



Indicator guidelines for the Green Office Standards (GOS) of Thailand

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Article Info

Article history:

Received 29 March 2023

Revised 19 August 2024

Accepted 23 September 2024

Available online 10 October 2025

Keywords:

green office management,
green office standards,
indicator-guidelines,
sustainable environment

Abstract

The objective of this research article is to promote the establishment and certification of the Green Office Standards (GOS) in Thailand by providing its indicator-guidelines, categorized into six groups having specific aims in the work procedure, including (1) Preparation of policies, planning work procedures, and perpetual improvement; (2) Awareness creation through communication; (3) Consumption of energy and other resources; (4) Management of generated waste in the office; (5) Safeguard of the office environment; and (6) Selection of eco-friendly products in office procurement. This research used Ethnographic Delphi Future Research method, where the researchers selected 17 members as a panelist of an expert group to consider their opinion and advice. GOS is important as it aims to minimize resource usage in the daily work operation, to reduce CO₂ emission from offices' work procedure that produces an impact on the environment. The result of the research led to the creation of GOS indicator guidelines, to help offices that have aspirations to become certified holders of GOS certificates, and finally concluded that the formulation of indicator guidelines of the GOS was successful in awarding the GOS to organizations in Thailand that participated and followed the norms according to the indicator guidelines prepared by the GOS Management of Thailand. Following these six groups of indicator guidelines will help to create an eco-friendly green sustainable environment for the future world too.

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Introduction

The Green Office Standard (GOS) is an office management program aimed at minimizing the consumption of resources and generated waste in the daily

operation of office work. The manifest function of the Green Office is to save unnecessary consumption of resources so that CO₂ emission, which has an impact on the environment, due to the office's work procedure can be minimized (World Wide Fund for Nature [WWF], 2016).

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The GOS of Thailand was developed to create a sustainable environment by offering indicator guidelines to those offices that aspire to be awarded as a certified green office management standard (Aroonsrimorakot & Sarapirom, 2020). It is essential to have a certified GOS to bring changes in the office's work process. Following the GOS in the office's daily operation will help to create a healthy environment with its many benefits in terms of saving resources, recycling waste products, less energy consumption, and reduction of pollution. The Green Office Standard is important as it will help to train and motivate staff in office management by being responsible for office resource usage. A certified GOS helps to bring perpetual improvement in the daily work operation and environment, as it minimizes the office's resource consumption and waste. It is commonly observed that the daily operation of the office in Thailand consumes lots of paper, ink, electricity, and other resources, which generates lots of waste that produces greenhouse gases, harmful to the environment. So, certification of the GOS is very important to all kinds of organizations, and to help participating organizations. The GOS prepared the indicator guidelines to motivate staff to follow the norms and guidelines of GOS for creating a sustainable environment.

Literature of Review

Green Office Standards Project in Thailand has been launched under the initiative and sponsorship of Department of Environmental Quality Promotion (DEQP), which is an organization that provides funding for sustainable environmental projects. The GOS project has been initiated for environmental sustainability related to office management and work process. In previous studies, the author emphasized the importance of GOS initiatives to achieve the target of sustainable development goals and recommended upgrading the GOS in Thailand at the international level (Aroonsrimorakot et al., 2020). Further, it has been mentioned in another study that a sustainable office is necessary to maintain a sustainable environment, which can be achieved with the initiative of the GOS, which provide guidelines and responsible practices, to bring behavioral changes to the office staff in their daily office work operation (Aroonsrimorakot et al., 2019b). It has been commonly observed that careless office workers consumed lots of unnecessary office resources, which has caused the generation of lots of waste, such as unused paper because of printing only one side of the paper, ink, electricity, water, etc. The GOS provides guidelines for the procurement of daily essentials of the

