Environmental Services Action Plan (ESAP)
Interim Review

1. Introduction

APEC has been working on trade liberalization, facilitation and cooperation in environmental goods and services in pursuit of clean and sustainable development through several key initiatives such as "the APEC Environmental Goods and Services Work Program" identified by APEC Leaders as a key thrust in APEC's sustainable growth agenda[1], the Leaders' commitment declared in the Yokohama Vision in 2010[2], and the Leaders' agreement set out in the Annex C of the Honolulu Declaration in 2011[3].

In 2012, APEC leaders endorsed the APEC List of Environmental Goods that directly and positively contribute to APEC's green growth and sustainable development objectives by committing to reduce applied tariff rates to five percent or less on environmental goods in the list by the end of 2015, taking into account economies' economic circumstances without prejudice to their positions in the WTO.

In line with the significant achievements in the area of environmental goods, in 2015, APEC Ministers welcomed the endorsement of the Environmental Services Action Plan (ESAP) to promote liberalization, facilitation, and cooperation in environmental services, aiming for an interim progress review by 2018 and a final review in 2020.

Actions based on ESAP were divided into three phases. The Phase 1 consists of studies to be conducted by APEC in collaboration with the Policy Support Unit (PSU) and has two stages according to varying objectives. During the first stage of Phase 1, hereafter called "Phase 1-1", APEC conducted a survey of regulatory and policy measures on services under CPC 94[4]. The title of the study is *"Survey of regulatory measures in environmental services"* (2016, APEC#216-SE-01.15) (hereafter called "The Phase 1-1 study")

The second stage of the Phase 1, hereafter called "Phase 1-2", contains three sectoral studies to build and enhance common understanding of the roles of a wider range of services in environmental business. The studies are as follows.

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[1] APEC. Singapore, 14 November, 2009. "2009 Leaders' Declaration"
[2] APEC. Yokohama, Japan, 13-14 November, 2010. "THE YOKOHAMA VISION – BOGOR AND BEYOND"
[3] APEC. Honolulu, Hawaii, United States, 13 November, 2011. "Annex C - Trade and Investment in Environmental Goods and Services"
[4] See Table 1 to find the current coverage and definition of CPC 94.

1) *"Sector Study on Environmental Services: Energy Efficiency Businesses"* (2017, APEC#217-SE-01.26) (hereafter called "The EE Business study")

2) *"Sector Study on Environmental Services: Environmental Damage Remediation Services"* (2017, APEC#217-SE-01.27) (hereafter called "The EDRS study")

3) *"Sector Study on Environmental Services: Renewable Energy"* (2017, APEC#217-SE-01.28) (Hereafter called "The RES study")

In addition, to identify key challenges which industrial experts and business representatives face in this region, APEC, PSU, the Pacific Economic Cooperation Council (PECC), and the Ministry of Economy, Trade and Industry (METI), Japan organized the "APEC Workshop on Environmental Services", hereafter called "APEC ES Workshop" in Hanoi, Viet Nam, in May 2017.

During the Phase 2 of ESAP, to promote trade liberalization and facilitation and cooperation in environmental services, APEC is expected to review the progress of Phase 1, identify key challenges, and compile a set of recommended action agendas.

This interim review is placed as a deliverable of the Phase 2 of ESAP. After the interim review, APEC plans to collect and share good practices from actual cases which relate to the recommended actions. This will serve as part of the process of the Phase 3 of ESAP.

2. Key Challenges

Based on the analyses and discussions during Phase 1, as the following five issues have been discussed repeatedly in different contexts and appeared to contain fertile areas of work and need further examination through conducting further studies and/or collecting actual related good cases from APEC members, they can be regarded as key challenges to promote liberalization, facilitation and cooperation in environmental services.

The discussions related to the five issues are summarized in following paragraphs.

