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Closing the Loop: ASEM's Transition Towards Achieving a Circular Economy

Implementation Experience in ASEM Partner Countries with the Sustainable Development Goal 12 on Responsible Consumption and Production

ASIA-EUROPE FOUNDATION
Hanns Seidel Foundation
ASEM SMEs Eco-Innovation Center
IGES Institute for Global Environmental Strategies

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Closing the Loop: ASEM's Transition Towards Achieving a Circular Economy Implementation Experience in ASEM Partner Countries with the Sustainable Development Goal 12 on Responsible Consumption and Production

Lead Authors
Dora ALMASSY
Grażyna PULAWSKA

Research Support
Dara LEE
Trishia OCTAVIANO

Editors
Grażyna PULAWSKA
Sonya FRAZIER

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Executive Summary

As part of the Asia-Europe Meeting (ASEM)-wide research on Sustainable Development Goal (SDG) 12 for the Annual ENVforum Conference 2018, this paper reviews the implementation experience of ASEM Partner countries with SDG 12 on Responsible Consumption and Production. The review provides a bird's-eye view of how ASEM Partner countries approach the implementation of SDG 12 targets and integrate them into national strategies, target-setting, and monitoring activities.

In order to achieve the targets of SDG 12, ASEM Partners will need to address the full production and consumption cycle of natural resources and support a circular economy transition. As the Government of Latvia noted in its 2018 Voluntary National Review, *"the circular economy must be viewed as a system in its entirety, rather than a patchwork of measures"*[1].

Emerging from this review, we developed 5 key messages to support this transition.

KEY MESSAGE 1: In order to support a systemic change, governments should create a strong policy and legislative framework as a backbone of a successful transition to a circular economy.

A comprehensive policy and legislative framework that supports circular economy development in an integrated manner should consist of (1) sustainable consumption and production (SCP) objectives or plans in high-level, long-term national development strategies as a guiding principle/vision for socio-economic development; and (2) detailed sectoral strategies/plans and legislation to ensure the actual implementation of relevant strategic goals. A circular economy strategy or action plan could serve as a starting point for identifying all relevant policy areas that should take SCP objectives and activities into consideration. Most ASEM Partner countries already included circular economy and SCP considerations in their overarching national development policies and sectoral strategies, and half of them have developed targeted circular economy strategies or action plans to ensure that SCP considerations are integrated into the national policy framework more comprehensively (see chapter 3.1). Comprehensive strategic planning can also support the establishment of a well-functioning public funding system for the promotion of circular economy objectives.

KEY MESSAGE 2: Businesses should take a significant part in the transformation towards a circular economy.

By moving away from unsustainable production patterns, businesses can improve the efficiency of their resource use as well as reduce their environmental pollution load and waste generated. Governments can support this transition by establishing strategic cooperation with businesses, providing necessary funding or access to the best available green technologies, introducing green financial incentives or taxes, and requiring companies to regularly report on the sustainability aspects of their operations. Regarding sustainable production objectives, this review identified various sectoral strategies (see chapter 3.1.2) and relevant national targets and indicators (see chapters 3.2 and 3.3 concerning SDG 12.6). Simultaneously, it emerged from this review that corporate social responsibility should not stop at national borders and governments should adopt measures to ensure that large international companies consider the global footprint of their resource use and production.

1 Government of Latvia (2018, July) *Latvia Implementation of the Sustainable Development Goals.* p80. Retrieved from **sustainabledevelopment.un.org:** https://sustainabledevelopment.un.org/content/documents/19388Latvia_Implementation_of_the_SDGs.pdf

KEY MESSAGE 3: By setting an example and influencing a considerable share of national consumption, public procurement practices supporting circular economy development are of crucial importance.

In most countries, public procurement spending constitutes a considerable share of countries' Gross Domestic Products. Green or circular procurement practices adopted by governments can be an efficient way to motivate suppliers to implement more sustainable approaches as well as to set an example for private companies to establish green purchasing practices. This review found that many ASEM Partner countries (particularly countries in Europe) introduced relevant national targets (see chapter 3.2 concerning SDG 12.7). However, evidence for regular monitoring activities measuring the progress towards green public procurement targets was more limited.

KEY MESSAGE 4: Governments should educate consumers on the importance of sustainable consumption and production practices, supporting a systemic transformation to SCP.

Besides the involvement of businesses, raising awareness and educating consumers about the environmental footprint of products and services and consequences of unsustainable consumption patterns are of significant weight for circular economy development. There are various means that governments can utilise, starting from formal education via introducing environmental labelling practices to information & health campaigns. These efforts should be well-planned to guarantee that they reach all segments of society and be thoroughly monitored to capture opportunities for revisions and improvements. While this review identified several examples of good practice (see chapters 3.2 and 3.3 concerning SDG 12.8), the linkages between education and SCP objectives need further strengthening.

KEY MESSAGE 5: Strategic monitoring is crucial to support policy formulation and implementation as well as to track progress towards and enable the review and revision of policy measures.

Establishing a set of indicators for measuring progress towards SDG 12 is crucial for enabling countries to assess their baseline situation with regards to SCP, set policy targets, develop monitoring frameworks, and measure progress. Countries should carefully consider the selection of best available indicators or the development of new ones. Chosen indicators should be directly linked and relevant to the established policy targets and measurable in time and resource-efficient manner. The global indicators proposed by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) can serve as the starting point for selecting SDG 12 indicators, but these indicators should be tailored or adjusted to national monitoring needs. Besides the global recommendations, ASEM Partner countries are in the process of introducing a variety of indicators which fit their individual monitoring needs (see chapter 3.3). In addition, further efforts are needed to measure all SDG targets under this goal as well as to comprehensively link set targets and measured indicators.

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Introduction

This study provides an overview of the implementation experience with Sustainable Development Goal 12 (SDG 12) on Responsible Consumption and Production in the Partner countries of the Asia-Europe Meeting (ASEM).

SDG 12 on Responsible Consumption and Production

SDG 12 aspires to ensure sustainable consumption and production (SCP) patterns across the globe. According to a working definition of the United Nations Environment Programme (UNEP), the concept encompasses *"the use of services and related products, which respond to basic needs and bring a better quality of life while minimising the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardise the needs of future generations"*[2].

FIGURE 1
Policy areas of SCP

Source: UNEP (2010) Clarifying concepts on SCP

By taking a holistic and integrated approach and integrating the principles of SCP along the economic value chain, countries can transition to a circular or zero waste economy model. According to the definition of the European Commission, the *"value of products and materials is maintained for as long as possible, waste and resource use are minimised, and when a product reaches the end of its life, it is used again to create further value: resulting in major economic benefits, contributing to innovation, growth and job creation"*[3] in a circular economy.

2 UNEP. (2010). ABC of SCP: *Clarifying Concepts on Sustainable Consumption and Production.* Retrieved from oneplanetnetwork.org: http://www.oneplanetnetwork.org/sites/default/files/10yfp-abc_of_scp-en.pdf

3 European Commission. (2018c). *Circular Economy.* Retrieved from ec.europa.eu: https://ec.europa.eu/growth industry/sustainability/circular-economy_en

Via the promotion of circular economy objectives and the involvement of businesses, public bodies, and citizens, SDG 12 supports the efficient use of resources, the sustainable management of waste and chemicals, and the reduction, reuse or prevention of produced waste in an integrated manner. SDG 12 encompasses 8 targets:

1. Development of SCP-related policies	2. Sustainable management and efficient use of natural resources	3. Reduction of food losses along production and supply chains	4. Environmentally sound management of chemicals and wastes
5. Reduction of waste generation through prevention, reduction, recycling, and reuse	6. Involvement of companies to adopt sustainable practices and integrate sustainability information into their reporting cycle	7. Promotion of sustainable public procurement practices	8. Dissemination of information and awareness-raising for sustainable development and sustainable lifestyles

SDG 12 in ASEM partner countries

SDG 12 has particular importance for ASEM Partners. The European Union (EU) is promoting resource-efficiency in Europe among its 2020 objectives and adopted a Circular Economy Package in 2015, encouraging its member states to focus on promoting the sustainable use of resources and sustainable lifestyles[4]. In Asia-Pacific, resource use is significant, and consumption is rapidly growing as Asian economies continue to develop. Therefore, further improvements in resource-efficiency are of utmost importance to ensure sustainable development of countries in the region[5]. As production and consumption are both essential features of the economy, the attainment of SDG 12 is closely linked with other SDGs, such as preservation of resources, economic development and decent employment, and climate change prevention and mitigation. Thus, efforts to improve the integration of SCP principles within a national context have the potential to support the progress of the SDGs in general[6].

4 European Commission. (2018b). *Circular Economy*. Retrieved from ec.europa.eu: http://ec.europa.eu/environment/circular-economy/index_en.htm

5 See for example: United Nations. (2018). *Analysing Resource Efficiency Transitions in Asia and the Pacific.* Retrieved from unescap.org: https://www.unescap.org/sites/default/files/publications/Analysing%20Resource%20Efficiency%20Transitions_arunjacob_13_3_2018.pdf

6 ASEF. (2018). *LAO PDR working paper on Sustainable Consumption and Production.* ASEF

The structure of this review

In order to provide an overview of the implementation experience in ASEM Partner countries with the SDG 12 on SCP, the study is structured as follows:

Chapter 2
Explains the data collection approach for this report;

Chapter 3
Provides an overview of how ASEM Partner countries approach the implementation of SDG 12 targets and integrate them into national strategies, target-setting, and monitoring activities; and

Chapter 4
Summarises the findings.

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Data collection & analysis methodology

Data collection for this review was conducted for all 51 ASEM Partner countries, to understand how they approach the implementation of issues related to SCP, including natural resources use, waste management, and circular or zero waste economic development.

The analysis presented in this background paper is based on an in-depth review of the following national documents: Voluntary National Reviews (VNRs), national strategy documents, and relevant implementation reviews or research papers.

In the first stage of the research, the following questions were studied in all identified national documents:

Are SCP topics mentioned in national strategy documents (development plans and sectoral strategies)?	**Is there a national circular economy/SCP strategy?**
Are the discussed SCP topics linked to SDG 12 targets (and other SDGs)?	**Are SCP indicators introduced and regularly measured (or planned to be measured)?**

Is there a designated body to coordinate the implementation of SCP objectives?

In the second stage of the research, an in-depth analysis was carried out based on the collected information to:

Assess the extent to which SDG 12 and the concept of SCP appear in overarching national policy documents and sectoral policies of ASEM Partners (see chapters 3.1.1 and 3.1.2)	**Map the existence of a specifically SCP-focused strategy in the countries of the 2 regions (see chapter 3.1.3)**
Understand how the identified national policy documents in ASEM Partner countries reflect the SDG 12 targets (see chapter 3.2)	**Assess the availability and coverage of SCP indicators in the case of various SDG 12 targets (see chapter 3.3)**

The information presented in this publication may not be sufficiently comprehensive due to the methodology used. The collection of data was based on desk-research national documents which were available in English. National language sources were only considered to a limited extent. This review aimed at identifying the most recent documents, namely those which were published and adopted after 2015. Moreover, the data collection and analysis were carried out in July 2018 and documents published after this date were not included in the review. Thus, it is possible that further progress has been achieved in the implementation of SDG 12 since the publication of this study.

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Overview of ASEM approaches to Circular Economy Development & Sustainable Consumption & Production

This chapter will provide an overview of how ASEM Partner countries approach the development of a circular economy and the promotion of SCP by defining a strategic vision, developing sectoral policies, setting objectives and measurable targets, selecting indicators to track progress, and establishing an institutional set-up to support the implementation of defined actions.

3.1. National policy frameworks

As discussed in chapter 2, this study sought to identify whether and how issues relevant to the implementation of SDG 12 appear in overarching national policy documents, such as development plans, socio-economic and sustainable development strategies, and sectoral policy documents. Moreover, the existence of specifically SCP-focused strategies was also studied.

3.1.1. Overarching national policy documents

The review found that almost all 51 ASEM Partner countries included various objectives under the scope of SDG 12 in high-level policy documents, such as national sustainable development strategies or national development plans.

In 26 countries (19 European and 7 Asian ASEM Partner countries), SCP-related objectives were incorporated in national sustainable development strategies. In 22 countries (9 European and 13 Asian ASEM Partner countries), SCP objectives were integrated into shorter-term national development plans. 4 ASEM Partner countries developed a specific SDG strategy, providing an implementation framework for all SDGs, including SDG 12. An overview table of relevant high-level policy documents across ASEM Partner countries is presented in Annex 1A.