office, by taking care to select only those items of paper, ink, electric bulb, and energy that save resources and also, which are environmentally friendly along with responsible behavior and awareness of office employees. There should be only a minimum amount of waste with the initiative of the GOS, and if generated waste should be recycled, if applicable, the unused waste should be properly managed to prevent deterioration of environmental conditions (Chowdhury et al., 2014). The GOS was created to minimize CO₂ emission in the atmosphere, that pollutes the environment, by changing office staff's working behavior practice (Scafetta, 2010) because daily operation consumes lots of energy in air-conditioner, lighting, printer, computer, etc. and also, official vehicles used for traveling to attend meeting or seminar consumes lots of fossil fuel energy that pollutes the environment (Sodangi et al., 2011). As a safeguard, it is essential for offices to initiate precautions to minimize the impact of office work operation through training and motivating staff to save resources, to use only those resources that are eco-friendly. Here lies the importance of certifying offices with the GOS, for those offices that are qualified. As a step to initiate offices to become qualified Green Office, the management of the GOS has prepared the indicator guidelines which any participating office has to follow to minimize waste and consumption of resources to solve environmental impact from daily office work operation process (Aroonsrimorakot, 2018; Aroonsrimorakot et al., 2019a; Wichaiutcha & Chavalparit, 2019; WWF, 2010). The development of GOS provides offices with the working guidelines or indicators to be green office and this process is implemented through training for developing awareness about the harmful impact of environmental pollution while promoting the advantages of promoting saving, social, and ecological practices for environmental sustainability (Aroonsrimorakot & Sarapirom, 2020). Aroonsrimorakot & Phuynongpho (2017) highlighted the need to reform all offices in Thailand into the GOS by performing office work practices according to the indicator-guidelines prepared by the management committee of the GOS, Thailand. These indicators include guideless for saving water, consumable resources, and energy; innovation in building design and usage of eco-friendly raw materials in construction, promotion of reusing waste and unused products through recycling, discard fossil fuel energy by replacing with renewable energy (Hong Kong Green Building Council, 2016; World Green Building Council, 2016). Another study reported the importance of following environmentally friendly strategies in terms of resource consumption and office procurement to aid economic development with a sustainable environment

(Varanavicius & Navikaite, 2015). So, DEQP in Thailand has supported, designed, and evaluated the result of the GOS implementation in Thailand's offices since 2013, and gradually the head office of the GOS spread out into many branches all over Thailand. From the above literature review, it can be seen that the main goal of GOS establishment is to bring behavioral change among office staff, to lead a sustainable lifestyle to lessen the impact of office work procedures on the environment. Following the GOS will help to create a green and safe world for all living beings to live and perpetuate sustainably (WWF, 2017). Aroonsrimorakot et al. (2019b, 2020) reported some guidelines/principles for the GOS such as 1. Resource-saving; 2. Staff training to initiate behavioral changes by creating awareness for environmental sustainability.

Objectives and Methods of the Study of Indicator Guidelines for the Green Office Standards (GOS) of Thailand

Objectives

The general objective of this research article is to promote the establishment and certification of the GOS network in Thailand by providing its indicator-guidelines. Along with this includes the manifest aims, that is, to provide the principles or indicator-guidelines of the GOS Thailand, categorized into six groups with the following headlines: (1) Preparation of policies, planning work procedures, and perpetual improvement; (2) Awareness creation through communication; (3) Consumption of energy and other resources; (4) Management of generated waste in the office; (5) Safeguard of office environment; and (6) Selection of eco-friendly products in the office's procurement.

Methodology

Regarding the methodology, this research used Ethnographic Delphi Future Research (EDFR), a combination of Ethnography (Byrne, 2001; Genzuk, 2003; Hammersley, 2016; Palmer, 2001; Van Maanen, 1996), and Delphi Future Research (Dalkey & Helmer, 1963; Hirschhorn, 2019; Hirschhorn et al. 2018; von der Gracht, 2012). Field work of ethnography research is usually conducted by a researcher who lives, observes, and participates in the daily life and activities of the people living in the field. On the other hand, the Delphi method resembles the survey technique of collecting data, but in this method, instead of selecting a sample for study, it selects an expert group panel, who has in-depth knowledge of the area or topic of the research. The researcher, therefore, selected 17 members comprising of academicians and

