
BUILDING CIRCULARITY INTO ECONOMIES THROUGH SUSTAINABLE PROCUREMENT



Copyright © United Nations Environment Programme, 2018

This publication may be reproduced in whole or in part and in any form for educational or non-profit purposes without special permission from the copyright holder, provided acknowledgement of the source is made. The United Nations Environment Programme would appreciate receiving a copy of any publication that uses this publication as a source.

No use of this publication may be made for resale or for any other commercial purpose whatsoever without prior permission in writing from the United Nations Environment Programme.

Disclaimer

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the United Nations Environment Programme concerning the legal status of any country, territory, city or area of its authorities, or concerning delimitation of its frontiers or boundaries. Moreover, the views expressed do not necessarily represent the decision or the stated policy of the United Nations Environment Programme, nor does citing of trade names or commercial processes constitute endorsement.

UN Environment promotes environmentally sound practices globally and in its own activities. This publication is printed on 100% recycled paper, using vegetable-based inks and other eco-friendly practices. Our distribution policy aims to reduce UN Environment's carbon footprint.

**BUILDING
CIRCULARITY
INTO OUR
ECONOMIES
THROUGH
SUSTAINABLE
PROCUREMENT**

ACKNOWLEDGEMENTS

Authors: Claire Thiebault, Elisa Tonda

The authors would like to thank Sandra Averous-Monnery, Joy Kim, Beatriz Martins Carneiro, Llorenç Milà i Canals for their inputs, as well as Antonia Gawel from the World Economic Forum for her constructive comments.

The United Nations Environment Programme also acknowledges the following reviewers for their valuable feedback: Gauthier Boels (Yara International ASA), Liesbeth Casier (International Institute for Sustainable Development), Kevin Funk (US General Services Administration), Mervyn Jones (Sustainable Global Resources Ltd.), Jan Raes, Chyralene Sanajong, Erwin van Baar (ABN AMRO), Aurélien Susnjara (Ellen MacArthur Foundation), Massimiano Tellini, Stefano Martini, Silvia Mozzi, Flavio Visone (Intesa Sanpaolo Innovation Center), Cuno van Geet (Rijkswaterstaat), Peter Zhou (Huawei Technologies Co. Ltd.)

The document has been created as a contribution – and in close collaboration with the Platform for Accelerating the Circular Economy (PACE).



Design and layout: Jessica Hyne

Citation: United Nations Environment Programme (2018), Building circularity into our economies through sustainable procurement.

Image credits:

Cover Photo - Sugrit Jiranarak/Shutterstock
p.13 - Bernard Hermant/Unsplash
p.17 - Skitterphoto/Pixabay
p.18 - Mimzy/Pixabay
p.19 - Tirachard Kumtanom/Pexels
p.20 - Public Domain Pictures/17914 Images/Pixabay
p.29 - Aleksejs Bergmanis/Pexels

TABLE OF CONTENTS

1. The power of institutional purchasing.....	2
2. Embedding circularity in sustainable procurement	5
3. Good practices of sustainable procurement.....	16
4. Lessons learned and recommendations.....	21
5. Drivers to advance the inclusion of circularity in procurement practices at a global level.....	23
6. Conclusions.....	28
7. Endnotes	31
8. Further reading	34

THE POWER OF INSTITUTIONAL PURCHASING

Public procurement yields enormous purchasing power, accounting for an average of 12 per cent of gross domestic product (GDP) in countries of the Organisation for Economic Co-operation and Development (OECD), and up to 30 per cent of GDP in many developing countries.¹ Leveraging this purchasing power by buying more sustainable goods and services can help drive markets in the direction of sustainability, reduce the negative impacts of an organization and produce positive benefits for the environment and society. The OECD Public Procurement Recommendation² refers to public procurement as the cornerstone of strategic governance as it contributes to achieving policy goals including environmental protection, innovation, job creation and the development of small and medium-sized enterprises. Other organisations have also acknowledged the critical role of the procurement function and built up the international momentum on sustainable procurement including: the World Bank which embedded sustainable procurement within its 2016 Procurement Framework,³ the revised Agreement on Government Procurement⁴ of the World Trade Organization which entered into force in 2014 and the 2014 EU Public Procurement Directive⁵ that recognises public procurement as one of the market-based instruments to achieve smart, sustainable and inclusive growth.

Sustainable procurement
is now widely recognized
as a strategic lever to drive
innovation.

The UN Sustainable Development Goals have reiterated the strong link between environmental protection, sustainable development and public procurement. In fact, one of the targets under the Sustainable Development Goal 12 on sustainable consumption and production patterns focuses specifically on the promotion of “public procurement practices that are sustainable, in accordance with national policies and priorities”.⁶ The advancement of sustainable public procurement is thus recognized as being a key strategic component of the global efforts towards achieving more sustainable consumption and production patterns.

The United Nations Environment Programme published in June 2017 its flagship report, the *2017 Global Review of Sustainable Public Procurement*⁷ (herein referred to as the *2017 Global Review*) that examines the state of sustainable public procurement policies and practices undertaken by national governments worldwide in the last five years. According to the *2017 Global Review*, sustainable public procurement practices are becoming more widespread in all regions with more and more interesting examples to share and leverage. The report also demonstrates an evolution in focus, with sustainable public procurement practices, predominantly focusing on energy conservation, resource efficiency and climate change mitigation in 2013 towards a broader approach that also uses procurement policies to encourage social inclusion and equity.

Sustainable procurement is now widely recognized as a strategic lever to drive innovation. New methods, tools and innovative approaches to sustainable public procurement are emerging and driving change, such as shared supplier platforms and scorecards, market engagement to promote innovation, e-procurement and impact sourcing.

Sustainable procurement practices are not limited to national and local government agencies. The private sector and NGOs are also showing global leadership in this area. In so doing, they are seeking to reduce their organizations’ risks, encourage sustainability in their value chain and, in some cases, reduce costs. By incorporating sustainability requirements

into the sourcing process, such as in supplier evaluation and specifications, private organizations convey a strong market signal, which can in turn drive down the cost of sustainable products and services. **The combination of public and private sector demand for sustainable products and services can help scale the market for these products and services.**

This document has been developed as part of the United Nations Environment Programme work on sustainable consumption and production and continuous engagement with building circularity into our economies. It has been created as a contribution to – and in close collaboration with the Platform for Accelerating the Circular Economy (PACE), a project accelerator and convening mechanism dedicated to decoupling resource use from economic growth. PACE is chaired by the heads of the United Nations Environment Programme, the Global Environment Facility and Philips. The Ellen MacArthur Foundation, the International Resource Panel, Circle Economy and Accenture Strategy are knowledge partners. It is currently hosted by the World Economic Forum.