1) <u>Widening Range of Environmental Services</u>

When the General Agreement on Trade in Services (GATS) was under negotiation, the General Agreement on Trade and Tariffs (GATT) Secretariat issued a document titled "Service Sectoral Classification List" called W/120 based on its document number[5]. W/120 reflects the Central Product Classification (CPC) published in 1991 by the United Nations and includes "Sewage services

[5] WTO. 10 July 1991. "SERVICES SECTORAL CLASSIFICATION LIST (MTN.GNS/W/120)"

(CPC9401)", "Refuse disposal services (CPC9402)", "Sanitation and similar services (CPC9403)", and "Other" under environmental services.

CPC has been revised for several times since its first publication in 1991, the newest version of CPC, called CPC Version 2.1 (hereafter called "CPC 2.1") was published in 2015[6]. Compared to the first version, CPC 2.1 provides specific detailed breakdown and more specific definitions for each category in environmental services.

In CPC 2.1, CPC94, "Sewage and waste collection, treatment and disposal and other environmental protection services", is considered to be a primal category for environmental services and provides six types of services as illustrated in Table 1. In addition, CPC 2.1 has environmental related services in some categories other than CPC94 such as "environmental consulting services" (CPC 83931) and so on.

Table 1. Environmental services by CPC code

Type of service	Coverage
941 Sewerage, sewage treatment and septic tank cleaning services	Sewerage and sewage treatment services Septic tank emptying and cleaning services
942 Waste collection services	Collection services of hazardous waste Collection services of non-hazardous recyclable materials General waste collection services
943 Waste treatment and disposal services	Waste preparation, consolidation and storage services Hazardous waste treatment and disposal services Non-hazardous waste treatment and disposal services
945 Sanitation and similar services	Sweeping and snow removal services Other sanitation services
944 Remediation services	Site remediation and clean-up services Containment, control and monitoring services, other site remediation services n.e.c Building remediation services Other remediation services n.e.c.
949 Other environmental protection services n.e.c.	Other environmental protection services n.e.c. including cleaning services for exhaust gases, noise abatement, and nature and landscape protection services

Source: United Nations Central Product Classification Division 94 (CPC94) Version 2.1

Surveys conducted during Phase 1 points out ambiguity and abstractness of definition and a range of current environmental services. The Phase 1-1 study examined environmental services covered by CPC94 and concluded that the current coverage of CPC94 could be expanded to include a wider range of environmental services or complementary services which impact businesses delivering environmental services in foreign markets in order to understand a more complete picture of the regulatory measures in place[7].

[6] United Nations. 2015. "Central Production Classification (CPC) Version 2.1"
[7] Phase 1-1 study. P.53.

The three sectoral studies conducted in Phase 1-2 illustrate the necessity of review of the range of environmental services. First, the EE Businesses study describes that services related to EE Businesses dispersed in eleven categories under various CPC categories[8] other than CPC94 such as ”Building completion and finishing work (CPC517)”, “Architectural, engineering and other technical services (CPC867)” and so on. This is closely related to the characteristics of EE Businesses which aim to provide more desired services per unit of energy consumed[9] through providing energy solutions including design and implementation of energy saving projects[10].

Second, according to the EDRS study, remediation services comes under CPC94 but includes a variety of services which are not categorized under CPC94 such as consulting, monitoring, laboratory testing, and etc. Therefore, just liberalizing and reducing trade barriers in direct remediation services is not enough to promote trade in this sector, individual economies have to recognize the need to liberalize and reduce trade barriers in other associated services[11].

Third, the RES study covers[12] wind, solar and “small hydro” sectors among renewable energy (RE) sources and claims that many services in RES that are not currently considered as “environmental” are in fact critical inputs to RE projects such as assembly and installation services which are classified in the different CPC category especially in the case of introducing solar photovoltaics (PV)[13]. Therefore, the scope of environmental services is worthy of further discussion.