TABLE 1
High-level policy documents with identified SCP objectives in ASEM Partner countries

	European ASEM Partner Countries	Asian ASEM Partner Countries
Sustainable Development Strategy / Long-term National Development Visions	Austria · Belgium · Croatia · Cyprus · Estonia · Finland · France · Germany · Hungary · Ireland · Italy · Latvia · Lithuania · Luxembourg · Norway · Romania · Slovenia · Spain · Sweden · Switzerland	Kazakhstan · Republic of Korea · Mongolia · Myanmar · Pakistan · Singapore · Viet Nam
National Development Strategies / Plans	Bulgaria · Estonia · Greece · Luxembourg · Malta · Poland · Portugal · Slovakia · United Kingdom	Bangladesh · Brunei Darussalam · Cambodia · China · India · Indonesia · Lao PDR · Malaysia · New Zealand · Philippines · Russian Federation · Thailand · Viet Nam
SDG Strategy	Czech Republic · Denmark · Sweden	Japan

However, the identified SCP objectives have not been linked to the SDG 12 targets in all ASEM Partner countries. This review identified only 11 European[7] and 7 Asian[8] ASEM Partner countries where the national development priorities have already been aligned with the SDGs, including SDG 12.

In part, this is because just under half of ASEM Partner countries (24 countries) adopted or updated high-level policy documents after the launch of the 2030 Agenda and the SDGs. The majority of European ASEM Partner countries developed the adopted sustainable development strategies well before the adoption of the SDGs, although 6 countries[9] have since updated their national sustainable development strategies and aligned them with the SDGs, and 3 other countries[10] have foreseen or are in the process of revising

7 Belgium, Czech Republic, Denmark, Finland, Germany, Greece, Italy, Poland, Slovenia, Sweden, Switzerland

8 Bangladesh, Japan, Republic of Korea, Lao PDR, Myanmar, Thailand, Viet Nam

9 Belgium, Finland, Germany, Italy, Slovenia, Switzerland

10 Estonia, Romania, Spain

the strategies. With regards to those 7 Asian ASEM Partner countries, where this review identified SCP-related considerations in longer-term national documents, only 3 countries[11] developed or updated a sustainable development strategy after 2015. As for the shorter-term national development plans, in most of the European countries, the national development plans or national reform programmes were mainly developed to promote the implementation of the Europe 2020 Strategy[12] for the 2015-2020 period, and thus, did not establish linkages to the SDGs.

In addition, not all the high-level documents, which were adopted after 2015, established linkages to the SDGs. In the Asian ASEM Partner countries, only 4 out of 13 national development plans that contain SCP objectives identified linkages to the global goals, including SDG 12[13], though 8 of these plans[14] were adopted after the launch of the 2030 Agenda and the SDGs. Similarly, from the 3 European national development strategies[15] that were adopted after 2015, only 1 was referenced the SDGs. Out of the 3 long-term strategic documents that were launched in Asian ASEM Partner countries after 2015, 2 mentioned the SDGs.

11 Republic of Korea, Myanmar, Mongolia

12 European Commission. (2019). *Europe 2020 strategy.* Retrieved from ec.europa.eu: https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/european-semester/framework/europe-2020-strategy_en

13 Bangladesh, Lao PDR, Thailand, Viet Nam

14 Bangladesh, India, Lao PDR, Malaysia, New Zealand, Philippines, Russian Federation, Thailand

15 Greece, Slovakia, United Kingdom

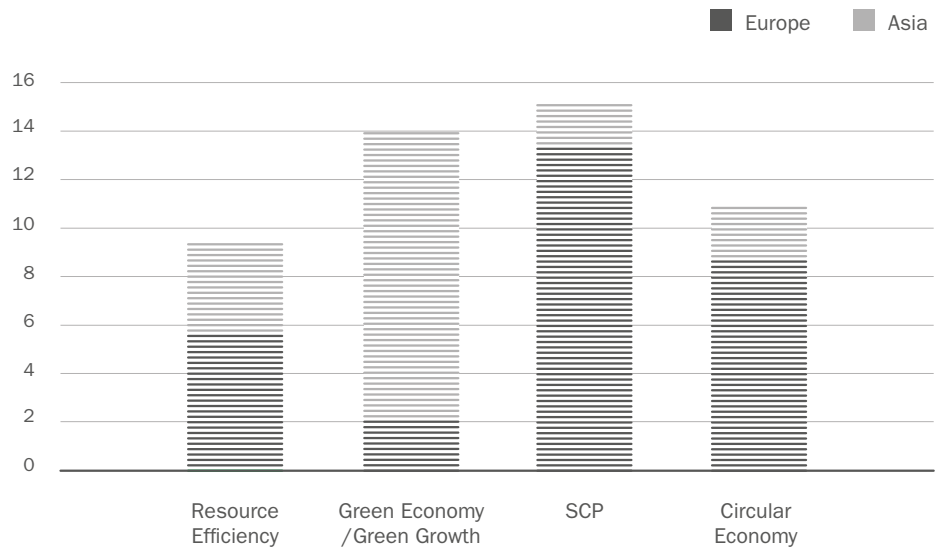
TABLE 2

High-level policy documents in ASEM Partner countries with policy objectives linked to the SDG 12 targets

	European ASEM Partner Countries	Asian ASEM Partner Countries
Sustainable Development Strategy / Long-term National Development Visions	Belgium · Finland · Germany · Italy · Slovenia · Sweden · Switzerland	Republic of Korea · Myanmar
National Development Strategies / Plans	Greece	Bangladesh · Lao PDR · Thailand · Viet Nam
SDG Strategy	Czech Republic · Denmark	Japan

With regards to the specific content of the identified SCP objectives, this review distinguished 4 different terminologies used in the high-level policy documents, including resource efficiency, green growth or green economy development, SCP, and circular economy. Resource efficiency and green economy were mentioned in 23 ASEM Partner country documents (9 European and 14 Asian countries respectively), demonstrating a focus on production and economic development aspects. In contrast, 26 ASEM Partner countries took a more comprehensive approach and targeted both consumption and production aspects. 11 of these 26 ASEM Partner countries introduced the concept of circular economy, aiming for systemic changes (see Figure 2 on the next page).

FIGURE 2
SDG 12-relevant objectives in high-level national policy documents of ASEM Partner countries



Among the 9 countries where relevant objectives were mentioned in reference to resource-efficiency, 5 were European, and 4 were Asian ASEM Partner countries. The 14 countries which developed objectives around green growth and green economy development were primarily Asian ASEM Partner countries. SCP or circular economy development objectives were noted predominantly in European country documents (see Table 3).

TABLE 3
The topic of SDG 12 references in high-level policy documents of ASEM Partner countries

	European ASEM Partner Countries	Asian ASEM Partner Countries
Resource Efficiency	Bulgaria · Estonia · Hungary · Norway · United Kingdom	India · New Zealand · Pakistan · Russian Federation
Green Growth, Green Economy	Luxembourg · Poland	Bangladesh · Brunei Darussalam · Cambodia · China · Indonesia · Kazakhstan · Lao PDR · Mongolia · Myanmar · Singapore Thailand · Viet Nam
SCP	Austria · Croatia · Cyprus · Finland · Germany · Ireland · Latvia · Lithuania · Luxembourg · Romania · Spain · Sweden · Switzerland	Malaysia · Philippines
Circular Economy	Belgium · Czech Republic · Denmark · France · Italy · Malta · Portugal · Slovakia · Slovenia	Japan · Republic of Korea

In 40 ASEM Partner countries, the identified high-level policy documents not only highlighted the importance of SCP for ensuring a sustainable, green, low-carbon development pathway for their country or its relevant issues but also established a specific goal often with underlying targets as one of the national development pillars. (See Annex 1B for the presentation of the identified SCP development priorities).

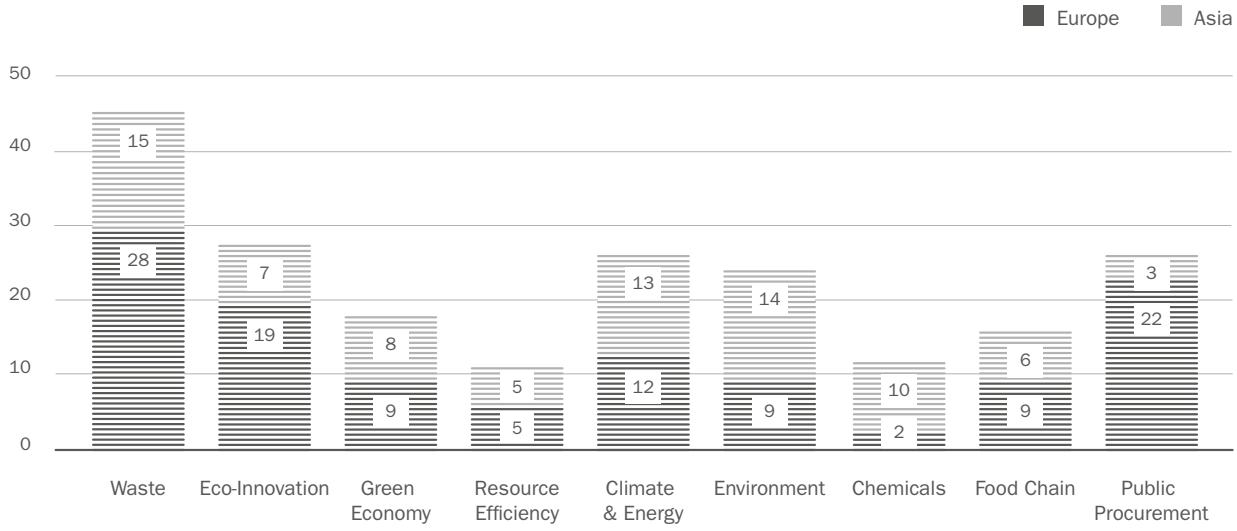
3.1.2. Sectoral strategies

This review identified various sectoral strategy and policy documents relevant to the implementation of selected SCP issues in all ASEM Partner countries. The identified sectoral policy documents focused primarily on one of the following areas:

- Waste management
- Environmental / Nature protection
- Chemicals
- Environmental technologies or eco-innovation
- Green economy / Green growth
- Raw material use / Resource efficiency
- Food chain / Organic farming / Food waste
- Public procurement policies

An overview of the identified sectoral strategies with relevance to SDG 12 is presented in Annex 2.

FIGURE 3
Number of ASEM Partner countries where various sectoral strategies with linkages to SDG 12 were identified



Almost all ASEM Partner countries (43 countries) adopted a **waste management strategy or plan**, which often included recycling programmes. In line with the EU waste hierarchy[16] approach, in European ASEM Partner countries, the waste management strategies also included targeted waste prevention plans.

In two-thirds of ASEM Partner countries, this review identified strategies targeting the promotion of **green economy development/green growth** or more specifically **eco-innovation and environmental technology deployment** (17 European and 25 Asian countries respectively). General green economy plans were more common in Asian ASEM Partner countries, while innovation-focused

16 The waste management hierarchy approach (Directive 2008/98/EC) sets out a priority waste policy and management: prevention (as the most preferred option), followed by reuse, recycling, recovery and, as the least preferred option, waste disposal. Read more at: European Commission. (2016a). *Directive 2008/98/EC on waste (Waste Framework Directive).* Retrieved from **ec.europa.eu: http://ec.europa.eu/environment/waste/framework/**

strategies were more frequent in European ASEM Partner countries. In one-fourth of ASEM Partner countries, this review identified strategies explicitly concentrating on the efficient use of natural resources and raw materials. Examples include the Resource Efficiency Programme in Germany, the Finnish Material Efficiency Programme, the Basic Act on Establishing a Sound Material-Cycle Society and 3rd Fundamental Plan for Establishing a Sound Material-Cycle Society in Japan, and the Resource Management Act in New Zealand.

In almost half of ASEM Partner countries, SCP objectives also appeared in policy documents focusing on **nature protection / biodiversity or environmental protection** in general and **climate change and energy strategies** (23 European and 25 Asian countries respectively). Moreover, in 12 of these ASEM Partner countries – particularly in Asia – sectoral policies targeting a toxic-free environment and the management of chemicals and hazardous substances were identified.

In almost one-third of ASEM Partner countries, this review identified SCP-focused actions in sectoral policies focusing on **agriculture and food chain management** (15 countries). In 7 countries, strategies targeting specifically food waste were identified[17].

The majority of European ASEM Partner countries developed stand-alone National Action Plans for **public procurement** and included green procurement objectives/guidelines in these documents. At the same time, this review identified similar policies in only 3 Asian ASEM Partner countries[18], though many other Asian ASEM Partner countries included green public procurement objectives in other relevant high-level or sectoral documents.

Focusing on specific development areas, additional strategies with SCP-relevant elements were identified in several countries:

Bio-economy strategies in Finland, Germany, Italy, and Norway	**Green job strategies** in Austria and the Philippines	**Strategies supporting companies in environmental management or CSR activities** in Ireland, Norway, Sweden, Switzerland, Bangladesh, and Indonesia
Sustainable tourism strategies in Italy, Malaysia, and Thailand	**Sustainable transport strategies** in Latvia, Luxembourg, Poland, Indonesia, Malaysia, and Thailand	**Educational strategies focusing on sustainable development / ecological education** in Malta, the United Kingdom, Mongolia, and Thailand

3.1.3. SCP strategies & action plans

In addition to overarching strategy documents and relevant sectoral policies and plans, half of ASEM Partner countries introduced specific SCP or circular economy strategies. This review identified 18 European and 7 Asian ASEM Partner countries that adopted such policies.