This document aims to introduce the role that sustainable procurement can play to accelerate the transition to a circular economy and the shift towards more sustainable patterns of consumption and production, based on the work conducted by the United Nations Environment Programme in this field and on the experience documented by partners and governments. The document intends to inform dialogues on how best to bring more circularity in our economies at global level; **it is addressed to both public procurers and policy makers, as well as corporate buyers and business leaders.**

EMBEDDING CIRCULARITY IN SUSTAINABLE PROCUREMENT

UNDERSTANDING SUSTAINABLE PROCUREMENT AND CIRCULAR PROCUREMENT

The United Nations Environment Programme defines sustainable public procurement as a "process whereby public organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life-cycle basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst significantly reducing negative impacts on the environment".⁸

A series of definitions of circular procurement have been developed by governments such as the Netherlands, the Nordic countries and institutions including the European Commission and ICLEI - Local Governments for Sustainability. One commonality that emerged is that the concept of circular procurement is understood as being a part of and contributing to the wider notion of sustainable procurement. In those definitions, circular procurement focuses on closing energy and material loops within supply

Circular procurement focuses on closing energy and material loops within supply chains.

chains and helps value retention along the entire value chains, i.e. by remanufacturing and reusing products and components several times in a circular manner without causing additional harmful impacts.

As such, **circular procurement advances the sustainability goals as it contributes to the enabling conditions of a system which creates value and social well-being while maintaining resources at their highest possible value in the whole lifecycle and ultimately creating an economy which is regenerative.**

OVERVIEW OF SUSTAINABLE PROCUREMENT APPROACHES, TOOLS & SOLUTIONS

Multiple approaches and innovative solutions can help to bring circularity in procurement practices. These solutions can complement each other throughout the procurement cycle and lead to a wider uptake of circularity. They can be structured around two main pillars as described below:

1. Promoting circular supply chains by procuring more circular products, materials and services
2. Promoting new business models based on innovative and resource-efficient solutions

A number of enabling conditions are also critical to building circularity into production and consumption systems and their implications will be further elaborated.

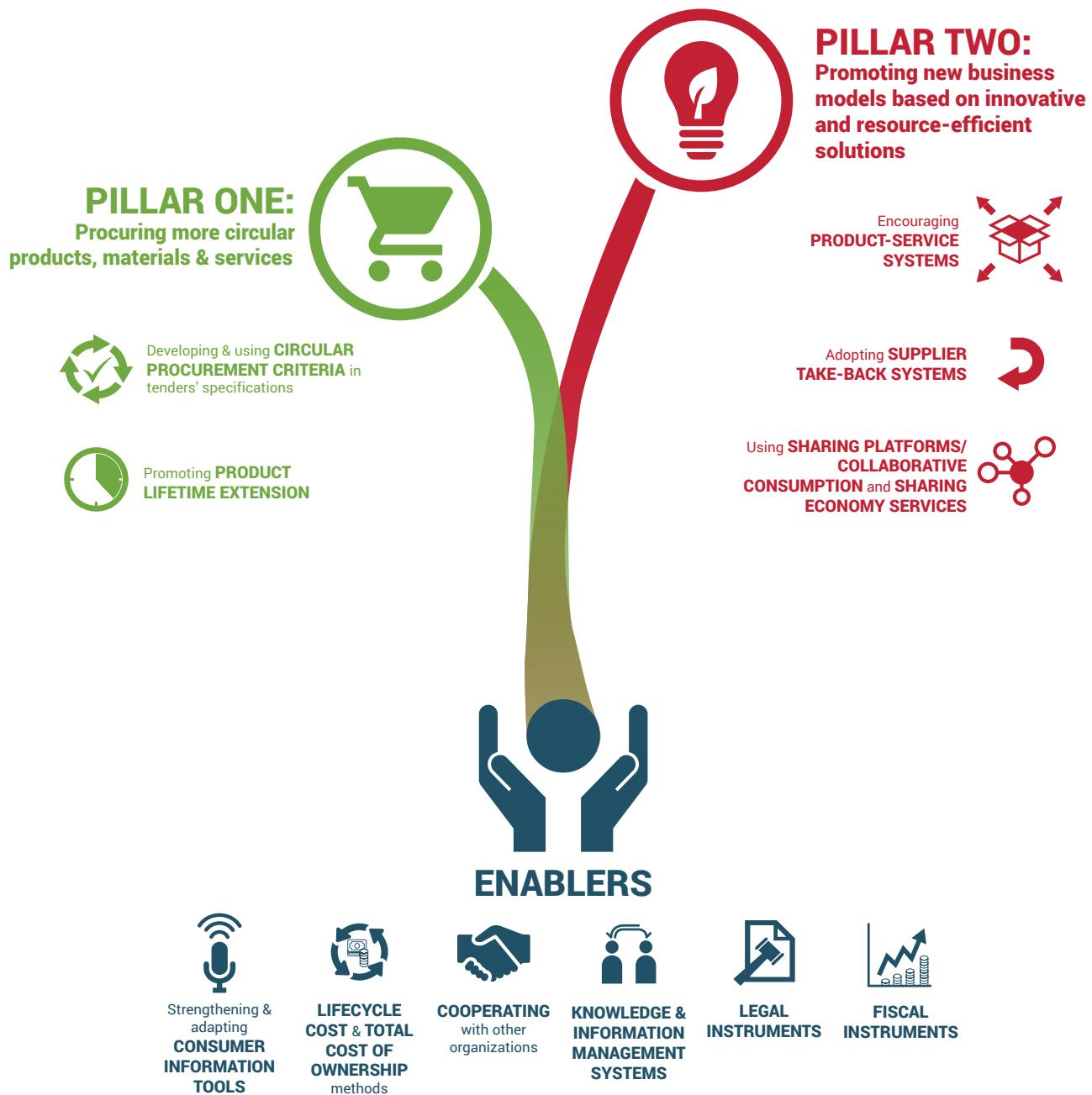


Figure 1. Overview of sustainable procurement approaches, tools and solutions advancing circularity

1

PILLAR ONE

PROMOTING CIRCULAR SUPPLY CHAINS BY PROCURING MORE CIRCULAR PRODUCTS, MATERIALS & SERVICES

Techniques, approaches and solutions which can be applied to embed circularity into supply chains, include the following:



Developing and using “circular” procurement criteria in tenders’ specifications.

