to nominations:

- National Productivity Organization (NPOs) of each APO member economy can submit nominations for the GP Excellence Awards.
- NPOs of APO members can nominate an unlimited number of candidates. The nominated candidates should provide all required evidence and supporting documents to the respective NPO.
- Nominations should be forwarded with the nomination form (**to be provided later**), together with supporting documents, including company profile and detailed description or evidence, supporting materials of the outstanding contributions with ratings and comments, if any, for the indicators listed in the evaluation framework. NPOs are responsible for submitting documents on their nominees to the COE on GP Secretariat.

2. Awards

- Two types of award will be given: (1) the National Green Productivity Best Practice Award will be given to the best nominee and recommended by the NPO of each member economy; and (2) the COE on GP Green Productivity

Excellence Award will be selected from among all the candidates nominated by APO member economies based on the criteria given in the evaluation framework.

- Each member economy will only have one winner of the National Green Productivity Best Practice Award.
- The COE on GP Green Productivity Excellence Award will be based on five performance levels/categories and have up to 10 winners (in case of a tie), in which large enterprises and SMEs will be evaluated separately.

e. Selection Committee:

The selection committee for the awards will be a jury panel with nine to 11 experts, comprising a chair and two to three members from the host country, six experts from other member economies, and one or two members from outside the APO member economies.

f. Proposed Schedule:

1. **Announcement:** The COE on GP Office will form a Secretariat that will formally launch the nominations for the COE on GP Green Productivity Excellence Awards. NPOs will have five months to nominate candidates, during which the candidates must complete the application form and send documents as evidence to the COE on GP Secretariat.
2. **Submission Deadline:** Submitting the nominations of companies, completing the application forms, and sending supporting evidence needs to be aligned with the COE on GP Excellence Award criteria and follow the submission templates.
3. **Awardee Selection:** A selection committee will conduct online selection.
4. **Conferment:** The proposed first conferment of the Green Productivity Excellence Awards will be tentatively set for 2016.
5. **Seeking APO Member Economies' Consensus and Boosting GP Best Practices:** The tentative schedule for the Green Productivity Excellence Awards framework for boosting GP best practices is as follows:

| Date | Activities | Duration |
|-------------------|---|----------|
| 1–3 October, 2014 | Regional Expert Panel Meeting on Strengthening the Green Productivity Excellence Award Framework and Mechanism | 3 days |
| TBD | Submit summary of the Regional Expert Panel Meeting to the APO Secretariat Refinement of the award framework and mechanism, recommendations to APO Secretariat | TBD |
| TBD | APO Secretariat to send the framework to NPOs and invite input | TBD |
| TBD | Report to GBM *Report by APO R&P Dept. | TBD |

g. Award Selection Guidelines

1. Evaluation Framework

GP is not only to enhance productivity and protect the environment but also to promote social benefits and human welfare.

- Based on the APO’s definition of GP and in light of the actual and uneven economic situations of APO member economies, the proposed evaluation framework is structured into four layers: dimensions; aspects; criteria; and indicators. The three dimensions of environmental sustainability, enhancing productivity, and sustainable innovation and social contribution are included in this framework (Figure 1). Each dimension is broken down into two to three aspects, and each of the aspects comprises one to four criteria. Each criterion has several indicators for performance evaluation (Table 1).