Moreover, at the APEC ES Workshop, the importance of widening the range of environmental services (ES) was intensively discussed. A speaker from the WTO Secretariat noted that ES classification contained in W/120 has been repeatedly criticized for being obsolete[14] because it does not reflect services which can be considered as environmental because they have other end-uses beside environmental ones. Various proposals were submitted to WTO but there is no consensus to modify it.

Besides, a speaker from the OECD pitched the necessity of more clarity of ES in order to make trade in environmental goods and services more prosperous and introduced potential approach to

[8] EE Businesses study. P.4.
[9] EE Businesses study. P.1.
[10] EDRS study. P.5.
[11] EDRS study. P.15.
[12] RES study. P.2.
[13] RES study. PP 6-7.
[14] APEC ES Workshop summary report. P.2

categorize relevant services based on market operation and relativity[15].

2) Liberalizing Environmental Services in Step with Environmental Goods

The trend of servicification leads to the increasing importance of services in manufacturing activities and the increased difficulty in distinguishing goods from services[16]. Although this trend is not unique to the environmental sector, there are good reasons to believe this phenomenon to be particularly outstanding in the case of environmental goods and services because there exist strong complementarities between environmental goods and the provision of services. For example, the installation and operation of machines and pieces of equipment used in preventing or abating pollution can be complex, requiring users to possess specific knowledge and skills that can be costly to acquire[17].

The Phase 1 of ESAP also describes strong complementarities between environmental goods and services. The study on RES explains the necessity of liberalizing environmental services along with environmental goods because numerous services are essential to the proper delivery, installation and operation of RE equipment. For example, investments in RE technologies such as solar PV, wind power and small hydropower show a strong complementarity between environmental goods (such as solar panels, wind and water turbines, and etc.) and the services required to install and use such equipment. This strongly suggests that efforts to liberalize trade in RES and the current negotiations to address obstacles to trade in environmental goods cannot be considered independently[18].

On top on that, APEC is in a good position to promote liberalization of environmental services keeping pace with environmental goods because, as a one panelist at the APEC workshop[19] on ES referred to, APEC is the only organization that has come with a positive result with the liberalization of environmental goods. Building on the APEC outcome, the Environmental Goods Agreement (EGA) negotiations at WTO commenced in 2014. APEC is expected to take the lead on discussions of environmental services liberalization as well.

3) Optimizing Regulatory Measures on Environmental Services

Phase 1 of ESAP indicates two types of regulatory challenges. One is the lack of clear regulations. The other is the existence of regulatory measures which work as barriers to trade.

[15] OECD. May, 2017. "Synergies Between Environmental Goods and Services and Policy Implications (2017/SOM2/CTI/WKSP2/004)" PP 6-7.
[16] OECD. 2017. "Services in Global Value Chains" P.8.
[17] OECD. 2017. "Trade in services related to the environment" P.9.
[18] RES study. P.3.
[19] APEC ES Workshop summary report. P.6.

Regarding lack or absence of regulations, the Phase 1-1 study which conducts research on regulatory measures in APEC economies, claims that regulations are largely informal, nonexistent, and not publicly available in less developed APEC economies in general[20].

Specifically, the EDRS study explains that weak or inconsistent enforcement and lack of clarity on the responsibility, liability and level of clean-up on management of contaminated land have hampered investments in this sector[21]. In APEC ES Workshop, a business person with energy efficiency businesses pointed out that the absence of specific policies and fluid policy environments that often change with administrations are one of major challenges[22].

Regarding acting as barriers to trade, the Phase 1-1 study identifies regulatory measures which apply to all service sectors and are specific to environmental services. The study indicates that licensing and approval procedures are the most numerous measures impacting on environmental services and the multiplicity and complexity of their requirements can impede trade especially where approval procedures are open to administrative discretion or are lacking in transparency. Controls on workers, limits on foreign investment, restrictions on the form of legal entity are also identified regulatory measures in the study. In case that these measures impede the ability of foreign providers to participate in the market, they may act as barriers to trade[23].