Procurement criteria, if combined with one another, can promote the inclusion of circularity as they address, among others, the following aspects:

- **Meet specified resource efficiency levels on a whole lifecycle basis** (e.g. thresholds for the use of fuel or electricity.) A systemic thinking considering both specific needs and the intended usage of the product or service will ensure resource efficiency-based criteria does not undermine the circular potential of such procurement.
- **Recycled content inclusion** (e.g. expectations on the % of recycled fibres in the case of procurement of textiles.)
- **Potential for reparability** (e.g. ease of finding spare parts, maintenance), recyclability and/or the ability to dismantle products after use.
- **Limit and ultimately eliminate the use of hazardous chemicals and/or ensure the non-toxicity of components**, which can hinder high quality recycling.

The above criteria can be coupled with the use of consumer information tools.

Circular procurement criteria shall, however, be designed to ensure they also contribute to overall sustainability objectives. For example, recyclability of a product or of its components should not undermine critical sustainable aspect such as the sound chemicals management and the overall greenhouse gas emissions of the products' manufacturing, use and disposal.

IN ACTION

RECYCLING IN DENMARK⁹

In Lolland, a Danish municipality, recycling and recyclability criteria for packaging have been included in tenders for cleaning services: 75% of material used for bags must be recycled or biodegradable; non-reusable packaging must be easily separated; mono-materials are to be used if possible; only recyclable materials must be used; and use of dark colours must be avoided.



1



Promoting product lifetime extension

Product lifetime extension is the postponement or reversal of the obsolescence of a product through deliberate intervention. Through product lifetime extension, the rate at which (natural) resources are used up and waste produced can be radically reduced. Product lifetime extension can be integrated to procurement practices through the promotion of:¹⁰

- **Re-use.** Products may have a technical lifetime which exceeds the contract requirements. These could be used for a long(er) time, re-used, shared or sold through marketplaces and/or sharing platforms.
- **Repair/refurbish.** Repair options can be included in the tender specifications. For example, refurbishing could be done via the cleaning or/and renewing of the product or its components.
- **Remanufacture.** At the end of their use life, products can be dismantled and renewed by remanufacturing some of their components.
- **Recycle.** Materials can be extracted by components of a product for recycling. For example, collected plastic can be re-melted to new plastic grains which in turn are used to mould new plastic products.

New technologies such as 3D printing can help meet technical requirements and create new promising opportunities for producing on demand and replacing products' components and spare parts, and hence boost circularity of products.¹²

IN ACTION

ENFORCING THE AVAILABILITY OF SPARE PARTS, FRANCE¹¹

Article L111-3 of the French Consumption Law, which came into effect in December 2014, requires that customers be informed about the availability of a product's spare parts. The information needs to contain either a specific period or the end date of availability, and must be delivered by the manufacturer or importer to the vendor and by the vendor to the buyer. In addition, the law specifies that such information must be visible prior to purchase and confirmed in writing after a purchase is made. If needed, the spare parts for a product have to be supplied by the manufacturer to vendors or repair enterprises within two months. This law applies to all products that are placed on the French market since 2015.



PILLAR TWO

PROMOTING NEW BUSINESS MODELS BASED ON INNOVATIVE AND RESOURCE-EFFICIENT SOLUTIONS

A shift from “ownership” to “access to” services is a growing trend that can contribute to decoupling economic growth and human well-being from environmental impacts and the use of finite natural resources. This can be achieved by using and combining the following options within procurement practices:



Encouraging product-service systems

Extensive research has been conducted on product-service systems (PSS) in the framework of a dedicated working group of the Sustainable Public Procurement Programme of the 10-Year Framework of Programmes on Sustainable Consumption and Production (the One Planet Network) led by the United Nations Environment Programme.¹³ Product-service systems are an innovative business approach that shifts the traditional business focus from selling physical products only (e.g. a washing machine) to selling a mix of products and services (e.g. cleaning services) that are jointly capable of meeting specific client demand (clean clothes). The key idea behind product-service systems is that **consumers do not demand products per se, but are seeking the utility provided by products and services.** Encouraging rental and leasing solutions via product-service systems has a strong potential to decoupling consumption from economic growth, as they offer the possibility of meeting more needs with lower material and energy requirements.

IN ACTION

SELLING LIGHT AS A SERVICE¹⁴

Bruynzeel Storage Systems is a manufacturer, advisor and installer that develops space-saving and archiving systems for government, libraries, hospitals and museums. The company wanted better control over their energy use for lighting as well as an end-to-end solution that would give them the ability to maximize recycling in line with their circular economy aspirations. Philips and Turntoo provided end-to-end management and maintenance of the new, budget-neutral lighting system, through the Philips' "Lighting as a service" model. Bruynzeel now has a greater degree of energy efficiency and control over their lighting infrastructure and guaranteed reuse of the maximum number of lighting components. Philips Lighting helped Bruynzeel reduce energy costs by 73% and improved working conditions for employees. The company reduced its carbon footprint by 231 tonnes of CO₂, minimized maintenance, and allowed the company to focus solely on its business.





Adopting supplier take-back systems

Supplier take-back systems can build on the lifetime extension options described above. Contract modalities such as “purchase and buy back” or “purchase and resale agreement” can also encourage closed-loop production and consumption cycles. These models have the potential to lead to significant resource efficiencies, reduce risks, and encourage circularity. In the case of the purchase-buy back model, the supplier buys back the product after the use phase for a specific price – this could be a chair or a computer that is returned to the supplier after use. This encourages refurbishment and remanufacturing. In case of the purchase-resale model, a third party purchases the product from the user and gives the products a second life.



Using sharing platforms/ collaborative consumption and sharing economy services

The use of digital technologies could advance the strategic objective of maximizing the use of underused assets and increase the utilization rate of products by enabling their shared use, access or ownership, and consequently to a lower demand for new products.