policymakers as a panelist of an expert group to consider their opinion and advice. The duration of the research was 2 years (2016–2018). It is considered significant to apply the EDFR technique as this combined method helps to lessen the shortcomings of each methodology (Poolpatarachewin, 2015). The benefit of the EDFR technique is due to its ability to gather opinions and ideas from expert panelists impartially and anonymously (Beech, 1991; Williams & Webb, 1994). There are three major steps for creating the GOS as follows: (1) Mobilization of the expert panel group: This step consists of selecting a group of experts, 17 members from both public and private organizations, who have experience and knowledge of environmental studies, to form a panel, discuss and gather their ideas and views. These experts were from the Faculty of Environment and Resource Studies of Mahidol University, DEQP, the Department of Pollution Control Thailand, the organization of Greenhouse Management Thailand, the Center for Nature and Agricultural Ecology, Thailand's Electricity Generating Authority, Bangchak Corporation; 2. Review of literature to draft the Standards; and 3. Defining the purpose of the Standards: The definition and purpose of the research, methodology, and steps of the study along with their duties were disclosed to the selected panelists. They were requested to have full commitment despite the lengthy duration of the research.

Procedures and Instrumentation

This research article aims to present the indicator guidelines checklist for certifying an office as a qualified GOS. Each checklist response – distribution was done through “Workshops” (Poli, 2018; Thoring et al., 2020; Turoff & Linstone, 2002). Each of the panelists was contacted with a letter by email, telephone, as well as by post, informing them of the purpose of the research, requesting them to become a member of an expert panel group, to spare time to participate in discussion and meeting of the three workshops, despite their busy schedule, to share their knowledge and opinion, and assuring them that all information provided would be kept confidential. Each of the workshops took about one to two days with a gap of four weeks for the next workshop to follow.

Workshop 1

The main objective of organizing the workshop was to assemble the expert panelist to get their idea and opinion from the discussion. In the first step, ten sample guidelines were prepared and then distributed to the panelists as was discussed in a previous study

(Aroonsrimorakot & Sarapirom, 2020). The sample guidelines contained an indicators checklist of the following components: 1. Organization awareness; 2. Energy & Other Resources; 3. Waste Management; 4. Indoor & Outdoor Environment; 5. Green Procurement; 6. Continual Improvement; 7. Staff communication/ Participation; 8. Issue of logistics or transportation; 9. Consumption of resources such as water; and 10. Construction design. These 10 possible standards guidelines were views and opinions gathered from the expert panelist group, who has experience working in both public and private organizations, selected and recruited by DEQP. The panelists were explained the purpose of the research and were requested to fill-in information regarding their views in an open-ended questionnaire, prepared specially for the research.

Workshop 2

The first workshop was followed by the second workshop where the summary and conclusion of the 1st workshop was checked and considered to set up the indicator-guidelines for the GOS, Thailand. In the 2nd workshop, improvement was made from the report of the first.

Workshop 3

All comments and recommendations of the panelists in the second workshop were incorporated into the 3rd workshop checklist and then distributed to all workshop participants to obtain further improvement and insights during the 3rd workshop discussion. The summarized review, comments, and conclusion from all these workshops led to the creation of the indicator guidelines for the GOS, Thailand. These indicator guidelines details can be divided into six groups as given below in Figure 1.

Results

The indicator-guidelines for certifying offices as a qualified GOS are discussed below. These guidelines were improved from the valuable comments obtained