In 18 countries, these policies or plans focused on SCP and a circular economy. In contrast, 7 countries embedded SCP strategies in broader green growth/green economy development plans[19]. In some ASEM Partner countries, this review also identified specific SCP-focused programmes in addition to higher-level strategic documents or, in limited cases, instead of these.

An overview of the identified SCP strategies, action plans, and programmes are presented in Table 4. Action plans and programmes are in italics.

17 Australia, Belgium, Ireland, Italy, Netherlands, Romania (planned), United Kingdom

18 Thailand, Philippines, Bangladesh

19 Cyprus, Luxembourg, Malta, Norway, Switzerland, Cambodia, Mongolia

TABLE 4
SCP or circular economy strategies, action plans and programmes in ASEM Partner countries

Austria	RESET2020 initiative (2015)
Belgium	Federal roadmap containing 21 measures to support a circular economy (2016) *Flemish Materials Programme (2016)* *Brussels Region Circular Economy programme (2016-2020)*
Cyprus	National Action Plan for a Green Economy (2017)
Czech Republic	The framework of Programmes on Sustainable Consumption and Production (2008)
Finland	The Finnish Roadmap to achieve a Circular Economy 2016-2025 (2016)
France	Roadmap for circular economy (2018) *50 concrete measures towards a circular economy (2018)*
Germany	National Programme for Sustainable Consumption (2016) *German Resource Efficiency Programme ProgRess (2012)* *ProgRess II (2016-2019)*
Greece	Action plan for circular economy (2018)
Italy	Towards a Model of Circular Economy for Italy – Overview and Strategic Framework (2017)
Luxembourg	Third Industrial Revolution (2017)
Malta	Green Economy Action Plan (2015)
Netherlands	SCP Roadmap 2050 *From waste to resource' (VANG-programme)*
Norway	Green Competitiveness Strategy (2015)
Poland	The Roadmap for the transition to circular economy
Portugal	National Action Plan for a circular economy (2017)
Romania	National Action Plan on sustainable consumption and production (planned)
Slovenia	Roadmap Towards Circular Economy in Slovenia (2016)
Sweden	Strategy for sustainable consumption (2017)
Switzerland	Green Economy Action Plan 2016-2019 (adopted in 2013)
Cambodia	National Strategic Plan on Green Growth (2013-2030)
China	Circular Economy Development Strategies and Action Plan *Circular Economy Promotion Plan (2015)*
Malaysia	Malaysia SCP Blueprint (2016)
Mongolia	Action Plan for the National Green Development Policy (2014)
Pakistan	National Action Plan on Sustainable Consumption and Production (2017)
Thailand	Sustainable Consumption and Production Roadmap 2017 – 2036
Viet Nam	National Action Plan on Sustainable Production and Consumption until 2020 and Vision to 2030 (2016)

These SCP strategies were developed or updated in recent years (generally after 2015) and offer a comprehensive development approach towards circular economy development, including objectives and activities related to sustainable production, efficient resource-use, waste management and responsible consumption, and awareness-raising among producers and consumers. Furthermore, in 5 of these ASEM Partner countries, this review identified specific SCP-focused programmes in addition to higher-level strategic documents[20] and, in 2 countries, in lieu of these[21].

20 Belgium, France, Germany, Netherlands, China

21 Austria, Czech Republic

3.2. SDG 12 targets in national policy documents of ASEM Partner countries

The SDG 12 for SCP set the following 8 targets:

12.1 Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries

12.2 By 2030, achieve the sustainable management and efficient use of natural resources

12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water, and soil to minimise their adverse impacts on human health and the environment

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse

12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities

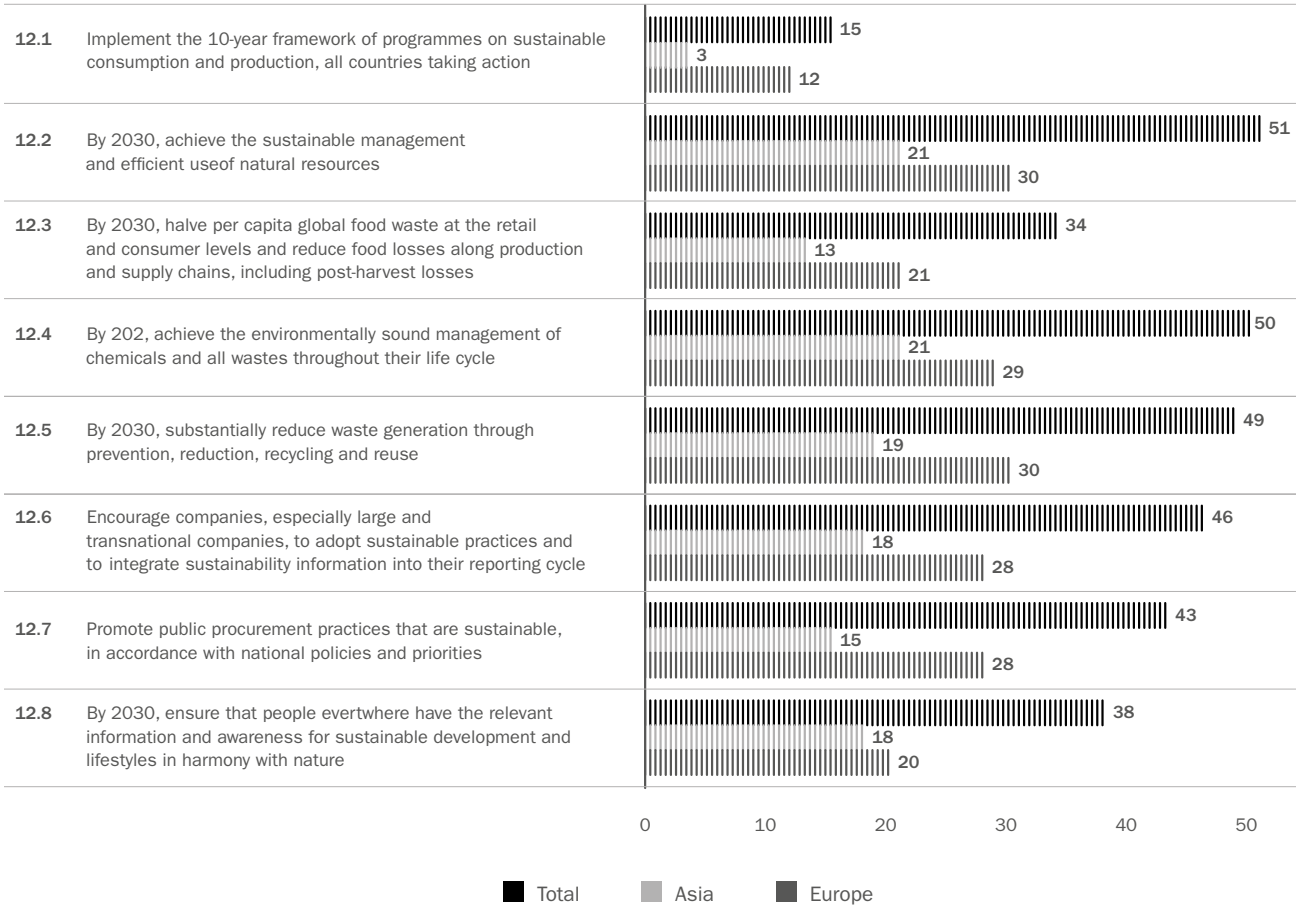
12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

This section provides an overview of the extent to which ASEM Partner countries considered and addressed the various targets under SDG 12.

3.2.1. Strategic directions

By analysing the relevant national policy documents, this review concluded that most ASEM Partner countries defined strategic objectives and/or action areas related to SDG 12 targets on resource and waste management (SDGs 12.2, 12.4, and 12.5), business involvement in SCP activities (SDG 12.6), and public procurement (SDG 12.7). Out of 51 ASEM Partner countries, more than 30 considered the issue of sustainable food production and consumption (SDG 12.3) and aimed at establishing SCP-related awareness-raising or educational activities (SDG 12.8). The least mentioned target was SDG 12.1. The evidence of promoting the implementation of the 10-year framework programme for SCP was identified in only 15 ASEM Partner countries (see Figure 4 on the next page).

FIGURE 4
Number of ASEM Partner countries addressing SDG 12 targets in relevant policy documents

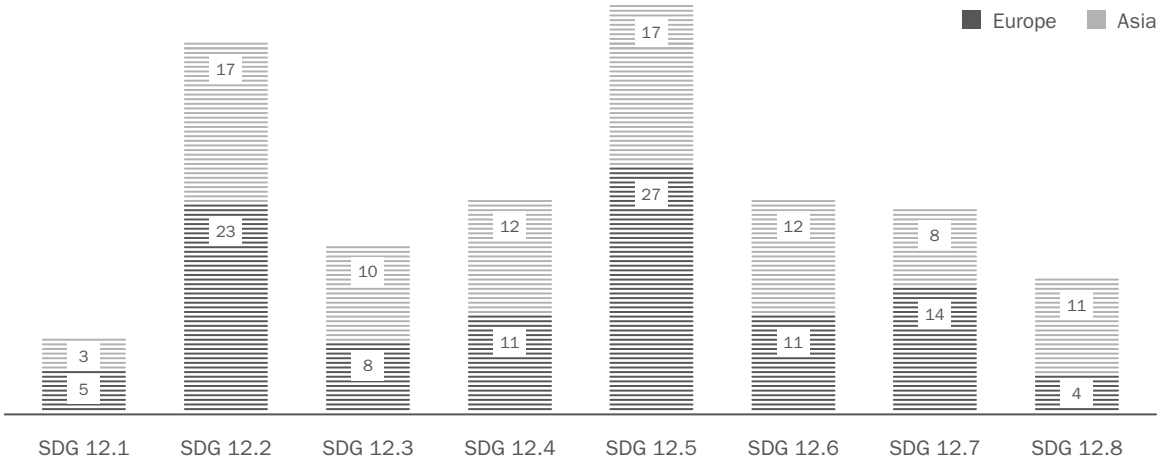


While Asian ASEM Partner countries were more likely to consider objectives and targets related to sustainable resource use and sound management of waste and chemicals (SDGs 12.2 and 12.4) as well as SCP-related awareness-raising and educational activities (SDG 12.8), European ASEM Partner countries more frequently addressed the issue of waste recycling and prevention (SDG 12.5), aimed to support companies in SCP activities (SDG 12.6), and considered green public procurement activities (SDG 12.7).

3.2.2. Review of national targets

Besides defining strategic directions and action areas related to the targets of SDG 12, almost all ASEM Partner country documents contained specific objectives and quantified targets. The majority of these objectives or targets were related to SDGs 12.2, 12.4, and 12.5, while fewer national targets were related to SDGs 12.1 and 12.8.

FIGURE 5
Number of ASEM Partner countries with identified SDG 12 targets



The review identified quantified targets primarily in SCP strategies and action plans, SDG implementation, and national development plans. At the same time, the identified targets were not necessarily established in connection with or linked to the SDGs. For example, many European ASEM Partner countries set targets prior to the launch of the SDGs in 2015 (e.g. in line with the European Union 2020 targets on energy use and waste management).

In the following, national objectives and targets are presented in relation to each of the targets under SDG 12. An overview of the targets addressed by ASEM Partner countries is shown in Annex 3.

12.1: Implementation of the 10-year framework of programmes on sustainable consumption and production, with all countries taking action

The review identified specific objectives in connection to the SDG 12.1 in only 7 ASEM Partner countries, namely Denmark, Germany, Japan, Sweden, Switzerland, Lao PDR, and Pakistan (see Table 5).

22 Statistics Sweden. (2017). *Statistical follow-up of the 2030 Agenda for Sustainable development - Executive summary.* Retrieved from *scb.se:* https://www.scb.se/contentassets/cc84f7debf404250a146e1204ea589b0/mi1303_2017a01_br_x41br1701eng.pdf

TABLE 5
SDG 12.1 targets identified in ASEM Partner countries

Belgium	Become a designated Fair-Trade Country by 2020
Denmark	Promote sustainable development and the development of the private sector in developing countries
Germany	For the market share of goods independently verified by sustainability labelling schemes to reach 34% by 2030
Sweden	Recognising that the *"greenhouse gas emissions associated with the imports from other countries are higher than the domestic emissions and are not declining"*[22], and focus on reducing the carbon footprint from private consumption of food and transportation
Switzerland	As an international goal: promote the green economy by helping to develop harmonised international rules, including the 10-year Framework Programme on SCP
Japan	Provide further contribution to the Framework Programme
Lao PDR	Ensure the necessary conditions for the national implementation of the Framework Programme, by creating the necessary mechanisms for implementation
Pakistan	Enhance the capacity of relevant institutions for Sustainable Cities planning and management to integrate SCP Principles

12.2: Sustainable management and efficient use of natural resources

In relation to SDG 12.2, this review identified objectives, many of which were quantified and time-bound targets, in 40 ASEM Partner countries. Main topics concerned general resource-efficiency (including energy, water, and land use) as well as material productivity.