It is worthwhile mentioning that sharing platforms may also induce unexpected effects and potential increased environmental impacts. For example, the success of Couchsurfing, and its availability of cheap accommodation options, has led more travellers to choose remote locations for their holidays, thus increasing transport emissions. While it is important to take these into consideration, they should not undermine the potential benefits of collaborative consumption models on circularity.¹⁷

IN ACTION

ABN AMRO AND CIRCULAR PROCUREMENT¹⁵

Dutch bank ABN AMRO serves retail, private and corporate banking clients with a focus on the Netherlands and selective operations internationally. In 2016, the bank promoted 32 circular procurement initiatives in the framework of its participation to the Green Deal Circular Procurement. For example, ABN AMRO worked closely with its suppliers and incorporated a buy-back model in the suppliers’ contracts for computers. All non-useable PCs, laptops and other peripherals are sent back to the suppliers. Some of these are equipped with new operating systems and donated to schools and other charities in the Netherlands. ABN AMRO also requested proposals for preventive and corrective maintenance, including a long-term budget, thus encouraging suppliers to maximize IT equipment’ lifetime through efficient maintenance.



CAR SHARING IN BREMEN, GERMANY¹⁶

The German city of Bremen has made a framework contract with Cambio, the largest car-sharing provider in Bremen, to promote car sharing, thereby contributing to addressing the local pollution problems. The contract framework with Cambio also requires a Blue Angel ecolabel certification and states that no fleet vehicle bought during the term of the contract shall emit more than 230 CO₂/km on standard fuel consumption. Through this solution, the costs of purchasing, insuring, taxing and maintaining the vehicles involved in a car-sharing scheme is distributed among the users. As the use of a car is more intensive when the car is shared, the financial benefits are clear.



ENABLERS

CROSS-CUTTING ENABLERS TO PROMOTE AND FACILITATE CIRCULAR PRODUCTION AND CONSUMPTION SYSTEMS

The wider dissemination of sustainable procurement solutions which incorporate circularity requires the existence of the following enabling conditions:



Strengthening and adapting consumer information tools

The combination of sustainable procurement policies and consumer information tools can help establish a dynamic framework for improving performance of products throughout their lifecycle, and stimulating demand for and supply of products which contribute to circularity by providing accurate details on the products' specifications. Currently, consumer information tools reflect product-specific criteria such as durability requirements, the use of recycled materials and recycling options. But criteria can be updated to reflect circular economy principles more broadly, for example explicit requirements on durability, reparability, availability of spare parts, recyclability of the materials, and components or possibilities for reuse and remanufacturing.

IN ACTION

ECOLABELS¹⁸

Type 1 ecolabels already cover some of the parameters and requirements of the circular economy. For example, the Nordic Swan ecolabel for some product groups includes criteria related to quality of the product, guarantee requirements for long-life use, possibility to update and repair, availability of spare parts, construction for easy disassembling, recyclability by restrictions for hazardous chemicals and requirements for recycled content in product.



3



Lifecycle costing and total cost of ownership methods

The lifecycle costing method helps to incorporate all costs that will be incurred during the lifetime of a product, work or service. It encompasses:

- Purchase price and all associated costs such as delivery, installation, insurance, etc.
- Operating costs, including energy, fuel and water use, spare parts, and maintenance
- End-of-life costs, such as recycling, disposal, etc.
- Externalities costs such as greenhouse gas emissions

Externalities from the linear economy are estimated at over \$7 trillion per year.^{19,20} By considering all costs of production and consumption to deliver a certain amount of service or function, Life Cycle Costing usually shows the preference for systems that rely on less resources or maintenance, which also tend to save money to the procurer. Circular and resource-efficient solutions are thus rightly shown as more cost-effective.



Cooperating with other organizations

Purchasers may create partnerships to **pool their available products and service providers** in view of setting up sharing and reusing systems. Cooperation among organizations also entails pooling resources for joint procurement processes; by increasing volumes of purchases, new markets for circular products and services can be generated.



Knowledge and information management systems

International initiatives such as the One Planet Network and platforms for sharing best practices and increasing collaboration among all stakeholders of the value chain are essential, as well as guidance and tools to support the implementation of circular procurement solutions. For example, the One Planet Network – which was formed to implement the 10-Year Framework of Programmes on Sustainable Consumption and Production and is an implementation mechanism for the Sustainable Development Goal 12, provides tools and solutions for the shift to sustainable consumption and production which could be instrumental to scale up and replicate circular solutions. Sharing capacity building and awareness-raising materials can also help advance the adoption of circular solutions.

3



Legal instruments

Aligning policy instruments with the high-level objective of including circularity in procurement processes is critical. Legal instruments should not only cover waste management-related issues, but rather encompass the entire product's lifecycle. Policy provisions that can strengthen this systemic perspective should also address production and distribution, extraction of resources and sourcing of materials (e.g. by phasing out hazardous chemicals) and eco-design (e.g. by developing regulations on the disassembly of products, such as the EU Eco-design Directive 2009/125/EC).

IN ACTION

IMPACT OF POLITICAL COMMITMENT IN THE DOMINICAN REPUBLIC²¹

In 2012, Dominican Republic President Danilo Medina launched a national policy and plan to support the growth of micro, small and medium enterprises as a tool for poverty alleviation. The strategy involved setting priorities to improve access to markets, financial inclusion and business development for these enterprises by developing a preferential purchasing programme to support them. With presidential support, the Public Procurement General Directorate (Dirección General de Contrataciones Públicas – DCGP) leads initiative and, since 2012, 43,691 contracts for approximately \$596 million have been awarded to micro, small and medium enterprises.

The Dominican Republic has also developed a preferential purchasing programme to specifically support micro, small and medium-sized enterprises managed or owned by women – in response to the identified priority on gender by the national government. To empower women in the economy, law 488-08 mandates to allocate 20% of the public procurement for MSMEs to women-owned enterprises.

In 2014 the programme increased the participation of women in public procurement by 15%.



3



Fiscal instruments

Fiscal policies can help overcome one of the key barriers to the implementation of circular procurement solutions. In some instances, products and services that promote circular systems may have higher upfront costs than traditional ones. Special tax provisions in the forms of subsidies, grants, tax credits, tax deductions and exemptions are widely used to overcome such barriers.²² Fiscal incentives can also be provided to public procurement agencies.