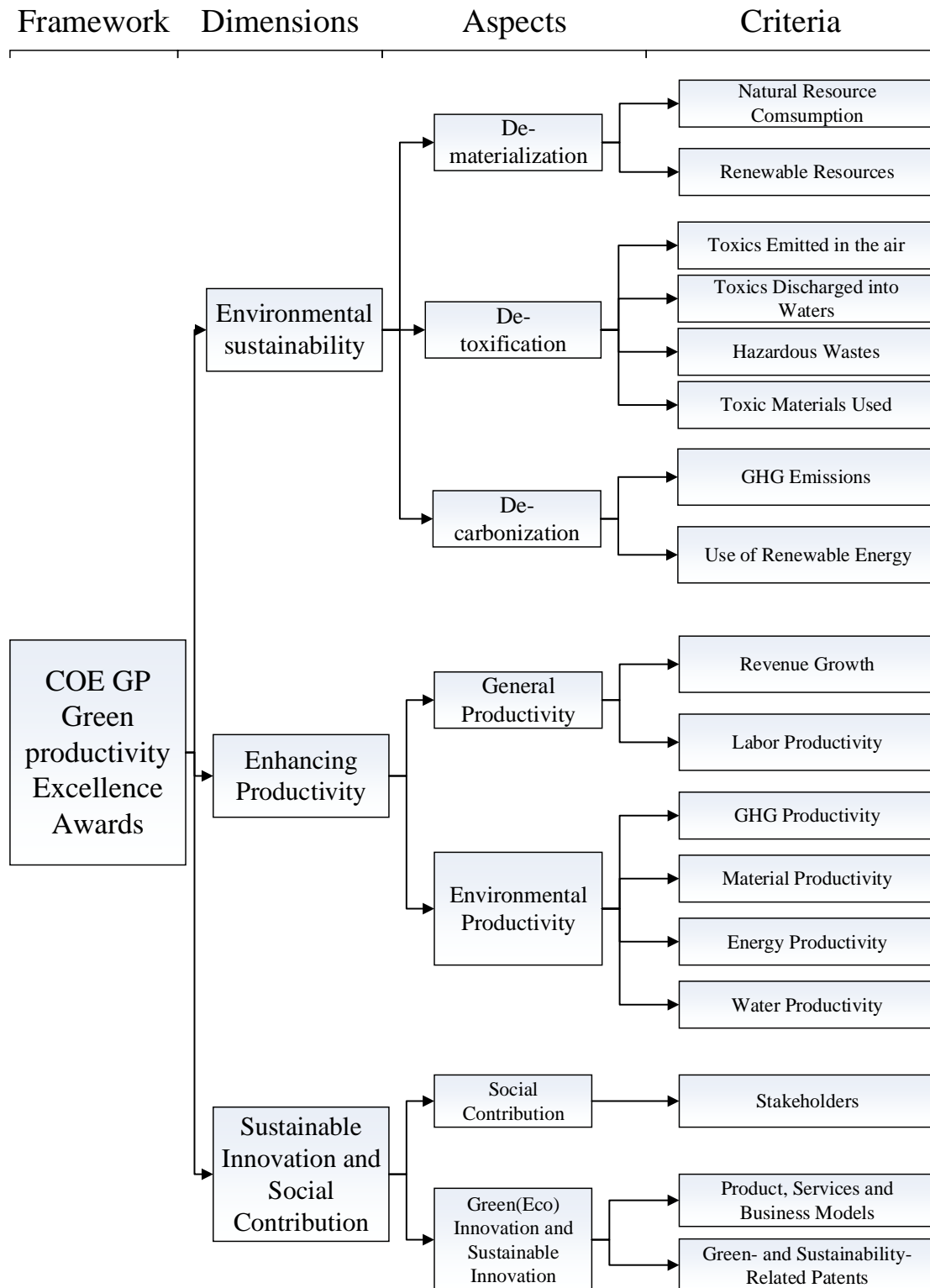


Figure 1. COE on GP Green Productivity Excellence Awards Framework

2. Basics of the Evaluation Framework

- **Environmental Sustainability Dimension**

The main purpose of this dimension is to evaluate the extent to

which the applicants reduce their environmental impacts yearly. This dimension has three aspects: de-materialization; de-toxification; and de-carbonization (or deenergization). For the de-materialization aspect, natural resource consumption has to be shown to be reduced, and the usage of renewable resources should increase yearly. For the de-toxification aspect, the discharge of toxic and hazardous materials or wastes must meet regulatory requirements of the country and should decrease yearly. For the de-carbonization aspect, greenhouse gas (GHG) emissions must be measured and reduced yearly. These criteria are applicable to all industry sectors.