Overall, resource-efficiency and material-intensity were primarily considered in European ASEM Partner countries. Several of the Asian ASEM Partner countries defined objectives related to overall resource-efficiency, but these were often not translated to quantified targets (e.g. Cambodia, Japan, and New Zealand). Identified quantified targets for increased resource-efficiency are presented below in Table 6.

TABLE 6
Quantitative and time-bound resource efficiency targets set by ASEM Partner countries

Austria	Improve the overall resource-efficiency by 50 % by 2020 compared to 2008
Estonia	Increase material productivity (the ratio of GDP to local raw materials) by at least 10% by 2019
France	Improve overall resource consumption by 30% by 2030 compared to 2010
Hungary	Decrease material-intensity (DMC/GDP) to 80% by 2020 from 2007
Latvia	Increase resource productivity above 1.55 by 2030
Netherlands	Diminish material losses by 50% to 5 million tonnes within ten years
Portugal	Raise resource productivity to 1.17 by 2020 and 1.72 by 2030
Slovenia	Increase material productivity from 1.79 PPP/kg in 2015 to 3.5 PPP/kg by 2030
Thailand	Decrease the intensity of resource use by 10% by 2026 and 15% by 2036
Viet Nam	Increase the contribution of the green sector, environmental industry sector, and waste recycle sector to GDP up to 42-45%

Besides the issues strictly focusing on SDG 12.2, targets established in connection to other SDGs were also considered relevant to sustainable and efficient resource use. These included SDG 6 (Water management), SDG 7 (Energy), SDG 11 (Cities), SDG 13 (Climate change), and SDG 15 (Life on land).

Water efficiency or saving targets were identified in connection to agricultural, industrial, and household use, particularly in Asian ASEM Partner countries[23]. Besides energy efficiency improvements, targets related to the reduction of greenhouse gas (GHG) emissions and the increased use of renewable energy sources were also noted in connection with the sustainable and efficient use of resources. Many of the European ASEM Partner countries adopted the EU 2020 targets on climate change and energy[24] as national targets. Set in 2007 by the EU 2020 climate and energy package, the EU aimed for a 20% cut in GHG emissions (from 1990 levels), 20% of EU energy from renewables, and a 20% improvement in energy efficiency by 2020. GHG emissions reduction and renewable energy targets were also identified in 10 Asian ASEM Partner countries[25]. In 6 countries, the review identified SCP targets in connection with mobility or transportation[26], and, in 5 countries, with nature protection and land use[27].

23 China, Kazakhstan, Pakistan, Russian Federation, Singapore, Thailand

24 European Commission. (2018a). *2020 climate & energy package.* Retrieved from **ec.europa.eu: https://ec.europa.eu/clima/policies/strategies/2020_en**

25 China, India, Indonesia, Kazakhstan, Korea, Malaysia, Myanmar, New Zealand, Philippines, Russian Federation

26 Hungary, Indonesia, Republic of Korea, Malaysia, Pakistan

27 In Slovenia, a maximum land use target for agricultural production was established. Denmark aimed for the protection of biodiversity and halting biodiversity losses, Cambodia for the introduction of payment for ecosystem services by 2020 and Malaysia and Mongolia (eco-tourism improvements)

12.3: Halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses by 2030

Targets in connection with 12.3 were identified in 18 ASEM Partner countries, aiming to support organic agricultural production, increase resource productivity and the use of sustainable biomass, promote recycled organic materials, minimise food waste, and increase food recycling as well as encourage research and technology development to support these objectives. Considering its global footprint, Switzerland established an international goal for this SDG target aimed at *"reducing food losses in developing countries, especially along the entire value chain, improving the capacity of smallholder farmers and supporting governments in establishing appropriate regulations"*[28].

In 7 of these ASEM Partner countries, this review identified quantified targets (see Table 7).

TABLE 7
Quantified and time-bound SDG 12.3 targets in ASEM Partner countries

Belgium	Wallonia: reduce food waste by 30% at all levels of the food chain from 2015 to 2025; Flanders: reduce 15% farm-to-fork waste in the food chain from 2015 to 2020; Brussels Capital region: reduce food waste production by 30% by 2020
Luxembourg	Achieve 100% organic agricultural production by 2050
Austria, Norway	Reduce food waste by 50% by 2030
China	Increase irrigation efficiency by up to 0.53 and fertiliser use efficiency by 1%
Myanmar	Divert the food waste from landfills by 15% by 2020, 35% by 2025, and 60% by 2030
Thailand	Reduce losses throughout the food production chain by 5% each year from 2020 to 2036 and reduce food waste by 2021

12.4: Environmentally sound management of chemicals and all wastes throughout their life cycle

Half of ASEM Partner countries had objectives and targets related to topics of the SDG 12.4. Targets concerning the management of chemicals were mainly identified in connection with building and transportation emissions in European ASEM Partner countries and agricultural or industrial production in Asian ASEM Partner countries. 8 Partner countries defined broader objectives aimed at the systemic elimination of toxic materials from the environment[29]. Quantified and time-bound targets were also identified in 8 ASEM Partner countries. Examples of these are included below in Table 8.

28 Swiss Confederation. (2018). *Switzerland implements the 2030 Agenda for Sustainable Development.* Retrieved from sustainabledevelopment.un.org: https://sustainabledevelopment.un.org/content/documents/20152Country_Report_Switzerland_2018_web.pdf

29 Denmark, Sweden, Switzerland, Cambodia, Japan, Lao PDR, Malaysia, Philippines

TABLE 8
Quantitative and time-bound targets set by ASEM Partner countries in connection with SDG 12.4

Malta	Construct carbon neutral buildings by 2020
Netherlands	Achieve 100% renewable (recycled and bio-based) plastics by 2050
Poland	Develop electromobility targets regarding the number of vehicles and charging stations
Sweden	Have 25% of all passenger transport be pedestrian traffic, cycling, and public transport by 2025
China	Reduce chemical oxygen demand by 10%, sulphur dioxide by 15%, ammonia nitrogen by 10%, and nitrogen oxide by 15% from 2015-2020
Kazakhstan	Increase storage of residual MSW volumes at environmentally friendly and sanitary landfills to 100% by 2050
Myanmar	Mandate separate collection and sound treatment of hazardous waste, including infection medical waste from the non-hazardous waste in major cities by 50% by 2025 and 100% by 2030
Thailand	Properly manage all hazardous industrial waste by 2021, and 85% of infectious waste by 2017 and 100% by 2020

In addition, qualitative objectives aiming to promote relevant implementation support measures appeared in 4 country documents (see Table 9).

TABLE 9
Objectives related to implementation measures supporting SDG 12.4

Finland	Develop various tax and policy instruments to terminate fossil fuel use in private cars by 2040
Ireland	Phase out environmentally harmful subsidies by 2020
Lao PDR	Create a national environmental database for the monitoring and analysis of polluted waste, chemicals and toxic and hazardous substances, air pollution, noise pollution, and wastewater
Pakistan	Develop the necessary policy, legislative and institutional measures for integrated waste management and spread best practices and efficient waste management technologies

12.5: Substantially reduce waste generation through prevention, reduction, recycling, and reuse

Almost all ASEM Partner countries defined relevant targets related to waste prevention.

Most of the EU ASEM Partner countries referenced the relevant EU targets in connection with SDG 12.5. Among its 2020 targets, the EU aims at a 50% recycling rate for household waste materials and a 70% recycling rate of construction and demolition materials[30]. Moreover, in 2018, the EU adopted the Circular Economy Package, which included even more ambitious common targets for recycling (65% of municipal waste by 2030 and 75% of packaging waste by 2030) and reductions in the landfill to a maximum of 10% of municipal waste by 2035[31]. In addition, some of these EU ASEM Partner countries established even higher targets for recycling and set specific targets for household waste reduction (see Tables 10 and 11).

30 European Commission. (2016b). *Waste Framework Directive*. Retrieved from ec.europa.eu: http://ec.europa.eu/environment/waste/framework/targets.htm

31 European Commission. (2018b). *Circular Economy.* Retrieved from ec.europa.eu: http://ec.europa.eu/environment/circular-economy/index_en.htm

TABLE 10
Ambitious recycling targets set by European ASEM Partner countries

France	Attain 100% recycling rate and 100% separate collection of organic waste by 2025
Germany	Achieve 85% recycling rate for packaging waste by 2030
Portugal	Reach 68% recycling target rate by 2020 and 86% by 2030
Netherlands	Aspire to a zero-waste economy target by 2050, aiming to only use sustainably produced, renewable, and generally available raw materials

TABLE 11
Household waste reduction targets in European ASEM Partner countries

France	Reduce to 10% by 2020 compared to 2010
Ireland	Reach 1% annually
Netherlands	Obtain maximum of 100 kg of residual household waste per inhabitant per year by 2020

10 Asian ASEM Partner countries also defined recycling targets, although these were more diverse (see Table 12). Another 7 Asian Partner countries defined more general objectives, aiming to establish a sound material-cycle society[32] and reduce the harmful effects of waste[33], introduce a recycling system[34], and apply improved waste management technologies[35].

32 Japan

33 New Zealand

34 Cambodia, Lao PDR, Russian Federation

35 Mongolia, Pakistan

TABLE 12
Quantified targets related to waste prevention, reduction, recycling, and reuse in Asian ASEM Partner countries

Australia	Have 100% of packaging reusable, recyclable or compostable by 2025, and 80% of waste generated from TVs, computers, printers, and computer products recycled by 2034-35
Brunei Darussalam	Achieve a national recycling rate of 15% by 2020
India	Eliminate all single-use plastic in the country by 2022
Kazakhstan	Reach 95% sanitary utilisation of waste by 2030 and 40% of recycled waste by 2030 and 50% by 2050
Malaysia	Attain 22% recycling rate for solid waste by 2020 and 50% by 2030, and phase out of landfilling by 2030
Myanmar	Separate collection and set waste recycling targets for industrial, medical and other wastes: 15% by 2020, 35% by 2025, and 60% by 2030
Philippines	Acquire 80% solid waste diversion rate by 2022
Singapore	Reach 70% national recycling rate by 2030
Thailand	Achieve 50% industrial waste recycling rate by 2025 and overall recycling rate not less than 30% by 2021
Viet Nam	Reduce unfriendly environmental bags in supermarkets and shopping malls by 65%, and at traditional markets by 50% Recycle 90% of scraps of plastic bag, paper, oil, iron and steel Have 85% urban solid waste recycled, reused, or produce energy or organic fertiliser; 50% of construction solid waste generated from urban areas collected for reusing or recycling; and 75% non-hazardous industrial solid waste collected for reusing and recycling

12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

Almost half of ASEM Partner countries established objectives targeting businesses' involvement in circular economy activities. Many of these objectives (identified in 13 Partner countries) were qualitative, aiming at providing companies and SMEs with information, capacity-building, or financial and technological support for adopting green industrial practices and technologies[36].

2 European ASEM Partner countries also mentioned international/global responsibilities towards companies in developing countries[37]. Quantitative targets were only identified in 10 ASEM Partner countries and were quite diverse (see Table 13).

36 Denmark, Finland, Netherlands, Romania, Sweden, Switzerland, Cambodia, Japan, Malaysia, Myanmar, Pakistan, Russian Federation

37 Denmark, Switzerland

TABLE 13
Quantitative targets related to SDG 12.6 in ASEM Partner countries

France	Create 300,000 new jobs
Hungary	Increase in employment in environmental industry by 200% from 2007 to 2020; and increase in public and private expenditures for environmental research and innovation by 200% from 2007
Germany	Increase the number of companies with EMAS eco-management schemes (5000 organisations by 2030)
Latvia	Increase in manufacturing value added (40% by 2020)
United Kingdom	Support businesses to improve their energy productivity (by at least 20% by 2030)
China	Increase the number of circular/eco-industrial parks: 50% of all national industrial parks in China
Republic of Korea	Establish 300 Eco-Industrial Park (EIP) networks by 2019
Mongolia	Increase the processing of raw materials such as leather, wool, and cashmere to 60% by 2020 and 80% by 2030 (based on green technologies)
Thailand	Certify 4 industrial estates as ecological industry towns each year by 2021; disclose information on social responsibility or sustainability for companies listed in the Stock Exchange and create sustainable business values by 2021
Viet Nam	Increase the percentage of enterprises applying clean technology and sustainable technology (reach 60-70% in intensive energy consumption and environmental pollution sectors, and 50% in the manufacturing and the distribution sector by 2020)

12.7: Promote public procurement practices that are sustainable, in accordance with national policies and priorities

Objectives related to public procurement choices promoting circular economy development were set in 20 ASEM Partner countries. Of these 20, 15 countries set objectives as quantified and time-bound targets[38]. The targeted share of sustainable or green public procurement varied, with 3 countries already having 100% targets. Set country targets also varied depending on the product group[39] or the type of responsible government body[40]. Other relevant targets included annual reduction in the amount of GHG emissions from procurement procedures[41] and achieving the highest sustainability building ratings for all existing public sector buildings[42]. An overview of the identified public procurement targets is presented in Table 14 (next page).