from the expert panelists. Their critical views such as guidelines for indoor and outdoor standards led to improvement as per the WWF guidelines of GOS. The result of the research led to the formation of the above indicator-guidelines as given in Tables 2–7, having a specific percentage of weightage for each indicator as shown in Table 1. The evaluation of each of these indicators will be based on the characteristics of the office, location, behavioral practice of the office staff, compliance with GOS rules, awareness, education, and communication of the GOS staff, and the measured amount of emitted greenhouse gas in the office. DEQP has created the indicator-guidelines after assessment and evaluation through research and testing with projects so that GOS can be promoted to those eco-friendly offices in Thailand that aspire to be certified as a GOS, since 2013. Currently, Green Offices has expanded to all parts of Thailand, comprising both public and private organizations. The main indicator – guideline of becoming a qualified Green Office in Thailand is to perform daily office work activities with consideration of not harming the environment with pollution, which can be promoted through behavioral change, to result in a sustainable lifestyle, society, and economy. Since 2013, DEQP has evaluated more than 300 offices in Thailand that have sought to become qualified holders of the GOS certificate. The article is significant to promote perpetual evaluation of the working process of offices in Thailand so that all offices that apply to get the GOS are certified to achieve development and performance with environmental sustainability as per the UN sustainable development goals.

The summary and conclusion of the above three workshops and assessment of ten pilot green offices resulted in the establishment of the GOS, including its indicator guidelines, by incorporating the opinion and comments of a group of expert panelists who were specialists in the field of environmental science, education, and management. These indicators are created following the ISO 14001 management indicators protocols with objectives of a sustainable environment and promotion of the GOS all over Thailand. Table 1 shows the indicator guidelines with weightage for green office standards in Thailand

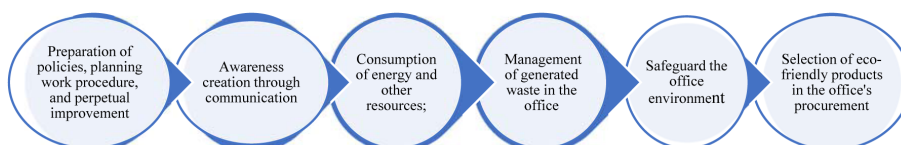


Figure 1 Six groups of indicator guidelines

Table 1 Indicator guidelines for the establishment of GOS in Thailand

No.	Indicator-Guidelines	Weightage
1.	Preparation of policies, planning work procedures, and perpetual improvement	25%
2.	Awareness creation through communication	15%
3.	Consumption of energy, water, and other resources	15%
4.	Management of generated waste in the office	15%
5.	Safeguard the office environment	15%
6.	Selection of eco-friendly products in the office's procurement	15%

Table 2 Indicator guidelines for the preparation of policies, planning work procedures, and perpetual improvement of the Green Office Standard in Thailand

Indicator-Guidelines
1. Preparation of policies, planning work procedures, and perpetual improvement of the Green Office Standard in Thailand
1.1 Guidelines of policies
- An authorized person needs to: approve it, confirm the date of the scheduled policy declaration, and describe the aims of GOS, along with involvement to perform as per the environmental policy guidelines.
- Need to organize the office GOS indicators as per the environmental scopes and contexts for continual performance including a reduction in office resource consumption, waste generation, greenhouse gas emission, and replacement of fossil fuel energy with renewable energy.
- All office staff should abide by the rules sanctioned by DEQP and also promote stakeholders' awareness
- The annual GOS should be planned and should get approval in writing by the concerned executive officer
- The annual target of energy, water, paper, ink, waste, and greenhouse gas should be indicated
1.2 Formation of a working group
- A committee of staff should be appointed, consisting of each departmental representative, and then assigned a particular responsibility
1.3 Specification of resources and issues
- All office activities should be compiled and specified for evaluating to check whether they can be awarded the GOS certificate
- A qualified person who is aware of the laws and regulations of the GOS responsibilities should be recruited to specify the quantity of resource consumption such as energy, waste, paper, ink, the amount of generated waste, etc.
- The concerned officer should review, evaluate, and summarize the important environmental issue of offices' daily work process in writing.
1.4 Laws and safety rules
- A legal officer, recruited for preparing environmental laws and safety rules indicators, should compile all kinds of the latest laws on environmental issues and review them at least one time annually.
- The recruited legal officer should check and evaluate whether the office management is following the sanctioned office laws or not, and investigate if it is inconsistent to find a solution for improvement
1.5 Information on Greenhouse gas (GHG)
- All data on greenhouse gas emissions from daily office activities should be gathered and evaluated to investigate whether the emitted amount is diminished or increased. For unachieved target goals, there should be provision for improvement and periodic monitoring with a written solution guideline.
1.6 Project planning for perpetual improvement
- For achieving the target objective and for perpetual improvement of the GOS, it is essential to adopt innovative activity, consume eco-friendly resources, recruit a qualified person to monitor project schedule and activities periodically
1.7 Internal audit for GOS
- It is essential to have a systematic planning and procedure with a scheduled annual time frame to perform internal auditing of all office work process
1.8 Reviewing of office administrative activities
- It is essential to define the quorum for reviewing office administrative activities, including the invitation of the competent executive to join in the meeting, mandatory participation of executive from each department, formation of a committee of executives
- Conduction of each meeting should have at least 75 percent executive committee members
- There should be agendas for reviewing administrative activities meeting, operations, and policy planning with a written conclusion in the form of a meeting report for perpetual improvement