IN ACTION

REWARDING SUSTAINABLE PROCUREMENT PRACTICES²³

In South Korea, government authorities receive annual financial rewards based on their sustainable procurement performance. In Thailand, not only public authorities but also manufacturers or service providers are financially awarded if they practice sustainable public procurement, or deliver sustainable goods and services consistently.



GOOD PRACTICES OF SUSTAINABLE PROCUREMENT

The numerous examples reflected in this report, as well as the following good practices, confirm the growth in sustainable procurement practices incorporating circularity requirements. This overview is certainly not exhaustive as more and more public and private entities across the globe successfully leverage circular solutions in their procurement processes.



INFRASTRUCTURE IN THE NETHERLANDS²⁴

CIRCULAR SOLUTION

The Rijkswaterstaat (part of the Ministry of Infrastructure and Water Management of the Netherlands) is responsible for the reconstruction project of 19km of the country's A12 motorway. The project consisted of a design, build, finance and maintain (DBFM) contract that demonstrated the benefits that circular thinking and procurement practices can achieve in large-scale infrastructure projects. The contract scope included civil engineering works and ongoing maintenance of infrastructure over 16 years. **The Rijkswaterstaat embedded sustainability within the tendering process by favouring:**

- Suppliers that reduce CO₂ emissions
- Solutions that offer low environmental impacts: the evaluation is made using an "environmental costs indicator value" which assesses and monetizes product quality, based on the lifecycle assessment of all the materials that are used in the construction and maintenance operations
- Suppliers considering the reduction of the impact on nature to protect biodiversity and natural habitats, as the A12 reconstruction runs through a natural wildlife reserve area.



IMPACTS

CO₂ emission reductions were achieved through design and materials choices, for example, road surfacing materials that extended the standard expected product lifetime. Optimizing product lifetime is a key element of creating less resource-intensive solutions, leading to greater whole embodied carbon benefits when compared with standard practices. **Nearly 9,000 tonnes of CO₂** will be saved during a 50-year lifetime of the infrastructure. **The overall environmental benefit amounts to \$25.7 million.**

CO₂ emission reductions were achieved through design and materials choices, for example, road surfacing materials that extended the standard product lifetime.



PROCUREMENT OF CLEANING PRODUCTS IN BELGIUM^{25, 26}

CIRCULAR SOLUTION

With more than 250,000 inhabitants, Ghent is Belgium's second largest municipality with an annual spend on cleaning products and services of \$16.9 million. With the objective of greening its municipal cleaning services and achieving the use of 100% environmentally sound products, the city incorporated multiple measures aiming at promoting system-wide circularity, through the following specifications:

- Cleaning products are delivered using vehicles meeting the emission standard EURO 6.
- Packaging uses 85% recycled cardboard; plastic bottles made from polyethylene high-density (PEHD) are 100% recyclable and include 10% recycled material; bottles made of polyethylene terephthalate (PET) are 100% recyclable and new bottles are made of 81% recycled materials.
- A fully automatic smart dosage system is provided; the device tracks different parameters to ensure savings of energy, water use and waste.
- Dosage bottle with an anti-spilling system are supplied. Such innovative products meet the criteria of the Cradle-to-Cradle gold label.²⁷
- The supplier is responsible (at its own expense) to take back all packaging.
- Training on the use of the products is provided to all cleaning staff of the City of Ghent.



IMPACTS

The market in Belgium for environmentally-friendly cleaning products and services has changed considerably over the last 10 years. The City of Ghent has worked intensively with its suppliers and potential suppliers by communicating its needs and sustainability goals. This has positively influenced the availability of new ecological products and methods on the market. Potential suppliers show a continuous interest in presenting new solutions.

“The City of Ghent communicated its needs and sustainability goals to its suppliers. This has positively influenced the availability of new ecological products and methods on the market”



PROCUREMENT OF NOTEBOOKS MADE OF RECYCLED PAPER IN BRAZIL²⁸

CIRCULAR SOLUTION

The Foundation for Education Development decided to buy 3,792,015 notebooks made of recycled paper for middle and high schools for a budget of about \$9.5 million.

Buying notebooks made of recycled paper has also been a way to promote the economic activity of a number of socially excluded people



IMPACTS

The Brazilian environmental official Standard ABNT NBR 15755:2009 requires recycled paper to contain at least 50% of recycled fibres. The purchase of notebooks made of 60% recycled paper fibres, allows **savings of 8 million litres of water, 1,766 tonnes of waste and 241 kg of organo-halogen compounds**.

In Brazil, used paper represents an important part of waste volumes (19% of solid waste in Sao Paulo in 2001). Through recycling, the State of Sao Paulo can not only reduce the need for raw materials, but also fight against open-air dumps to which 29.6% of the total Brazilian waste was delivered in 2007 and pose a threat to the community. The waste collecting sector involves a large number of waste pickers who collect solid wastes mainly in the street and open-air dumps. In Brazil, nearly 90% of waste collection is done by waste pickers. Buying notebooks made of recycled paper has also been a way to promote the economic activity of a number of socially excluded people: it is estimated that **the purchase of recycled paper notebooks secured one month of economic activity to 454 waste pickers**.



INDUSTRIAL SYMBIOSIS IN SOUTH AFRICA²⁹

CIRCULAR SOLUTION

In 2013, the Western Cape Industrial Symbiosis Programme (WISP) started working with a wood pallet company to support the transition from using raw timber to broken wood pallets in their manufacturing process. The company had changed its business model from using virgin wood to recycled wood and needed to identify larger volumes of waste wood pallets to secure its long-term sustainability.

This change in business model also enabled the company to expand its product offerings

IMPACTS

Working with the Western Cape Industrial Symbiosis Programme, the company was able to gain access to new wood supplies resulting in jobs creation, and decided to invest in new equipment to handle the increased wood volumes. After working for two years and attending several business opportunity workshops, the wood pallet company recognized an opportunity within the wood waste management market. The company changed its business model again to become a wood waste management company. It is now an accredited waste service provider to the City of Cape Town, is able to remove all waste wood types at an industrial site and has created additional jobs to increase its processing capacity.

This change in business model also enabled the company to expand its product offerings to supply surrounding communities with fuel-wood and offer high quality wood to the furniture industry. With every extension in the business model, the wood pallet company became more competitive in its market and achieved significant financial gains. **To date, the company has diverted more than 600 tonnes of wood waste from landfill, generated more than \$67,000 in additional revenue, created job opportunities and saved its clients more than \$26,400 in waste management fees.**

LESSONS LEARNED AND RECOMMENDATIONS

The following recommendations build on the experience of the United Nations Environment Programme in implementing sustainable public procurement and related innovative circular solutions to advance the shift toward sustainable consumption and production patterns. These recommendations aim at providing guidelines to public and private procurers who intend to start considering circularity in their procurement processes.