38 Belgium by 2020, Thailand by 2021, and Malaysia by 2030

39 Slovenia, Spain

40 Slovakia, Thailand

41 United Kingdom, Thailand

42 Singapore

TABLE 14
SDG 12.7 targets for sustainable public procurement in ASEM Partner countries

Belgium	Achieve 100% sustainable public procurement by 2020
Denmark	Reach 50% of GPP as referred to in the GPP communication
Germany	Set mandatory targets for all authorities at federal level to use life-cycle costing in their procurement procedures to ensure energy-efficient and environment-friendly public procurement
Lithuania	Establish 35% green public procurement contracts of all public contracts for goods, services and works, for the purchase of which core (mandatory) and comprehensive (advisable) environmental criteria in 2015
Poland	Attain 20% of green public procurement by the end of 2016
Slovakia	Reach 65% of green public procurement at central government level by the end of 2015, and 50% of green public procurement for regional and local level by the end of 2015
Slovenia	Have 10% of food be ecological, 50% of electricity come from renewable sources, and 100% of computers be the most energy-efficient
Spain	Reach green purchasing between 25% and 100% depending on the product group and implementation phase
United Kingdom	Reduce carbon emissions by 30% by 2020-2021 for the wider public sector (voluntary public sector target)
Bangladesh	Have public procurement rules conform to sustainable procurement by 2020; 10% of all public procurement sustainable by 2025; and all priority public procurement sustainable by 2030
Malaysia	Increase green procurement from 2016 to 2030; with a target of 20% by 2020; 50% by 2025; and up to 100% by 2030
Mongolia	Allocate 20% of the public procurements for purchasing of environmentally sound, effective, and resource efficient goods, works and services.
Singapore	Attain the Green Mark GoldPlus/Green Mark Gold rating for all existing public sector buildings with more than 10,000/5,000 m2 air-conditioned floor area by 2020
Thailand	Increase procurement of products and services that are environmentally friendly by 100% by 2021 among government agencies, local governments and public enterprises Decrease amount of greenhouse gas emissions from procurement by 5% per year

Additional objectives aiming to support the implementation of sustainable procurement objectives included awareness-raising and capacity-building activities[43], legal framework development, and best practices identification[44].

12.8: Ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

While the analysis concluded that the issue of education for sustainable development and lifestyles was considered by most ASEM Partner countries, concrete targets were identified to a lesser extent in only 15 ASEM Partner countries. Examples for such objectives include introducing education systems and research policies that support sustainable development or circular economy objectives[45] and strengthening or establishing labelling schemes and other consumer information systems[46]. Quantitative targets were only identified in 2 ASEM Partner countries (see Table 15 on the next page).

43 Romania, Pakistan

44 Viet Nam

45 Finland, Japan, Lao PDR, Malaysia, Myanmar, Pakistan

46 Norway, Romania, Switzerland, China, Thailand, Viet Nam

TABLE 15
Quantitative targets related to 12.8 identified in ASEM Partner countries

Singapore	Have 5,000 Green Volunteers and 2,000 ha of area with community clean-up programs by 2030
Thailand	Increase green labelled products by 25% by 2025 and 50% by 2036

3.3. SDG 12 indicators in ASEM Partner countries

Besides setting SDG 12-related targets, ASEM Partner countries have introduced national indicators to measure progress towards the set targets. This section provides an overview of the status of SDG 12 monitoring in ASEM Partner countries, including a detailed review for each of the SDG 12 targets.

This review found that over 80% of all ASEM Partner countries have introduced indicators relevant to SDG 12 targets and have foreseen their monitoring. Countries also recognised the potential importance of developing a comprehensive SCP indicator set. In its national action plan for SCP, Viet Nam set indicator development as one of the main implementation tasks and designated the Ministry of Industry and Trade to be in charge of developing and monitoring these indicators[47]. The Netherlands noted that SCP indicators (and thus their further development and regular measurement) is considered an important tool to promote circular economy[48].

In order to support transparency in reporting, some countries made information on SDG indicators available online. For instance, the Philippines presented the list of initially available SDG indicators in 2016[49], and the United Kingdom introduced an online platform for SDG indicators, presenting results or, if not available, the implementation status of each SDG indicator.

3.3.1. Review of national indicators

Out of 51 ASEM Partner countries, this review identified country efforts to measure SCP-relevant national indicators in 45 ASEM Partner countries (28 European and 17 Asian). Furthermore, the review found evidence for regular monitoring activities targeting the measurement of these indicators in 30 of these countries.

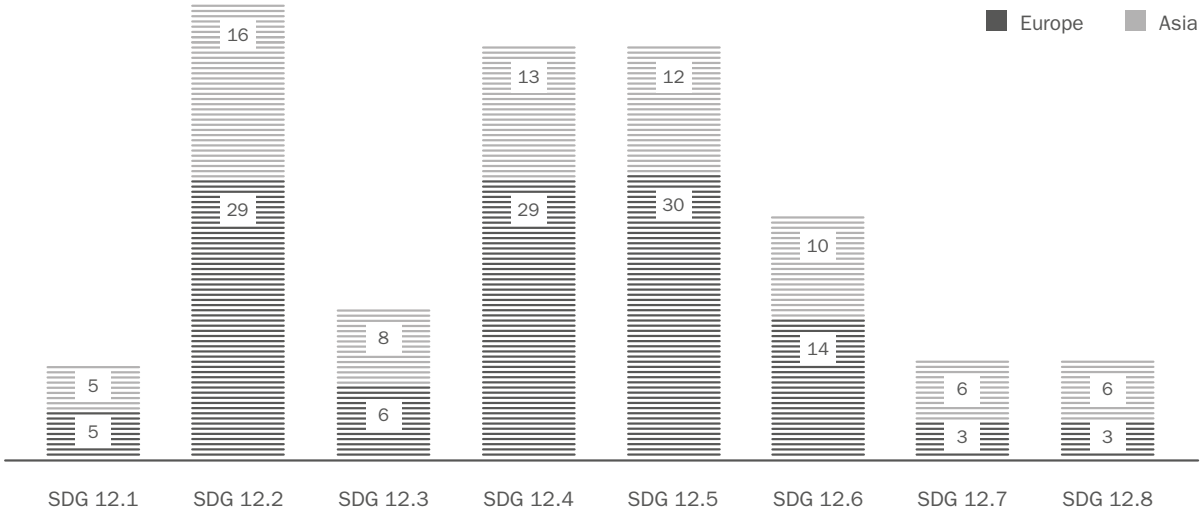
Among ASEM Partner countries, SDG 12-related indicators were identified most frequently in connection with SDGs 12.2, 12.4, and 12.5 (in 45, 42 and 42 countries respectively). Around half of these ASEM Partner countries also had indicators related to SDGs 12.4 and 12.6. The following section provides an overview of the identified indicators for each of the 8 SDG 12 targets and insights on related monitoring activities (see Figure 6 on the next page).

47 National Action Plan on Sustainable Production and Consumption until 2020 and Vision to 2030. URL: http://www.switch-asia.eu/fileadmin/user_upload/RPSC/country-level-work/National_Action_Plan_on_Sustainable_Production_and_Consumption_up_to_2020__with_a_vision_to_203

48 Directorate-General for Environment, European Commission. (2017). *The EU Environmental Implementation Review Country Report - THE NETHERLANDS.* Retrieved from ec.europa.eu: http://ec.europa.eu/environment/eir/pdf/report_nl_en.pdf

49 Philippines Statistics Authority. (2017). *List of Philippine SDG indicators for initial monitoring - The Philippine SDGs.* Retrieved from psa.gov.ph: https://psa.gov.ph/content/list-philippine-sdg-indicators-initial-monitoring-philippine-sdgs

FIGURE 6
Number of ASEM Partner countries with identified SCP indicators for the different SDG12 targets



12.1: Implementation of the 10-year framework of programmes on SCP, with all countries taking action

In order to measure progress towards the implementation of the 10-year framework of programmes on SCP, the IAEG-SDGs Indicators introduced a global indicator to measure the *"number of countries with SCP national action plans or SCP mainstreamed as a priority or a target into national policies"*[50]. This review identified similar indicators in 5 ASEM Partner countries, although with variations in interpretation:

Number of legislations and other programmes supporting sustainable development established and implemented	**Cambodia**
Formulation of national SCP framework and integration of SCP with national/state planning process	**Bangladesh, India**
Number of SCP integrated revised policies/strategies/action plans	**Pakistan**
Plans/programmes/policies/accounting systems that integrate the value of biodiversity (biodiversity spending proxy)	**Italy**

Besides these indicators, 4 ASEM Partner countries also introduced indicators to measure the country's international contribution to the promotion of SCP principles in developing countries. Proposed or monitored indicators included:

Sales of selected fair-trade products	**Austria**
Mobilisation of total and private capital for sustainable development objectives through the national business platform	**Denmark**
The market share of goods independently verified by sustainability labelling schemes	**Germany**
Consumption-based greenhouse gas emissions (considering the carbon footprint of imported goods)	**Sweden**
Number of specific projects implemented in developing countries	**Japan**

50 See the proposed global indicators for SDG 12 targets at **https://sustainabledevelopment.un.org/sdg12**

12.2: Sustainable management and efficient use of natural resources

The IAEG-SDGs recommended 2 indicators to monitor progress towards target 12.2: material footprint, and domestic material consumption (DMC). This review concluded that many ASEM Partner countries have already introduced the DMC and DMC/GDP (resource productivity) indicators. This was particularly the case in Europe since the EU requires member states to submit data for this indicator annually, as one of the headline indicators of the EU 2020 strategy[51]. Among the Asian ASEM Partner countries, there was evidence that 4 countries[52] introduced this indicator. The material footprint indicator was only identified in 4 European ASEM Partner countries[53]. To fulfil global responsibilities, Switzerland also proposed this indicator aimed at measuring the material footprint of imports specifically.

Besides the proposed global indicators, various additional measures were introduced or planned to be added for monitoring progress towards more efficient and sustainable use of natural resources. These were most frequently energy-related indicators, but indicators measuring the use of water, forest, and land resources also appeared, and nature conservation indicators were also considered as potentially relevant.

51 Eurostat. (2011). *Resource Efficiency Indicators.* Retrieved from **ec.europa.eu: https://ec.europa.eu/eurostat/web/environmental-data-centre-on-natural-resources/resource-efficiency-indicators**

52 China, Indonesia, Japan, Thailand

53 Czech Republic, Sweden, Switzerland, United Kingdom

12.3: Halve per capita global food waste at retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

Energy intensity and efficiency	**EU countries, China, Indonesia, Kazakhstan, Republic of Korea, Malaysia, Philippines, Singapore**
Share of renewable energy in final energy consumption	**EU countries, Kazakhstan, Malaysia, Mongolia, Philippines**
GHG emissions indicators	**EU countries, China, Indonesia, Malaysia, Philippines**
Forest balance indicator	**Finland**
Water intensity or water resource productivity	**Hungary, China, Singapore**
% of areas covered by the total area	**Italy**
Conservation status for habitat nature and species	**Denmark**
Number of nature tourism sites	**Lao PDR**
Ecological footprint national or sectoral	**Slovenia, Cambodia, Pakistan**

The IAEG-SDGs introduced the global food loss index to measure progress towards this target, but several additional indicators were identified in ASEM Partner countries that can measure national progress towards selected aspects of this target throughout the food production or consumption cycle. This review found that while Asian ASEM Partner countries were more likely to consider losses throughout the entirety of the food chain, European ASEM Partner countries mainly focused on consumption aspects, measuring the generated food waste. Identified indicators include (see next page):

National food loss index	**India, Japan, Pakistan, Thailand**
Generated food waste (total and per capita)	**Netherlands, Spain, Australia, Malaysia, Thailand**
City food and kitchen waste recycling rate	**China**
Comprehensive utilisation rate of crop straw	**China**
Actual (produce) recycling rate by industry	**Japan**
Production amount of eco-feed made by using domestic materials, mainly food residues	**Japan**
Percentage of consumers who are aware of food losses and waste and working to reduce them	**Japan**
Percentage of organic farming practices	**EU countries, Indonesia, Pakistan**

12.4: Environmentally sound management of chemicals and all wastes throughout their life cycle

The global indicator proposed for this target by the IAEG-SDGs, hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment, has been monitored by European ASEM Partner countries (in line with EU's requirements[54]) since 2004, and evidence for the monitoring of this indicator was found in 4 Asian ASEM Partner countries[55].