Table 3 Indicator-guidelines for office staff awareness creation through communication

Indicator-Guidelines
2. Awareness creation through communication
2.1 Plan training schedule, operation, and evaluation
- It is essential to have a systematic plan for the training schedule, place of training, and evaluation of the training program. A qualified teacher should be recruited to provide training to office staff. Each trainee should compulsorily attend 80 percent of each course, and the achievement and performance of the training should be evaluated through tests and written examinations.
2.2 Canvassing and communication with employee
- Need to recruit a responsible person to canvass and communicate with the employee on environmental issues and policy in a properly established channel. The policy includes management, current issue, law, tidiness, systematic maintenance, measurement of energy and other resource usage, greenhouse gas emission, and generated waste. Also, there should be periodic canvassing of staff and employee to share knowledge of the GOS
2.3 Provide channels for communication, recommendation and improvement
- A responsible person recruited for communication and canvassing should prepare a channel to receive a recommendation for improvement, which can be received through a QR code and website.
- All recommendations and suggestions received from various sources should be compiled together, reviewed, and published on the official website or a notice board so that everybody can read it for information and improvement.

Table 4 Indicator guidelines for the consumption of energy, water, and other resources

Indicator-Guidelines
3. Consumption of energy, water, and other resources
3.1 Consumption of energy
- There should be the availability of properly written guidelines for the consumption of energy in the daily office work process
- All office staff should be educated to bring awareness of the benefits and ways of saving office resources by procuring eco-friendly products, taking responsibility, adopting and changing innovative devices, appliances, and equipment to save electricity
- Advantages of switching fossil fuel energy to renewable should be promoted and introduced
- During lunch break or not at work, the office electrical switch should be put off without light or air-conditioner
3.2 Consumption of water
- To be a certified GOS, all office staff should follow the proper indicators for the consumption of water and be educated to create awareness about the benefits of less water consumption by using innovative appliances that can save water
- Monthly consumption data units should be collected and compared to check whether it achieves the target goal or not.
- For unachieved target goals, there should be solution guidelines, such as changing the consumption behavior of staff through periodic water usage assessment
- For achieving the target goal, the conclusion result should be summarized in a written report to follow in future ways of consumption for perpetual improvement
3.3 Consumption of fossil fuel and other resources
- There should be guidelines and communication for fossil fuel energy usage to bring lifestyle and behavioral change.
- All official trips or travel should be reformed such as switching to go to work, if not far, on foot or by bicycle, and if far, to go by public bus
- There should be guidelines to save paper, ink, and other resources through education, and communication to bring awareness to staff about the environmental benefits of saving resources through behavioral change and ways of using these resources, such as switching to e-documents instead of printed manuscript, printing both sides of a page instead of only one side
- There should be a plan to target the goal of consumption of fossil fuel and other resources with annual usage data collection to check whether the goal is achieved or unachieved. If unachieved, the cause or reason should be sorted out to find a solution guideline. If the target is achieved, a report should be prepared to follow for continual improvement
3.4 Meeting, seminar, workshop, and conference
- The pattern of the official meeting, seminars, workshops, and conferences should be switched to the form of a virtual or online mode
- There should be indicator guidelines for electronic communication in the form of e-mail, QR code, application of various social media and chat group
- Venues for a meeting, seminars, and conferences should be designed using eco-friendly products to consume less energy in light, sound, and other resource equipment. Care should be taken while selecting a room/ auditorium as a venue for a meeting or seminar so that the selected is neither too large nor too small, but proportionate appropriately to the number of invited participants
- The decoration of the seminar venue should use a standard quality material
- There should be e- reports or e- media for seminars, meetings, and conference
- Eco-friendly food, dishes, utensils, spoons, water bottles, etc. should be used for catering seminars, meetings, or conference