Also, the RES study points out that local content requirements (LCRs) can be the most critical barrier to trade in renewable energy products and services through mandating that foreign service providers have local partners or majority local ownership[24]. In the APEC ES Workshop, an energy consultant based in Singapore described that LCRs serve as major barriers to renewable energy services sector that could be exercised as non-tariff barriers.

4) Developing Human Resources

The Phase 1-1 study describes that controls on workers are significant and widespread and they can limit effective access for services operation and establishment[25].

According to the EE Businesses study, Energy Efficiency Service Providers (ESPs) face human

[20] Phase 1-1 study. P.5.
[21] EDRS study. P.7.
[22] APEC ES Workshop summary report. P.5.
[23] Phase 1-1 study. P.6.
[24] RES study. P.31.
[25] Phase 1-1 study. P.6.

resources challenges at all stages of business development and project implementation. For instance, procuring visas add to the timeline and cost of the project. Cross border transportation of equipment for the measurement are difficult and only local contractors are allowed to work on site. Also, in economies where the energy efficiency service is less developed, companies lack human resources with technical competence. This leads to less implementation of its business than the actual demand from markets[26].

The EDRS study illustrates that as environmental damage remediation services need local expertise in advancing projects, lack of local experts in consultants and workers[27] would further drive up costs. The level of technical expertise in this sector were not fully investigated in the study[28]. Further work to examine this would help identify key services in the sector.

From the RES study, the lack of skilled technicians to design and install renewable energy equipment are indicated as barriers to increase its deployment[29]. Given that RES are skill and labor-intensive, obstacles to the movement of skilled staff is a barrier to trade in renewable energy services[30]. At the APEC ES Workshop, a business person who promotes renewable energy mentioned that human resource availability is a key factor for renewable energy growth[31].

5) Raising Awareness toward Environmental Services

For specific environmental services sectors, lack of recognition of services or industry themselves is one of key regulatory challenges. The EE Businesses study shows that governments may not recognize or understand the ESP industry. This leads to a lack of regulation or over-regulation of the energy efficiency services industry and hurt market growth[32].

The study on EDRS points out that, generally in developing economies, the demand for EDRS has been observed to be less immediate and prioritized because other policy needs such as economic advancement and other basic public services are considered to have a more immediate and apparent impact on quality of life or productivity. Though the recognition of negative environmental and socio-economic impacts caused by pollution is increasing, as the discussion in the APEC ES Workshop shows, the way of recognizing and registering remediation companies to optimize their regulations is still

[26] EE Businesses study. P.19.
[27] EDRS study. P.11.
[28] EDRS study. P.72.
[29] RES study. P.27.
[30] RES study. P.29.
[31] APEC ES Workshop summary report. P.5.
[32] EE Businesses study. P.17.

unclear for most governments. In this way, the better management of remediation services is one of key challenges for governments.

3. Recommended Action Agendas

Overall, the Phase 1 studies provide comprehensive analysis of regulatory issues and realities in the three sector industries regarding liberalization, facilitation and cooperation in environmental services and help APEC identify key challenges.

Building on the key challenges, the set of recommended action agendas which is scheduled to be compiled during Phase 2 of ESAP are as follows.

APEC should take the lead of intellectual exercises to further develop understanding on the key challenges by:

- stocktaking discussions regarding coverage of environmental services through reviewing existing suggestions of classifications of environmental services;
- providing a more comprehensive picture to depict the relationship between environmental goods and services in trade;
- collecting and sharing good regulatory practices from actual cases regarding encouraging trade in environmental services;
- identifying capacity building needs to elevate human resources availability in environmental projects through measures related to technicians and workers; and,
- introducing good precedence or existing initiatives which successfully raised public awareness and help economies achieve sustainable growth, while promoting economic advancement.

ESAP outlines its final review on the progress in Phase 1 and 2, summarizing the whole initiative, and considering the way forward as necessary by the end of 2020. Toward the final review, APEC is expected to take concrete actions based on the recommended action agendas.