- **Enhancing Productivity Dimension**

According to a manual published by the Organization for Economic Cooperation and Development (OECD) in 2001 titled *Measuring of Productivity—Measurement of Aggregate and Industry-level Productivity Growth*, productivity can be categorized as general productivity and environment-related productivity. General productivity is related to labor and capital, whereas environmental productivity can be related to the environment and resources. Following the suggestion of the OECD, this framework also includes general productivity and environmental and resource aspects, in which labor productivity is included in the general productivity aspect, whereas materials, energy, water, and GHG productivities are included in the environmental and resource productivity aspect for analyzing how added value is created by workers and consumed resources or by the GHGs emitted by the organization. The idea behind these criteria is that profitability is the bottom line of a corporation, which thus needs to have high productivity to gain green competitiveness. Hence, all indicators are translated into financial (monetary) units to represent a win-win of economic and environmental efficiency.

- **Sustainable Innovation and Social Contribution**

Challenges to sustainable development are believed to be so huge that the goal cannot be achieved using only conventional approaches. Rather, we need to adopt innovative, creative

solutions to solve the most difficult global issues. In light of this, sustainable innovation is integrated into the framework. Innovative ideas applied by enterprises should not only be general novel ideas but should also provide contributions to the environment, communities, and sustainable development as a whole. Sustainable or competitive enterprises should also be socially and ethically responsible and should focus on how to make significant social contributions. Most importantly, social issues vary for different countries and are sometimes locality and community specific. Hence, this dimension is unlike other dimensions in that it does not have specific evaluation criteria, only guidelines on the aspects that should be considered. Applicants must explain and provide examples of what they have done and how they applied innovative solutions to solve specific social problems. This aspect of the award encourages innovative social contributions.

3. Evaluation Framework for Awards

Table 1. COE on GP Green Productivity Excellence Award Framework with details of indicators

| Dimensions | Aspects | Criteria | Indicators |
|-------------------------------------|---------------------------|--|---|
| Environmental Sustainability | De-materialization | Natural Resource Consumption (including natural materials, energy, and water resources) | <p>Companies should demonstrate their environmental performance by continuously reducing the intensity of their consumption of natural materials, non-renewable energy, and water resources. Companies should provide the following data for the most recent three consecutive years:</p> <ol style="list-style-type: none"> 1. Percentage of natural material consumption (to total usage); 2. Percentage of non-renewable energy (including fossil fuel and nuclear power) consumption; 3. Percentage of natural water consumption 4. Total output in volume or dollars |
| | | Renewable Resources (recycled materials and reclaimed water) | <p>Companies should demonstrate their environmental performance by continuously increasing their utilization of recycled materials and reclaimed water. Companies should provide the following data for the most recent three consecutive years:</p> <ol style="list-style-type: none"> 1. Percentage of consumption of recycled materials 2. Percentage of consumption of reclaimed water |
| | | Toxics Emitted in the Air | <p>Companies should control and treat all air toxics produced by their operations to improve air quality and human health. Companies should provide the following specific data for the most recent three consecutive years:</p> <ol style="list-style-type: none"> 1. Emissions of air pollutants, including SO_x, NO_x, VOC, PM₁₀, PM₅, PM_{2.5}, and other toxics regulated by law or evidence of |

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| | | | <p>meeting national regulations</p> <p>2. Which standards, methodologies, initiatives, and equipment used to control air pollutants</p> |
| | De-toxification | Toxics Discharged into Waters | <p>Companies should treat and manage all wastewater generated by their operations with emphasis on showing the reduction of discharging toxics into waters. Corporations should avoid effluent and spills into natural water bodies and decrease the risk posed to human health. Corporations should provide the following data for the most recent three consecutive years:</p> <ol style="list-style-type: none"> 1. Total volume of water discharged by destination 2. Treatment method 3. Initiatives to reuse or recycle wastewater |
| | | Hazardous Wastes | <p>Companies should monitor all wastes related to their operations with emphasis on showing the reduction of generation of hazardous wastes. Companies should implement 3R policies to decrease the amount of waste and environmental impact. Companies should provide the following data for the most recent three consecutive years:</p> <ol style="list-style-type: none"> 1. Total weight of hazardous and non-hazardous wastes 2. Total weight of waste recycled or reused 3. How waste disposal methods, including recycling, reuse, incineration, deep well injection, landfilling, or onsite storage, are determined |
| | | Toxic Materials Used | <p>Companies should reduce their usage of toxic materials in processes and operations. Corporations should provide the following data for the most recent three consecutive years:</p> <ol style="list-style-type: none"> 1. Total amount of regulated toxic materials used. 2. Initiatives to reduce the usage of toxic materials. |
| | | GHG Emissions | <p>Companies should demonstrate their environmental performance by continuously reducing their GHG emissions. Companies should</p> |