Table 5 Indicator guidelines for the management of generated waste in the office

Indicator-Guidelines
4. Management of generated waste in the office 4.1 General waste management - Proper guidelines should be prepared for general office waste management such as separating the type of generated office waste, collecting different types of waste and their disposal - All generated office waste should be placed in different types of waste bins, with different labels placed on those bins as general waste, recyclable, or hazardous. These waste bins should be placed in a proper area in the office corners - There should be the availability of an appropriate collection point for different office departments - Different types of waste in all types of bins in the office should be periodically assessed - A responsible person assigned for waste management of each locality should inspect and manage the generated waste regularly - There should be a facility for waste recycling to lessen the amount of disposed waste and waste utilization, using the 3Rs upcycling - A responsible person should periodically assess and analyze the generated waste data and then prepare comparative data such as per month or annually. This will help to investigate whether the target-generated waste is achieved, increased, or decreased. If increased, there should be a provision of a solution guideline to achieve the target waste. If the target goal is achieved, it should be prepared in a written report to be displayed on the office notice board or website to achieve continual development of optimum target waste management. 4.2 Management of wastewater - There should be the availability of proper guidelines for the management of wastewater with periodic assessment of wastewater quality. A responsible and qualified person should be recruited to check and assess the wastewater quality periodically, to investigate whether the treated wastewater quality meets the standardized quality - Wastewater should be efficiently treated using innovative and efficient wastewater treatment tools and system - The recruited responsible person should check whether there is any leakage in the pipe, the presence of dirt, and contamination. - If contaminated, steps should be taken to provide solution guidelines for improvement

Table 6 Indicator guidelines for safeguarding the office environment in the GOS, Thailand

Indicator-Guidelines
5. Safeguard the office environment 5.1 Quality of air - A responsible person should be recruited to check and assess the quality of air in the office. There should be the availability of proper indicators - guidelines to bring awareness to office staff. - The recruited person, such as a technician should periodically check the performance and servicing of all office appliances, such as air-conditioners, computers, lighting, printers, fax, copying machines, etc. - For any complaint of malfunctioning, the responsible person should be available to repair when called by the office for maintenance - The recruited technician should regularly check the emission of gases that cause air pollution - Office premises should specify a zone for smoking and it should be located in a space, preferably near a door or exit, for the smoke to vanish quickly without causing a health hazard to non-smokers - There should be a campaign to promote the “Smoking prohibited” slogan - Construction, renovation, or repairing work of an office building should take steps and precautions to prevent air pollution such as providing the employee a specific area far away from pollution effect - It is also essential to display a signboard as “Entry Restricted” at the construction or renovation site 5.2 Office lightning - There should be guidelines to measure the intensity of light and performance. Light equipment selected for office usage should conform to ISO standards. - A responsible technician should regularly check and assess the capacity and performance of all office lighting equipment. If there is any fault, it should be replaced. - The lighting equipment used in the office should be energy-saving and eco-friendly 5.3 Control of noise in an office - There should be guidelines to measure and control noise pollution in office premises. All noise equipment selected for office usage should be checked for GSO conformity. - There should be management and assessment of noise pollution at the repairing or construction site of offices in compliance with GOS - Care and support should be available so that it does not cause health hazards to both employees and construction workers 5.4 Management of office livability - There should be the availability of indicator guidelines to measure and manage livability in office operations such as: Specifying internal and external areas of the office in the form of a diagram; Specifying the internal as well external zone functions in the diagram of the office building; Specifying cleaning and repairing time for both inside and outside of repairing area; Providing the usable area and maintenance area percentage; Providing guidelines to control infected animals and transmission of disease in the office by tracing and tracking infected animals monthly.