Other potentially relevant indicators were also noted in relation to the release of chemicals to the environment (primarily air pollution but also water and soil emissions).

54 Eurostat. (2018). *Waste generation and treatment* . Retrieved from ec.europa.eu: https://ec.europa.eu/eurostat/cache/metadata/en/env_wasgt_esms.htm

55 Indonesia, Malaysia, Philippines, Thailand

Chemical use per GDP	**Sweden**
Major pollutants emissions and percentage reductions and emissions Sox, Nox, methane and ammonia by source sector	**Austria, China, Indonesia, Japan**
Carbon footprint of consumption	**Finland, Sweden**
Carbon emissions from passenger cars	**Finland, Latvia**
Share of renewable energy in fuel consumption of transport	**Bulgaria**

Besides quantitative indicators, output indicators were also introduced, aiming to track the progress of the implementation of plans, programmes, and specific measures. These included indicators monitoring:

The number of subsidies harmful to the environment/GDP	**Italy**
The development of national policies and action plans for the sound management of hazardous chemical and waste	**India**
The introduction of water quality guidelines for priority water bodies	**Philippines**
The implementation of environmental surveys and monitoring	**Japan**
The inclusion of waste criteria in the national Public Procurement Policies	**Malaysia**

12.5: Substantially reduce waste generation through prevention, reduction, recycling, and reuse

As with target 12.4, European ASEM Partner countries are also required by EU requirements to monitor waste generation and recycling rates for municipal waste, packaging waste, and e-waste. Relevant indicators were identified in 12 Asian ASEM Partner countries[56].

While the identified indicators for European ASEM Partner countries showed strong convergence, 5 Asian ASEM Partner countries also introduced additional indicators besides trend indicators in waste generation and treatment (including recycling rates for municipal waste, plastics, and e-waste).

56 Australia, China, Japan, Kazakhstan, Republic of Korea, Lao PDR, Malaysia, Mongolia, Pakistan, Philippines, Singapore, Thailand

Recycling rate of general industrial solid waste	**China, Thailand**
Resource recycling industry output value	**China**
Number of demonstration projects implemented to increase the efficiency and level of resource recycling	**Japan**
Number of districts that have completed preliminary assessments for Green and Clean Towns	**Lao PDR**
Number of factories established to reduce the amount of waste in landfills	**Mongolia**

12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

This review identified indicators relevant to this target in approximately half of ASEM Partner countries (24 countries). 7 of these countries introduced the SDG 12.6 indicator recommended by the IAEG-SDGs, concerning the number of companies publishing sustainability reports[57]. More frequently, however, countries took a broader approach measuring other aspects as well as assessing implementation support to companies. For instance, the number of enterprises introducing an environmental management system, a sustainable production process of some kind, attaining building certifications or signing voluntary agreements were identified in 10 ASEM Partner countries.

57 Netherlands, Sweden, United Kingdom, India, Japan, Malaysia, Thailand

The percentage of revenue from environmental taxes	**EU countries (as Eurostat requirement)**
The number of enterprises with environmental management systems	**Czech Republic, Germany, Indonesia**
The number of enterprises with sustainable production processes	**Denmark, Cambodia, Malaysia, Mongolia**
The number of enterprises with green building certification	**Singapore, Thailand**
Number of companies signing voluntary agreements	**Malaysia**
Amount of funding or technical support provided to companies for green/circular economy solutions	**Finland, France, Hungary**
R&D spending on environmental solutions	**Czech Republic, France, Hungary**
Employment in the environmental industry	**Hungary**
Environment-related/Green patterns	**Hungary**
Export income from environmental industry	**Hungary**

Ecolabel licenses	**Italy, Indonesia**
Material consumption/Ecological footprint of industries	**Cambodia, Pakistan**
Percentage of small-scale industries with a loan or line of credit to promote SCP	**Pakistan**
Number and type of industries following green procurement system based on quality compliance and standard rating scale of the product	**Pakistan**

12.7: Promote public procurement practices that are sustainable, in accordance with national policies and priorities

20 ASEM Partner countries, particularly in Europe, set concrete sustainable public procurement targets to support progress towards the achievement of this target (see relevant sub-section of chapter 3.2.2). This suggests that the percentage of sustainable public procurement rates are being or will be measured in these countries. However, limited evidence was found in the studied documents for existing monitoring indicators (only in 9 ASEM Partner countries). Examples of (introduced or planned) indicators measuring the percentage or amount of sustainable public purchases include:

The amount or percentage of green/sustainable public purchases	**Italy, Japan**
Number of studies undertaken to review and streamline public procurement regulations with sustainability objectives, including SCP	**Pakistan**
Number of programmes developed for awareness-raising about sustainable procurement among government bodies	**Pakistan**
Number of government units procuring environmentally friendly services and products	**Slovakia, Thailand**
Greenhouse gas emissions from public consumption expenditure	**Sweden, Thailand**
Number of projects that completed IEE and/or EIA	**Lao PDR**
Number of public sector buildings with sustainability rating	**Japan**

12.8: Ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

The IAEG-SDGs proposed 2 indicators to measure progress towards this target, aimed at assessing the extent to which (1) global citizenship education, and (2) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment. Since these indicators were classified by the IAEG-SDGs as Tier 3 and, thus, have no internationally developed and approved methodology for measurement, there was very limited information on whether and how ASEM Partner countries plan to introduce these indicators. This review found that only 5 ASEM Partner countries[58] planned to measure the indicators.

At the same time, this review also identified several other indicators which were introduced by ASEM Partner countries to track progress of education and awareness-raising activities of sustainable development and sustainable lifestyles. These included:

58 Sweden, United Kingdom, Cambodia, Malaysia, Pakistan

PISA score for scientific skills of Dutch young people	**Netherlands**
Organic product purchases, vigilance criteria for food purchases in %, and weekly consumption of meat and disposition to consume less	**France**
Increase in the number of educational and media materials and programmes that have been provided to educators and learners	**Cambodia**
Curricula and number of school programs on biodiversity	**Cambodia**
Development and distribution of dissemination/information materials	**India, Japan**
Campaigns, awareness-raising events	**India, Malaysia**
Number of hits on SCP portal, featured articles on the SCP portal and level of responses	**Malaysia**
Number of Green Volunteers	**Singapore**
Area of bright spots – areas with community clean-up programmes	**Singapore**

3.4. Institutional framework established for implementing circular economy/sustainable consumption and production

According to information available in country documents, responsibilities to implement circular economy development / SCP policies were often designated to the ministries focusing on environmental or sustainable development issues in European ASEM Partner countries. In Asian ASEM Partner countries, it was more frequent that various institutions shared the responsibility for the implementation of these activities. Given the complexity and cross-cutting nature of this issue, both regions recognised the need for higher-level coordination (see Table 16).

TABLE 16
Identified SCP coordination bodies in various ASEM Partner countries

Ireland	Various departments are responsible for the implementation of different SDG 12 issues, but a Consultative Committee on the Green Economy was established to identify challenges and opportunities for implementation
Luxembourg	A committee with specific focus on circular economy was created under the governance of the Secretaries of State for economic and environmental affairs
Romania	Set up a coordination body at the Prime Minister's Office to map existing policies, provide inputs to the development of a national SCP plan, and to engage with relevant stakeholders (VNR, 2018)
Cambodia	National Council on Green Growth (NCGG) and a General Secretariat for Green Growth (GSGG)
China	State Council is responsible for a coordination mechanism of circular economy development
Malaysia	National SCP Steering Committee was created to coordinate the implementation efforts of various ministries
Thailand	Taskforce for SDG 12 was established under the Steering Committee on Natural Resources and Environment for the Implementation of Sustainable Development Goals. It is led by the Ministry of Natural Resources and Environment

A special office for SCP implementation was created in some ASEM Partner countries. For example, in Slovenia, after adoption of a framework programme for transition to a green economy in 2015, an interdepartmental working group was created to coordinate implementation. Greece also intends to establish an Executive Secretariat for the Circular Economy and National Observatory to track its progress towards SCP. Some ASEM Partner countries also highlighted the importance of the involvement of regional and local governments in the implementation of SCP issues (e.g. Germany, the Netherlands, Slovakia, Australia, China, Republic of Korea, and New Zealand) as well as the effective coordination needs between different government levels.

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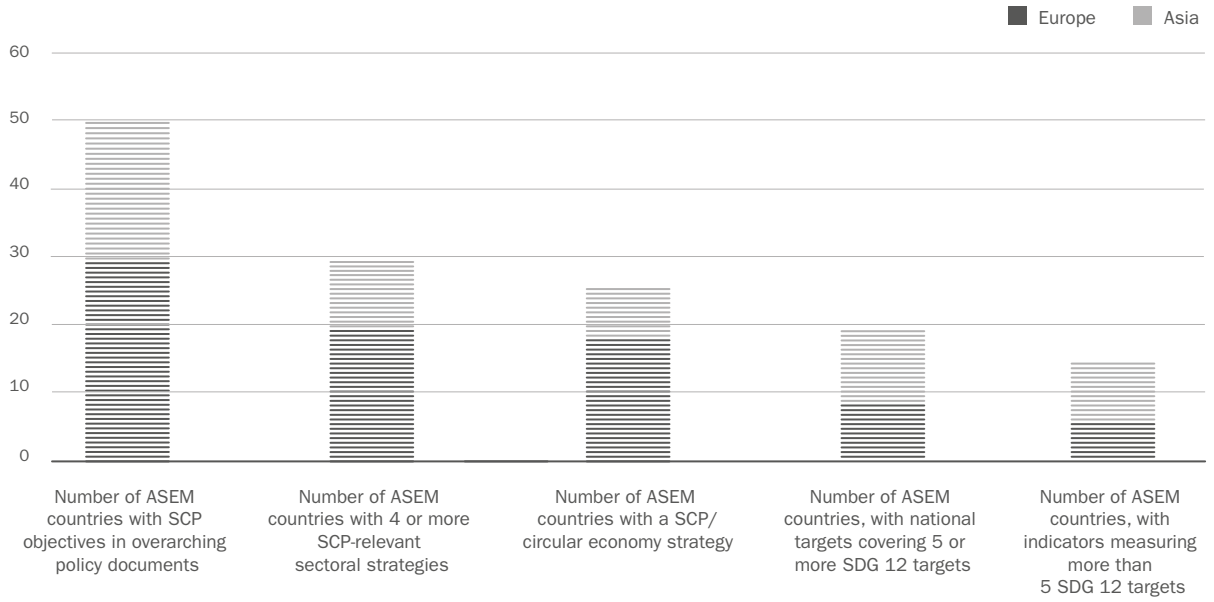
Summary of findings

In order to provide an overview of the ASEM-wide implementation experience with SDG 12, this background paper aimed to assess the extent to which SDG 12 and the concept of circular economy/SCP appear in overarching national policy documents and sectoral policies of ASEM Partner countries, to identify SCP-focused strategies and plans, and to map national targets and indicators related to SDG 12 targets.

FIGURE 7
Overview of SCP-related policies, targets and indicators in ASEM Partner countries



Related to circular economy development, the review identified various SDG 12-related goals in overarching policy documents in almost all 51 ASEM Partner countries. These documents were either sustainable development strategies, offering a long-term vision for sustainability, or overarching national development plans.

Circular economy/SCP objectives were also identified in various sectoral strategy and policy documents, mainly in connection with waste management, environmental/ nature protection, environmental technology and eco-innovation, and green economy/green growth. However, these strategies were not necessarily well-connected to each other, resulting in potential fragmentation with regards to SCP objectives. Moreover, in most cases, they did not cover the full spectrum of relevant SCP issues.

In addition to overarching strategy documents and relevant sectoral policies and plans, half of the ASEM Partner countries also introduced targeted circular economy/SCP strategies. These strategies were relatively new, generally developed after 2015, and aimed to offer a comprehensive approach towards circular economy development by setting targets and measures related to a wide range of SCP policy areas.

Targets relevant to SDG 12 could be identified in all ASEM Partner countries. By analysing the relevant national policy documents, this review concluded that a majority of ASEM Partner countries set specific targets related to resource and waste management (SDGs 12.2, 12.4, and 12.5), business involvement in SCP activities (SDG 12.6), and public procurement (SDG 12.7). However, most ASEM Partner countries only considered 3 to 4 of the 8 SDG 12 targets, failing to set national targets for all relevant aspects of circular economy development (especially if only quantitative targets were considered).

Over 80% of all ASEM Partner countries (44 countries) introduced indicators for measuring progress towards different SDG 12 targets (especially related to waste management (SDGs 12.4 and 12.5), and natural resource consumptions (SDG 12.2)). Approximately half of ASEM Partner countries had indicators related to public procurement (SDG 12.6). Meanwhile, it was not always possible to identify direct linkages between the targets set and the indicators introduced. In many cases, quantitative targets were set, but no evidence was found for the existence of an underlying indicator or its regular monitoring. In other cases, relevant SCP indicators were measured, but no related target could be identified.