START SIMPLE AND SCALE UP GRADUALLY

Bringing circularity in procurement practices cannot happen overnight. **Iterative processes supporting a learning-by-doing approach tend to be more successful.** This is particularly relevant if and when the market has not reached a sufficient maturity level to offer comprehensive circular solutions.

START WITH EASY WINS

The development and implementation of circular procurement processes can start by identifying and targeting “easy wins” in the organization such as materials or components retaining value after the end of the use life, or products or components where product life-service can be extended. **The expected and immediate impacts of circularity on these products can then further encourage organizations to scale up their efforts** in embedding circularity throughout their processes.

FOCUS ON PRIORITIES: RUN A HOTSPOTS ANALYSIS

Environmental and social hotspots in the organization can be identified **by coupling information of procurement volumes with data on materials, emissions-intensive production processes or products, waste generation and management along the products' lifecycles.** Procurement efforts may focus on these hotspots, as action in making them more sustainable will be linked to highest return on, and provide further encouragement for the circular procurement process.

ENGAGE IN SYSTEMIC THINKING

Collaboration within the organization is critical to **ensure coherence of the procurement practices with the strategy and business model.** Thinking beyond the boundaries of the individual company and engaging all stakeholders of the value chain are of utmost importance and constitute the backbone of the systemic approach. For example, if a public entity is looking into procuring an electric vehicle fleet, a systemic approach would also explore options for the effective management of the vehicle batteries by considering reuse and recycling options.

ENGAGE SUPPLIERS AT AN EARLY STAGE

Dialogue should start as early as the design and definition of specifications phases: this is critical to ensure that circularity can effectively be embedded. This collaboration enables **co-creation of circular solutions and triggers innovation.** Engaging markets also allow procurers to adapt tender specifications to the maturity and availability of the products or services. It is worthwhile to note that technical specifications should also be discussed taking into account the implications for small and medium enterprises and local businesses for them to participate in future tendering processes.

COMMUNICATE, SHARE AND ACCESS LESSONS LEARNED

It is recommended to build on lessons learned by frontrunners. To do so, collaborative platforms such as the One Planet Network³⁰ provide an environment to **access and share success stories and best practices of procurement practitioners** from around the world.

DRIVERS TO ADVANCE THE INCLUSION OF CIRCULARITY IN PROCUREMENT PRACTICES AT A GLOBAL LEVEL

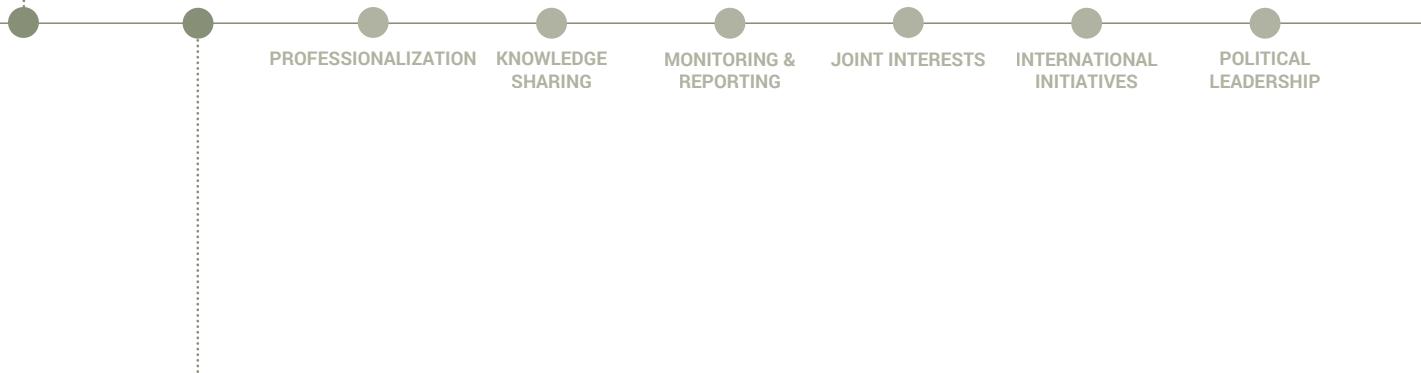
This section does not intend to be exhaustive, but rather to give an overview of the main takeaways collected from pilot experiences across the world.

IN BRIEF

- COLLABORATION
- SETTING TARGETS
- PROFESSIONALIZATION
- KNOWLEDGE SHARING
- MONITORING & REPORTING
- JOINT INTERESTS
- INTERNATIONAL INITIATIVES
- POLITICAL LEADERSHIP

COLLABORATION THROUGH SUPPLIERS' ENGAGEMENT AND COMPETITIVE DIALOGUE IS KEY TO SUCCESS

Suppliers tend to propose more innovative solutions when tenders do not include prescriptive specifications and are rather based on performance specifications. **Reaching out to suppliers at an early stage helps to best stimulate innovation.** Engaging a wide range of stakeholders, including public and private buyers, suppliers, manufacturers, distributors, retailers, as well as consumers, contribute to build their buy-in and foster new habits and processes. In addition, engaging private sector actors in the process is of utmost importance, not only because they will have to react to the public sector's demand for more circular solutions, but also because they themselves can influence the market through their own procurement practices. **It will take a large cooperative effort to transform supply chains and consumption patterns at the global scale.**