Table 6 Continued

Indicator-Guidelines
5.5 Preparation for emergency
There should be guidelines to prepare and control the emergency in the office in the following ways:
- Providing training to firefighters and other staff with a plan for evacuation in case of fire and other emergency outbreak
- There should be mandatory training of office staff for emergency readiness with at least 40 percent of staff completing the training course. All trainees who have completed the course successfully should be awarded a certificate
- Need to educate all office staff about the ways of exit and escape for emergencies
- All offices should have sufficient firefighting alarms and equipment
- Training should be provided to at least four persons in an office on the usage, installation, and inspection of firefighting equipment

Table 7 Indicator guidelines for the selection of eco-friendly products in the office’s procurement

Indicator-guidelines
6. Procurement of eco-friendly products for office usage
- There should be the recruitment of a qualified and responsible official who knows about purchasing eco-friendly products
- There should be a specification of a list of eco-friendly products that are usable in office operation with the source where they can be procured
- Request to supply eco-friendly products to the supplier
- Assess and estimate the proportion of eco-friendly products that are used in the office
- The supplier should be a certified holder of ISO and environmental standards
- In case the supplier is uncertified, it should be informed and educated to become a certified agency or supplier
- It is essential to calculate the eco-friendly percentage of each office’s procurement by specifying the brand, model, labeling, quantity, and value of purchased office items
- If a full-time employee is hired for eco-friendly procurement of office goods, the employee should be checked and evaluated monthly
- If a part-time employee is hired for eco-friendly procurement of office goods, the person should always be checked and evaluated whenever present on duty in the office
- There should also be an evaluation for selecting eco-friendly services external to the office too such as to check whether the service provider is registered or a Certified Company
- All procured goods should be listed to be obtained from certified ISO agencies
- All meeting places and hotels selected should be certified as eco-friendly green hotels or green avenues. If uncertified, an alternative place that is near and easy to reach to travel with the availability of facility or arrangement for travel should be considered to make the meeting place green and sustainable

Discussion

Each of these indicator guidelines consists of various sub-guidelines as discussed above in Tables: Table 2, 3, 4, 5, 6 and 7.

Conclusion

This article is the result of research assisted by DEQP, Thailand with aims to standardize all offices in Thailand as Green Offices by becoming eco-friendly, having environmental benefits and awareness, through education, communication, and awareness, to bring behavioral changes of office staff in terms of office resource usage, planning, purchasing, designing, emergency, safety, waste management, etc. The result of the research led to the creation of GOS indicator guidelines, to help offices that have aspirations to become certified holders of GOS certificates. So, this research article presented the

indicator guidelines of the Green Office to promote offices to do daily jobs in offices as per the guidance of the GOS indicators, having consciousness of the hazards of air and other gases pollution on the environment, by taking care and responsibility to minimize unnecessary resource consumption. Some common resources commonly consumed in most offices such as energy, water, paper, ink, etc. are unnecessarily wasted by reckless office staff without environmental consideration of wastage and greenhouse gas emission. So, the GOS provide six groups of indicators, namely, preparation of policies, planning work procedure, and perpetual improvement; awareness creation through communication; consumption of energy, water, and other resources; management of generated waste in the office; safeguard of office environment; and selection of eco-friendly products in office procurement. The indicators are prepared to educate office staff to use resources as per the guideline and to recycle generated stationary and other waste if applicable. So, it can be concluded that following these indicator guidelines by office staff in the daily work process will lead to

more successful certification of the GOS in Thailand. The significance of this study is that it highlights the establishment and promotion of the GOS all over Thailand as the GOS helps in systematic management and environmental performance improvement of offices in Thailand for a better sustainable world. Following these six groups of indicator guidelines will help to create an eco-friendly green sustainable environment for the future world too.

Conflict of Interest

The authors declare that there is no conflict of interest.

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