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| | De-carbonization | | <p>provide GHG emission data for the most recent three consecutive years:</p> <ol style="list-style-type: none"> 1. The amount of GHG emissions (including scopes 1 and 2; if possible, scope 3 GHG emissions should also be provided) 2. GHG intensity of the company (ton CO₂ eq/revenue) 3. GHGs (such as CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all) included in the calculation 4. Baseline year of the calculation. 5. Carbon footprint of products (if available) 6. Amount of GHG reductions achieved in initiatives to reduce emissions 7. Third-party verification or assurance of organizational GHG emissions and carbon footprint of product |
| | | Use of Renewable Energy | <p>Companies should demonstrate their environmental performance by continuously increasing their utilization of renewable energy. Companies should provide following data for the most recent three consecutive years:</p> <ol style="list-style-type: none"> 1. Types of renewable energy used 2. Percentage of renewable energy to total energy consumption |
| Enhancing Productivity | General Productivity | Revenue Growth | <ol style="list-style-type: none"> 1. Companies should disclose revenue growth for the most recent three consecutive years, and any new capabilities/factors that demonstrate sustainable growth of the company |
| | | Labor Productivity | <ol style="list-style-type: none"> 1. Companies should demonstrate continuous improvement in labor productivity 2. Organizational labor productivity is defined as economic value created every year per person in the labor force 3. In this framework, annual revenue is used for economic value, and the unit of labor productivity is thousand dollars of revenue/per worker |

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| | | | 4. Companies should provide labor productivity data for the most recent three consecutive years |
| | Environmental Productivity | GHG Productivity | <ol style="list-style-type: none"> 1. Companies should demonstrate continuously improved performance in terms of GHG productivity 2. Organizational GHG productivity is defined as economic value created every year per unit of GHG generated 3. In this framework, annual revenue is used for economic value, and the unit of GHG productivity is thousand dollars of revenue/per ton of CO₂ generated 4. Companies should provide GHG productivity data for the most recent three consecutive years. |
| | | Material Productivity | <ol style="list-style-type: none"> 1. Companies should demonstrate continuously improved performance in terms of material productivity 2. Organizational material productivity is defined as economic value created every year per unit of material consumed 3. In this framework, annual revenue is used for economic value, and the unit of material productivity is thousand dollars of revenue/per ton or kg of material consumed 4. Companies should provide material productivity data for the most recent three consecutive years |
| | | Energy Productivity | <ol style="list-style-type: none"> 1. Companies should demonstrate a continuously improved performance in terms of energy productivity 2. Organizational energy productivity is defined as economic value created every year per unit of energy consumed 3. In this framework, annual revenue is used for economic value, and the unit of energy productivity is thousand dollars of revenue/per oil equivalent (toe or kgoe) consumed 4. Companies should provide energy productivity data for the most recent three consecutive years |