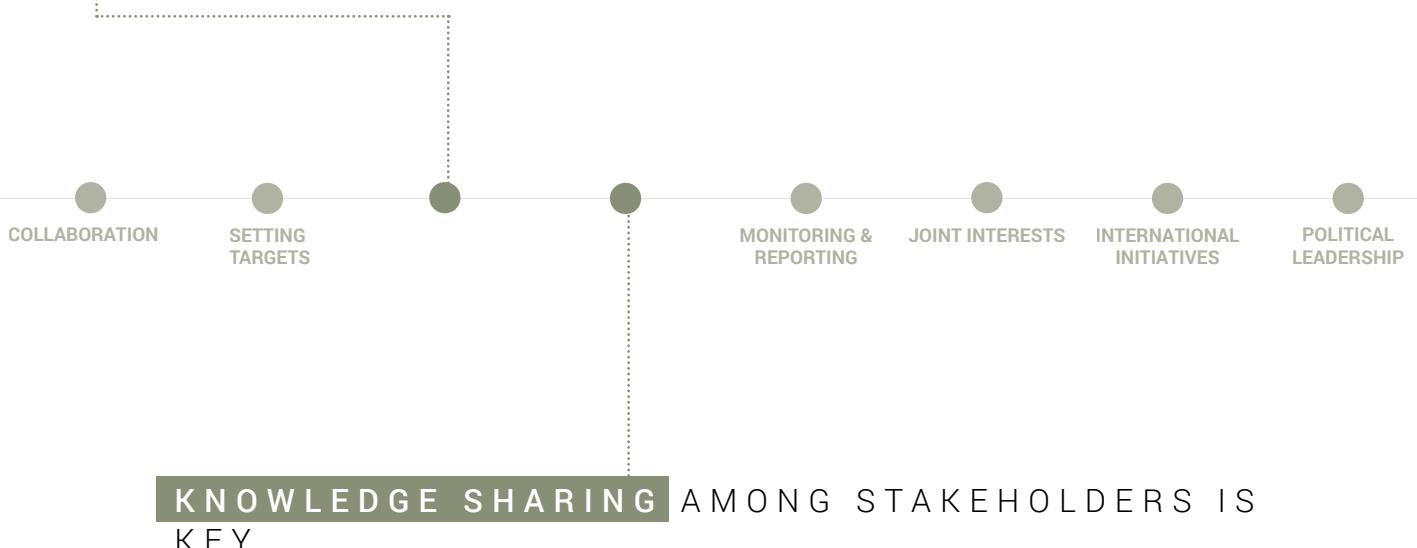
SETTING TARGETS FOR ENVIRONMENTAL PERFORMANCE WITHIN TENDERS

Setting realistic, clear and transparent targets is one way of ensuring that circularity is embedded earlier on within all the procurement phases, particularly when considering long-term contracts. **Indicators/targets can act as drivers and thus impact on the scale of benefits.** As circularity can be defined and translated in many ways, it is important to set clear expectations.

PROFESSIONALIZATION OF THE PROCUREMENT FUNCTION NEEDS TO BE LEVERAGED

The implementation of circular solutions in procurement is already benefiting from transformations in current procurement practices, with greater professionalization leading to more strategic and transparent processes. However, as highlighted in the 2017 *Global Review*, procurement often continues to be seen as transactional, rather than strategic.

Professionalization of the procurement function remains essential for the adoption of innovative circular practices. The gradual or slow adoption of circular procurement practices may be linked to a lack of experience and information among procurement authorities or departments. Assumptions such as sustainable products being more expensive, products made of recycled materials being of lower quality than conventional ones or partial knowledge on existing products and solutions represent barriers to a wider adoption of more sustainable practices.



KNOWLEDGE SHARING AMONG STAKEHOLDERS IS KEY

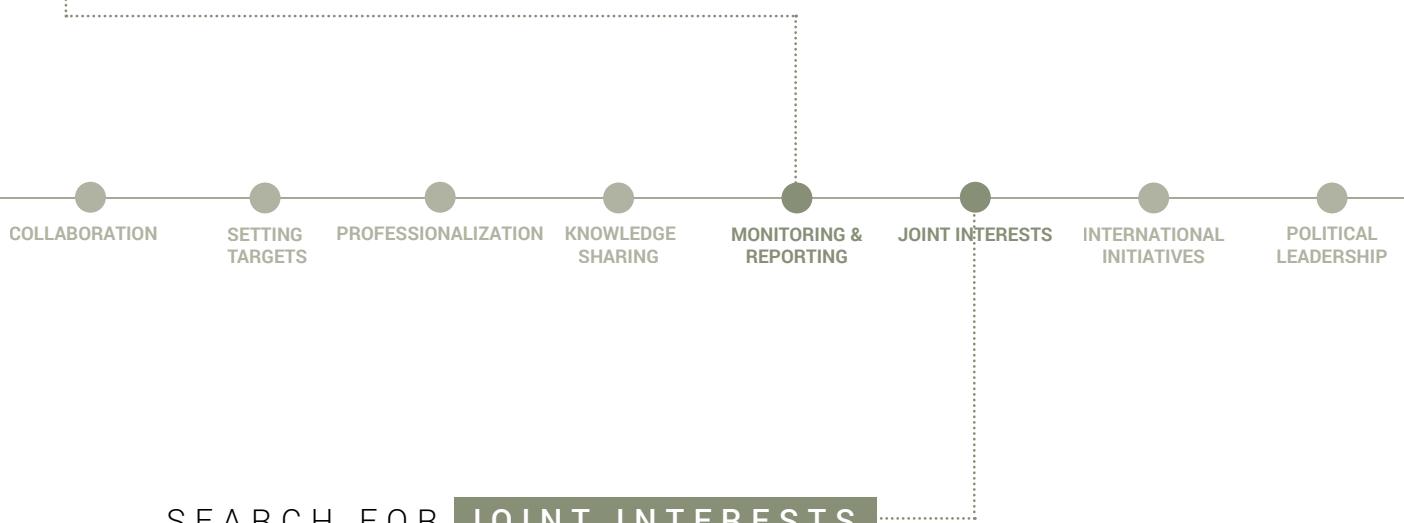
It is imperative that knowledge dissemination on available circular products, services and solutions is strengthened. **The creation of multi-stakeholder collaboration and knowledge-sharing platforms at local, national and international level such as the One Planet Network will be essential.**

The Sustainable Public Procurement Programme of the One Planet Network which has been led by the United Nations Environment Programme is a global multi-stakeholder platform that builds synergies between diverse partners to support the implementation of sustainable procurement practices. Reaching out to media and leading businesses to feature success stories and champion the promotion of circularity in procurement can also help advance a wider adoption of circular practices.