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Annexes

Annex 1A: Integration of circular economy/SCP objectives in national development strategies

	Name of the relevant document	Year	
Austria	Austrian Strategy for Sustainable Development	2002 (2010)	
Belgium	National Sustainable Development Strategy	2017	
Bulgaria	National Development Programme 2014-2020	2014	
Croatia	Strategy for Sustainable Development of the Republic of Croatia	2009	
Cyprus	Sustainable Development Strategy of Cyprus	2007	
Czech Republic	Czech Agenda 2030	2017	
Denmark	SDG Action Plan	2017	
Estonia	Estonian Sustainable Development Strategy Sustainable Estonia 21 – Estonia 2020 National Reform Programme	2005 2011*	
Finland	The Finland We Want by 2050 – Society's Commitment to Sustainable Development	2013 (2016)	
France	National Strategy of Ecological Transition Towards Sustainable Development 2015-2020	2014	
Germany	Sustainable Development Strategy	2017	
Greece	National Growth Strategy	2018	*Not available online*
Hungary	National Framework Strategy for Sustainable Development (2012-2024)	2013	
Ireland	Our Sustainable Future – The framework for sustainable development	2012	
Italy	National Sustainable Development Strategy 2017-2030	2017	
Latvia	Sustainable Development Strategy for Latvia until 2030 National Development Plan until 2020	2010 2012	
Lithuania	National Strategy for Sustainable Development Lithuania's Progress Strategy – Lithuania 2030	2011 2013	
Luxembourg	National Plan for sustainable development National plan for smart, sustainable and inclusive growth 2015-2020	2010 2013	
Malta	National Reform Programme	2011*	
Netherlands	N/A		
Norway	Norway Sustainable Development Strategy	2002	
Poland	Strategy for Responsible Development	2017	
Portugal	National Reform Plan		
Romania	National Sustainable Development Strategy 2013-2020-2030	2008	

	Name of Relevant Document	Year	
Slovakia	Government manifesto	2016	
Slovenia	Slovenian Development Strategy 2030	2017	
Spain	Spanish Sustainable Development Strategy	2007	
Sweden	Sustainable Development Strategy SDG implementation action plan	2003 2018	
Switzerland	Sustainable Development Strategy 2016-2019	2016	
United Kingdom	National Planning Policy Framework	2018	
Australia	N/A		
Bangladesh	7th Five Year Plan 2016-2020	2016	
Brunei Darussalam	10th National Development Plan 2012-2017	2012	
Cambodia	National Strategic Development Plan 2014-2018	2014	
China	13th Five-Year Plan 2015-2020	2015	
India	Three-Year Action Agenda 2017-2018 to 2019-2020	2017	
Indonesia	National Medium-Term Development Plan (RPJMN) 2015-2019	2015	
Japan	The SDGs Implementation Guiding Principles	2016	
Kazakhstan	Strategy Kazakhstan 2050	2012	
Republic of Korea	The Third Basic Plan for Sustainable Development 2016-2035	2016	*Not available online*
Lao PDR	8th Five-Year Socio-Economic Development Plan (NSEDP) 2016-2020	2016	
Malaysia	11th Malaysia Plan 2016-2020	2016	
Mongolia	Sustainable Development Vision 2030	2016	
Myanmar	Myanmar Sustainable Development Plan	Draft	
New Zealand	Growing and Protecting New Zealand	2017	
Pakistan	Vision 2025	2014	
Philippines	Philippines Development Plan 2017-2022	2017	
Russian Federation	Presidential Decree on national objectives and strategic tasks of Russian Federation's development in the period up to 2024	2018	
Singapore	Sustainable Singapore Blueprint	2009	
Thailand	20-Year National Strategy Framework 12th National Economic and Social Development Plan 2017-2021	2017	
Viet Nam	National Strategy for Sustainable Development 2011-2020 The 5-Year Socio-Economic Development Plan (SEDP)	2011 2016	

**updated annually*

Annex 1B: Identified circular economy/SCP objectives in national development strategies

	Name of Relevant Document	Year	Objectives Related to SDG 12 Targets
Austria	Austrian Strategy for Sustainable Development	2002 (2010)	Key Objective 1 – A Sustainable Life-style Key Objective 6 – Innovative Structures Promote Competitiveness Key Objective 10 – Strengthening Sustainable Products and Services
Belgium	National Sustainable Development Strategy	2017	Under the objective of Planet: All natural resources, raw materials, water, air, soil, and space – including the allocation of this space to energy – will be managed sustainably. The consumption of non-renewable raw materials will be significantly reduced and will only take place if there is no reasonably feasible alternative. Renewable raw materials will be produced and used with care not to jeopardise their availability for future generations, including the generalisation of a circular economy model. We will avoid food losses, stimulate short circuits and local origin of raw materials (SDGs 9 and 12)
Bulgaria	National Development Programme 2014-2020	2014	Goal 3: Enhancing the competitiveness of the economy by ensuring a favourable business environment, promotion of investments, application of innovative solutions, and improving resource efficiency
Croatia	Strategy for Sustainable Development of the Republic of Croatia	2009	Objective 3: Achieve balanced and stable economic growth which would have less impact on further environmental degradation and waste generation than it has now. Growth must be followed by a change in unsustainable behaviour patterns in households and in both public and private sectors
Cyprus	Sustainable Development Strategy of Cyprus	2007	SCP is defined as one of the strategic objectives
Czech Republic	Czech Agenda 2030	2017	Development Vision: The economy of the Czech Republic is purposefully reducing its material and energy intensity. Economic institutions deliver long-term growth in the economy, built on entrepreneurship, innovation, people's creativity and abilities, higher value-added industries, a circular economy, low-carbon technologies, robotics and digitisation, and rely on a robust and quality infrastructure
Denmark	SDG Action Plan	2017	Priority 3: Environment and climate Objective 24: Promote circular economy, including better (re) use of resources and waste prevention
Estonia	Estonian Sustainable Development Strategy Sustainable Estonia 21 – Estonia 2020 National Reform Programme	2005 2011*	In the SDS: The fourth priority is ecological stability - but a review considering the SDGs is foreseen) In the NDP: One of the priorities is to reduce the resource and energy intensity of the economy
Finland	The Finland We Want by 2050 – Society's Commitment to Sustainable Development	2013 (2016)	Objective 5: Consumption that accounts for the limited carrying capacity of nature. We will reduce the consumption of natural resources to a sustainable and globally fair level by the year 2050. To achieve this objective, we will increase resource efficiency and promote the recycling of non-renewable resources and the utilisation of closed material loops. We will focus on encouraging both consumers and companies to reduce their ecological footprints. We will make it as easy and cost-effective as possible for consumers to make consumption choices that conserve natural resources in housing, transport, and food. We will strengthen attitudes that value sustainable choices in our operations. We will support lifestyles based on non-material consumption and services that sustain such lifestyles
France	National Strategy of Ecological Transition Towards Sustainable Development 2015-2020	2014	Axis 2: Engage in a circular and low-carbon economy
Germany	Sustainable Development Strategy	2017	Sustainable consumption: Making consumption environmentally and socially compatible Sustainable production: Increasing the proportion of sustainable production
Hungary	National Framework Strategy for Sustainable Development 2012-2024	2013	The main goals set in the environmental resources section aim to increase biodiversity, protect renewable natural resources, and ensure the reasonable and responsible management of non-renewable resources
Ireland	Our Sustainable Future – The framework for sustainable development	2012	SCP is one of the implementation areas

Follows on the next page >>

	Name of Relevant Document	Year	Objectives Related to SDG 12 Targets
Italy	National Sustainable Development Strategy 2017-2030	2017	Affirm sustainable models of production and consumption: 1. Dematerialising the economy, improving the efficiency of the use of resources, and promoting circular economy mechanisms 2. Promoting environmental taxation 3. Ensuring fair access to financial resources 4. Promoting social and environmental responsibility in companies and administrations 5. Cutting down waste production, eliminating landfilling, and promoting the secondary raw materials market 6. Promoting demand and increasing the supply of sustainable tourism 7. Ensuring the sustainability of agriculture and forestry along the entire supply chain 8. Ensuring the sustainability of aquaculture and fisheries along the entire supply chain 9. Promoting Italian excellence
Latvia	Sustainable Development Strategy for Latvia until 2030 National Development Plan until 2020	2010 2012	The NSDS 2030 and NDP2020 do not define a conceptual framework for a circular economy but it covers some SCP aspects In the Sustainable Development Strategy for Latvia until 2030 (from 2010), one of the priorities is "nature as future capital" (protection, promotion, and sustainable use of ecosystem services) The NDP 2020 (from 2015) has a goal for environmental quality improvement and waste reduction
Lithuania	National Strategy for Sustainable Development Lithuania's Progress Strategy – Lithuania 2030	2011 2013	National Sustainable Development Plan 2011: In the face of the growth of total consumption of products and services, to make sure that the growth does not worsen the environmental quality, giving preference to environment-friendly services and products that are produced and used with the smallest amount of energy and other natural resources, without toxic substances, and which have the lowest possible impact on the environment throughout the life-cycle Lithuania's Progress Strategy Lithuania 2030: Smart economy - economy that is flexible and able to compete globally [openness], generating high added value, based on knowledge, innovations entrepreneurship [creativity], and social responsibility as well as green growth [responsibility]
Luxembourg	National Plan for sustainable development National plan for smart, sustainable and inclusive growth 2015-2020	2010 2013	National Plan for sustainable development: 1. Protection of biological diversity, conservation, and sustainable management of natural resources 2. Sustainable consumption and production National plan for smart, sustainable, and inclusive growth is focusing on green growth
Malta*	National Reform Programme	2011	Malta will seek to contribute towards circular economy and sustainability agendas
Norway	Norway Sustainable Development Strategy	2002	Long-term natural resource management: Non-renewable resources such as minerals, oil, and natural gas must be utilised as efficiently as possible. We must step up the use of renewable resources in order to relieve the pressure on the natural resource base. The utilisation of water, soil, and biological resources must be kept within the limits of their capacity for renewal. Resources should be managed for the benefit of the present population and for future generations
Poland	Strategy for Responsible Development	2017	The 2030 Agenda and the Sustainable Development Goals are strongly reflected in the Polish development policy. They were included in the vision of development formulated in the Strategy for Responsible Development (SRD), adopted by the Council of Ministers in February 2017. (VNR 2018) SCP is reflected in priority 1
Portugal*	National Reform Plan	2015 2020	National Reform Plan 2015-2020 (the main answer to the current economic challenges, the development of a circular economy in all sectors of activity, with the immediate aim of rational management of resources with particular attention to material resources, energy, water, and land use, making a clear link between environmental performance and socio-economic backgrounds)
Romania	National Sustainable Development Strategy 2013-2020-2030	2008	National objective: To ensure efficient administration and optimal valorisation of resources, by promoting a model of consumption and production that can sustain economic growth in the long run superior to the EU-27 average
Slovakia*	Government manifesto	2016	Government will primarily concentrate on creating conditions enabling a transition to a competitive circular economy by means of a targeted support to implement existing and develop innovative economic instruments. It will actively encourage focusing on an entire life-cycle of products and services with an emphasis on a rational and effective utilisation of resources, product design, sustainable production and consumption, and their further utilisation
Slovenia	Slovenian Development Strategy 2030	2017	Priority 8: Low carbon/circular economy Priority 9: Sustainable resource management