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| | | Water Productivity | <ol style="list-style-type: none"> 1. Companies should demonstrate a continuously improved performance in terms of water productivity 2. Organizational water productivity is defined as economic value created every year per unit of water consumed 3. In this framework, annual revenue is used for economic value, and the unit of water productivity is thousand dollars of revenue/per m³ of water consumed 4. Companies should provide water productivity data for the most recent three consecutive years |
| Sustainable Innovation and Social Contribution | Social Contribution | Stakeholders | <ol style="list-style-type: none"> 1. Companies should provide a description or explanation of their efforts for sustainable innovation and social contribution. The magnitude of positive impact on stakeholders of the issues listed below is the main consideration for judgment: <ol style="list-style-type: none"> a. Quality of life b. Sustainable society c. Gender equality d. Working environment e. Greening supply chains f. Local community g. Child labor h. Other (specify) 2. Companies should describe the local challenges and issues that have been resolved or overcome through their efforts. |
| | Green (Eco) Innovation and Sustainable Innovation | Products, Services and Business Models | <ol style="list-style-type: none"> 1. Companies should describe what and how innovative practices (not limited to products but may also include services and business models) have been implemented to solve economic, environmental, and social problems 2. Companies should also describe the value (tangible or intangible) created by their innovative practices |

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| | | <p>Green- and Sustainability-Related Patents</p> | <ol style="list-style-type: none"> 1. Companies should describe how many patents for green and sustainable innovation they hold 2. Companies should describe how patents contribute to society and the environment 3. Companies should describe how they create benefit through patents |
|--|--|---|--|

Glossary (Explanation of Terminology)

1. **De-materialization:** It may refer to the reduction in the quantity of materials required to serve economic functions (doing more with less), or using less or no material to deliver the same level of functionality.
2. **De-toxification:** Originally, this term was mainly used in medical treatment as a metabolic process by which toxins are changed into less toxic or more readily excreted substances. Currently, this term is applied to environmental situations to describe less use of toxic substances or completely removing them from processes or products.
3. **De-carbonization:** “Fundamental de-carbonization” of the world economy has been a goal for the Intergovernmental Panel on Climate Change (IPCC). It denotes the declining average carbon intensity of primary energy over time. Here de-carbonization is defined as any action or process that can reduce or completely eliminate the emissions of Greenhouse Gases (GHGs).
4. **General Productivity:** Productivity is commonly defined as a ratio of volume measure of output to a volume of measure of input. The most commonly used for input is labor or capital, while output is gross output (revenue or sales) or value added. These types of productivity are referred to general productivity in this document.
5. **Environmental Productivity:** In contrast to general productivity that applies labor and capital as inputs (denominators) in expressing productivity, environmental productivity adopts concepts such as resources productivity and eco-efficiency and uses resource consumption or environmental impact as input. In this document, one environmental impact (GHGs emissions) and three resources (material, energy, and water consumption) are used for describing environmental productivity.
6. **Green Innovation (Eco-innovation):** There are various definitions and that of the OECD (2009) was used, which states “the creation or implementation of new, or significantly improved, products (goods and services), processes, marketing methods, organisational structures and institutional arrangements which with or without intent lead to environmental improvements compared to relevant alternatives.”¹
7. **Sustainable Innovation:** Sustainable innovation in this document is defined as any innovative products, processes, or business models a company developed which can solve specifically social problems and contribute to sustainable development as a whole.
8. **Tonne (s) of oil equivalent (toe):** This is a normalized unit of energy. By convention it is equivalent to the approximate amount of energy that can be extracted from one tonne of crude oil. It is a standardized unit, assigned a net calorific value of 41,868 kilojoules/kg and may be used to compare energy from different sources.
(http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:Tonnes)

¹OECD (2009). "Sustainable Manufacturing and Eco-innovation: Towards a Green Economy." OECD Observer(June).

_of_oil_equivalent_(toe))

Other energy carriers can be converted into toe using the following conversion factors, such as 1 t diesel = 1,01 toe; 1 m³ diesel = 0,98 toe; 1 t petrol = 1,05 toe; 1 m³ petrol = 0,86 toe; 1 t biodiesel = 0,86 toe; 1 m³ biodiesel = 0,78 toe; 1 t bioethanol = 0,64 toe; and 1 m³ bioethanol = 0,51 toe.

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14-RP-12-GE-DON-C-01: Expert Panel Meeting on the Development of the Green Productivity Excellence Awards Framework

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