	Name of Relevant Document	Year	Objectives Related to SDG 12 Targets
Spain	Spanish Sustainable Development Strategy	2007	SCP is the first theme under the environmental sustainability theme
Sweden*	Sustainable Development Strategy	2003	The Swedish Environmental Objectives aims to guide environmental action at every level in society to bring about a clean, healthy environment. It focuses on environmental efforts on recovery of ecosystems, conserving biodiversity and the natural and cultural environment, good human health, efficient materials cycles free from dangerous substances, sustainable use of natural resources, efficient energy use, and patterns of consumption
Switzerland	Sustainable Development Strategy 2016-2019	2016	Action Area 1: Consumption and production
United Kingdom	National Planning Policy Framework	2018	Environmental objective: To protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy
Bangladesh*	7th Five Year Plan 2016-2020	2016	In terms of industrial waste; management of toxic & hazardous wastes; agrochemicals management; e-waste; reducing the water footprint of the textile sector
Brunei Darussalam*	10th National Development Plan 2012-2017	2012	In terms of environmentally-friendly infrastructure, technology and services; environmental impact assessment for infrastructure development
Cambodia	National Strategic Development Plan 2014-2018	2014	Cross-cutting objective: Environment, natural resources, and green growth
China	13th Five-Year Plan 2015-2020	2015	The Plan places heavy weight on green development, with 10 out of 25 priority targets related to the environment. All 10 targets are binding and among a total of 13 that must be achieved by 2020
India	Three-Year Action Agenda 2017-2018 to 2019-2020	2017	Environment and Forests Sustainable Management of Water Resources
Indonesia	National Medium-Term Development Plan (RPJMN) 2015-2019	2015	Inclusive and sustainable growth, increasing value added of natural resources with the sustainable approach, increasing quality of the environment, disaster mitigation, and tackling climate change
Japan	The SDGs Implementation Guiding Principles	2016	4: Sustainable and resilient land use, promoting quality infrastructure creating resilient land and promoting disaster risk reduction/water resource development, and measures on water circulation/promoting quality infrastructure investment 5: Energy conservation, renewable energy, climate change counter measures, and sound material-cycle society. Introduction and promotion of renewable energy/measures against climate change establishing recycling-based society
Kazakhstan*	Strategy Kazakhstan 2050	2012	Addressing the challenge of natural resources exhaustion: Transforming our natural resources into sustainable economic growth that delivers maximum efficiency
Republic of Korea	The Third Basic Plan for Sustainable Development 2016-2035	2016	Improve sustainability of economic and industrial structure (including SCP and circular economy objectives)
Lao PDR	8th Five-Year Socio-Economic Development Plan (NSEDP) 2016-2020	2016	Ensure sustainable development with harmonisation among the economic development and socio-cultural development and environmental protection
Malaysia	11th Malaysia Plan 2016-2020	2016	One of the 4 focus areas aims at adopting the sustainable consumption and production concept in Malaysia, including the creation of green markets, increasing the share of renewables, promoting low carbon mobility, and holistic waste management
Mongolia	Sustainable Development Vision 2030	2016	Preserve ecological balance and to be placed among first 30 countries on the rankings of the countries by the Green Economy Index in the world
Myanmar	Myanmar Sustainable Development Plan	Draft	5: Natural Resources & the Environment for National Prosperity
New Zealand	Growing and Protecting New Zealand	2017	New Zealand's natural resources are sustainable, in the primary sector. The primary industries are the largest user of New Zealand's natural resources, and MPI is an important regulator and advisor on their sustainable use
Pakistan	Vision 2025	2014	Pillar IV: Water, Energy and Food Security (resource efficiency)
Philippines	Philippines Development Plan 2017-2022	2017	Specific development objectives related to the promotion of sustainable consumption and production including the development of a sustainable market for recycling, a certification system for green products and services, the deployment of eco-friendly technologies, and the intensification of renewable energy sources in the energy mix

	Name of Relevant Document	Year	Objectives Related to SDG 12 Targets
Russian Federation*	Presidential Decree On national objectives and strategic tasks of Russian Federation's development in the period up to 2024	2018	Effective management of industrial and consumer waste Creation of comprehensive system of solid household waste management, including elimination of dump sites and re-cultivation of lands where it was situated, creation of conditions for recycling of all industrial and consumer waste, disposal of which are prohibited
Singapore	Sustainable Singapore Blueprint	2009	A leading green economy: Our businesses will adopt greener practices, our city will be a hub for the cutting-edge business of sustainable development, and Singaporeans can enjoy jobs in this exciting and meaningful sector. We will create Living Labs to test-bed ideas that improve lives and are good for the environment
Thailand	20-Year National Strategy Framework 12th National Economic and Social Development Plan 2017-2021	2017	Strategy for strengthening the economy, and underpinning sustainable competitiveness Strategy for environmentally-friendly growth for sustainable development
Viet Nam	National Strategy for Sustainable Development 2011-2020 The 5-year Socio-Economic Development Plan (SEDP)	2011 2016	To ensure macro-economic stability, especially macro indexes; to firmly maintain food security, energy security, and financial security. To transform the growth model into harmoniously deep and wide development; to gradually carry out green growth, low-carbon economic development; to economically and effectively use all resources

**General SCP considerations without specific objectives/goals*

Annex 2: Sectoral strategies with relevant elements to SDG 12

	WASTE	NATURE/ENVIRONMENT	CLIMATE/ENERGY	CHEMICALS	ECO-INNOVATION	GREEN ECONOMY	RESOURCE EFFICIENCY	AGRICULTURE	PROCUREMENT
Austria	x	x	x		x		x		x
Belgium	x				x				
Bulgaria	x								
Croatia	x	x	x		x				x
Cyprus	x					x			x
Czech Republic	x								
Denmark	x								
Estonia	x				x				
Finland	x				x		x		x
France	x		x			x			x
Germany	x						x	x	x
Greece	x				x				x
Hungary	x	x	x		x			x	x
Ireland	x		x	x	x			x	
Italy	x	x	x					x	x
Latvia	x	x			x				x
Lithuania	x	x			x				x
Luxembourg	x					x			
Malta	x	x			x	x		x	
Netherlands	x						x	x	x
Norway	x					x			x
Poland	x				x			x	x
Portugal	x					x	x		x
Romania	x					x		x	x
Slovakia	x		x		x				x
Slovenia	x	x	x		x	x			x
Spain	x		x		x				x
Sweden		x	x	x					x
Switzerland					x	x			x
United Kingdom	x		x		x			x	x
Australia	x			x				x	
Bangladesh	x	x	x	x	x		x	x	x
Brunei Darussalam	x			x					
Cambodia		x			x	x		x	
China			x	x	x		x		
India	x	x	x					x	
Indonesia	x	x	x						
Japan	x	x		x			x	x	
Kazakhstan	x		x			x			
Republic of Korea	x	x	x			x	x		
Lao PDR						x			
Malaysia	x	x		x	x				
Mongolia		x	x			x			
Myanmar	x	x	x						
New Zealand	x		x	x		x	x		
Pakistan									
Philippines	x	x	x	x					x
Russian Federation		x	x						
Singapore	x	x		x	x				
Thailand	x	x	x		x	x		x	x
Viet Nam	x	x	x	x	x	x			

Annex 3: Identified targets set in connection with SDG 12

	12.1	12.2.	12.3	12.4	12.5	12.6	12.7	12.8
Austria		xx						
Belgium			xx				xx	
Bulgaria					xx			
Croatia					xx			
Cyprus					xx			
Czech Republic					xx			
Denmark	x	xx		x	x	x	xx	
Estonia		xx			xx			
Finland		x	x	x	xx	x	x	x
France		xx			xx	xx	xx	
Germany					xx	xx	xx	
Greece			x		xx			
Hungary		xx			xx	xx		
Ireland		xx		x	xx			
Italy		xx			xx			
Latvia		xx			xx	xx		
Lithuania					xx		xx	
Luxembourg		xx	xx		xx			
Malta		xx		xx				
Netherlands		xx	x	xx	xx	x		
Norway		x	xx	x	x			x
Poland		xx		xx	xx		xx	
Portugal		xx		xx	xx			
Romania		x			xx	x	x	x
Slovakia		xx			xx		xx	
Slovenia		xx			xx		xx	
Spain		xx			xx		xx	
Sweden	x	x		x	xx	x	x	
Switzerland	x	x	x	x	x	x	x	x
United Kingdom		x	x	x	x	x	xx	
Australia			xx		xx			
Bangladesh							xx	
Brunei Darussalam					xx			
Cambodia		x	x	x	x	x		x
China		xx	xx	xx		xx		x
India		xx			xx			
Indonesia		xx						
Japan	x	x	x	x	x	x	x	x
Kazakhstan		xx		xx	xx			
Republic of Korea		xx				xx		
Lao PDR	x			x	x			x
Malaysia		xx	x	x	xx	x	xx	x
Mongolia		xx	x	x	x	xx	xx	x
Myanmar		x	xx	xx	xx	x		xx
New Zealand		xx			x			
Pakistan	x	x	x	x	x	x	x	x
Philippines		xx		x	xx			
Russian Federation		xx		x	x	x		
Singapore		xx			xx	xx	xx	xx
Thailand		xx	xx	xx	xx	xx	xx	xx
Viet Nam		xx	x		xx	xx	x	x

X – objectives or only qualitative targets; XX – quantitative targets

Asia-Europe Environment Forum (ENVforum)

Annex 4: Identified indicators introduced in connection with SDG 12

	12.1	12.2.	12.3	12.4	12.5	12.6	12.7	12.8
Austria	x	x		x	x	x		x
Belgium		x		x	x			
Bulgaria		x		x	x			
Croatia		x		x	x	x		
Cyprus		x		x	x			
Czech Republic		x		x	x	x		
Denmark	x	x		x	x	x		x
Estonia		x		x	x			
Finland		x		x	x	x		
France		x	x	x	x	x		
Germany	x	x		x	x	x		x
Greece		x		x	x			
Hungary		x		x	x	x		
Ireland		x		x	x			
Italy	x	x		x	x	x	x	x
Latvia		x		x	x	x		
Lithuania		x	x	x	x			
Luxembourg		x		x	x			
Malta		x		x	x			
Netherlands		x	x	x	x	x		
Norway		x		x	x			
Poland		x		x	x			
Portugal		x		x	x	x		
Romania				x	x			
Slovakia		x		x	x		x	
Slovenia		x		x	x			
Spain		x	x	x	x			
Sweden	x	x	x	x	x	x	x	x
Switzerland		x	x		x			
United Kingdom		x		x	x	x		
Australia			x		x			
Bangladesh	x	x		x				x
Brunei Darussalam								
Cambodia	x	x		x		x		x
China		x	x	x	x	x		
India	x	x	x	x		x	x	x
Indonesia		x	x	x		x		
Japan	x	x	x	x	x	x	x	x
Kazakhstan		x		x	x			
Republic of Korea		x		x	x			
Lao PDR		x			x		x	
Malaysia		x	x	x	x	x		
Mongolia		x		x	x	x		
Myanmar								
New Zealand		x						
Pakistan	x	x	x	x	x	x	x	x
Philippines		x		x	x			
Russian Federation								
Singapore		x			x	x	x	
Thailand		x	x	x	x	x	x	
Viet Nam								

Annex 5: List of SDG 12 targets & indicators

12.1
Implement the 10-year framework of programmes on sustainable consumption and production, with all countries taking action and developed countries taking the lead, taking into account the development and capabilities of developing countries.

12.1.1: Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies.

12.2
By 2030, achieve the sustainable management and efficient use of natural resources.

12.2.1: Material footprint, material footprint per capita, and material footprint per GDP.

12.2.2: Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP.

12.3
By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.

12.3.1: Global food loss index.

12.4
By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water, and soil in order to minimise their adverse impacts on human health and the environment.

12.4.1: Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement.

12.4.2: Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment.

12.5
By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse.

12.5.1: National recycling rate, tons of material recycled.

12.6
Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

12.6.1: Number of companies publishing sustainability reports.

12.7
Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

12.7.1: Number of countries implementing sustainable public procurement policies and action plans.

12.8
By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.

12.8.1: Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment.

12.A
Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production.

12.A.1: Amount of support to developing countries on research and development for sustainable consumption and production and environmentally sound technologies.

12.B
Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.

12.B.1: Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools.

12.C
Rationalise inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimising the possible adverse impacts on their development in a manner that protects the poor and the affected communities.

12.C.1: Number of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels.

The Asia-Europe Foundation (ASEF) promotes understanding, strengthens relationships and facilitates cooperation among the people, institutions and organisations of Asia and Europe. ASEF enhances dialogue, enables exchanges and encourages collaboration across the thematic areas of culture, education, governance, economy, sustainable development, public health and media.

ASEF is an intergovernmental not-for-profit organisation located in Singapore. Founded in 1997, it is the only institution of the Asia-Europe Meeting (ASEM).

ASEF runs more than 25 projects a year, consisting of around 100 activities, mainly conferences, seminars, workshops, lectures, publications, and online platforms, together with about 150 partner organisations. Each year over 3,000 Asians and Europeans participate in ASEF's activities, and much wider audiences are reached through its various events, networks and web-portals.

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ASEM SMEs Eco-Innovation Center (ASEIC) was established in 2011 with the principal mandate of promoting Asia-Europe cooperation to create and enhance eco-innovation of small and medium-sized enterprises (SMEs) in both regions. Having agreed upon the importance of SMEs as the main engine of innovation and growth, ASEM member countries have joined together to create ASEIC as an international platform where growing environmental regulations and eco-innovative technologies are shared, and new business opportunities are created, and ultimately implementing the vision of green growth around the globe.

For more information, please visit *www.aseic.org*

Established in 1998, the Institute for Global Environmental Strategies (IGES) is an independent, not-for-profit think tank, based in Japan. It goes beyond research to provide practical ways to protect the earth's environment and to realise greater sustainability and equity in the global community. While the outlook of IGES is global, the principal geographical scope of its activities is Asia and the Pacific region, an area which is experiencing rapid economic development and which will affect the global environment through its population growth, urban environmental problems and other environmental issues.

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ASIA-EUROPE FOUNDATION

Asia-Europe Foundation (ASEF)

31 Heng Mui Keng Terrace
Singapore 119595

T: +65 6874 9700
E: info@asef.org

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www.ASEF.org