CRITICAL ROLE OF RELIABLE MONITORING AND REPORTING SYSTEMS

Robust monitoring and reporting systems play a fundamental role in informing procurement decisions. *The 2017 Global Review* shows that there is still considerable progress to be made to define a set of indicators that are meaningful but also practical. It is becoming clear that it is ultimately more important to measure results and impacts (e.g. GHG emissions avoided or reduced, materials and resources saved, job training opportunities created, gender disaggregated data etc.). **Providing sustainable information throughout the value chain could be inserted as a clause of a contract to ensure continuous monitoring of impacts of procurement activities.**

The *Global Review* series produced by the United Nations Environment Programme also supports monitoring progress made in the field of institutional purchasing and raising awareness about the potential contribution of procurement to the achievement of the 2030 Agenda, and in particular Sustainable Development Goal 12 (Ensure sustainable consumption and production patterns). The United Nations Environment Programme will propose a methodology to measure SDG indicator 12.7.1 (i.e. the number of countries implementing sustainable public procurement policies and action plans), hence providing much needed reliable data on the uptake of sustainable procurement globally.



Circularity in procurement aims at creating value at different stages of the value chain. It is therefore best to aim for joint benefits and explore opportunities for partnership among stakeholders along the entire supply chain. **Circularity outcomes can multiply and benefit stakeholders at large.**

SUPPORT OF INTERNATIONAL INITIATIVES

According to the *2017 Global Review*, stakeholders are looking at various national and international initiatives, for example the Sustainable Public Procurement Programme of the One Planet Network which has been led by the United Nations Environment Programme, the Procura+ Network coordinated by ICLEI - Local Governments for Sustainability, or the Sustainable Purchasing Leadership Council, to provide guidance and expertise based on lessons learned. **Collaboration at both the regional and international level is key to taking circular practices to scale**, whether it is sustainability and procurement professionals collaborating around best practices and aligning market signals, or the public sector engaging private-sector suppliers to integrate sustainability and circularity into vendor performance management.



POLITICAL LEADERSHIP

The *2017 Global Review* finds that sustainable procurement is largely being driven by policy and top-down leadership. The existence of national legislation on sustainable public procurement, a strong political and organizational leadership and policy commitments are the strongest drivers. Lessons learned from procurement initiatives reflected in this report highlight that **supportive legislative frameworks are critical to create enabling conditions for circularity**. For example, the new EU Directive on Public Procurement (Directive 2014/24/EU) recommending criteria to be based on a lifecycle perspective is a strong driver for more circularity in procurement processes.

CONCLUSIONS

Numerous governments and businesses have already started to include circularity requirements in the procurement decisions. Companies of all sizes and governments worldwide have embarked in this experience. To this end, different tools, approaches and instruments have been developed and applied. For example, large multinationals have put in place sophisticated, streamlined and optimized procurement systems and practices – some experience from which can certainly benefit governments as well. Some businesses have taken commitments to drive sustainability through their own procurement practices, which has required a strong collaboration upstream with suppliers to support this complex transition. Combining business-to-business collaboration with a demand drive through government procurement can really help scale this transformation to a much wider range of companies.

Opportunities for dialogue and exchange of experience, tools and practices have significant potentials to accelerate the pace and bring to scale the results so far achieved.

Combining business-to-business collaboration with a demand drive through government procurement can really help scale this transformation to a much wider range of companies.

To accelerate the inclusion of circularity requirements in procurement decisions, global leaders should:

- Focus on the role of sustainable procurement as a key driver in promoting circularity in the economy and **convene focused high-level public-private dialogues** to address these. This could lead for example to the further development of more detailed guidance for public and corporate procurers. This effort could be facilitated by the United Nations Environment Programme and by the Sustainable Public Procurement Programme of the One Planet Network, with the support of other partners involved in the Platform for Accelerating Circular Economy.
- **Promote work at national and regional level** to disseminate sustainable procurement for circularity. This work would ideally build on the extensive experience developed by the United Nations Environment Programme and the partner organisations and countries of the One Planet Network.
- **Facilitate the incorporation of sustainable procurement efforts in sectoral initiatives** (e.g. plastics, electronics, ...). The adoption of sustainable production practices in sectoral value chains, will be accelerated by the creation of a market demand through sustainable procurement, including circularity requirements and by facilitating global value chain collaboration and dialogue, including through building on current sector sustainability initiatives.

The United Nations Environment Programme looks forward to opportunities to partner with public and corporate leaders to further advance the circular procurement agenda, inspire and guide its broader uptake globally.



ENDNOTES

1. United Nations Environment Programme (2017). *Global Review of Sustainable Public Procurement*. Available at: <http://www.oneplanetnetwork.org/resource/2017-global-review-sustainable-public-procurement>.
2. Available at: <http://www.oecd.org/gov/public-procurement/recommendation/OECD-Recommendation-on-Public-Procurement.pdf>.
3. Available at: <http://www.worldbank.org/en/projects-operations/products-and-services/brief/procurement-new-framework#overview>.
4. Available at https://www.wto.org/english/docs_e/legal_e/rev-gpr-94_01_e.htm.
5. Available at <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:32014L0024>.
6. United Nations (2015). *Transforming our World: The 2030 Agenda for Sustainable Development*. Available at http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E.
7. United Nations Environment Programme (2017). *Global Review of Sustainable Public Procurement*. Available at: <http://www.oneplanetnetwork.org/resource/2017-global-review-sustainable-public-procurement>.
8. Definition adopted by the Task Force on Sustainable Public Procurement led by Switzerland (membership includes Switzerland, USA, UK, Norway, the Philippines, Argentina, Ghana, Mexico, China, Czech Republic, State of Sao Paolo (Brazil), United Nations Environment Programme, IISD, International Labour Organization (ILO), European Commission (DG-Environment) and ICLEI – Local Governments for Sustainability, and adopted in the context of the Marrakech Process on Sustainable Production and consumption led by the United Nations Environment Programme and UN DESA).
9. ICLEI - Local Governments for Sustainability (2017). *Circular Procurement Best Practice Report*. Available at: http://www.sppregions.eu/fileadmin/user_upload/Resources/Circular_Procurement_Best_Practice_Report.pdf.
10. IRP (2018). *Re-defining Value – The Manufacturing Revolution. Remanufacturing, Refurbishment, Repair and Direct Reuse in the Circular Economy*. A Report of the International Resource Panel. United Nations Environment Programme.
- United Nations Environment Programme (2017). *The Long View - Exploring Product Lifetime Extension*. Available at: <http://www.oneplanetnetwork.org/resource/long-view-exploring-product-lifetime-extension>.
11. European Environmental Agency (2017). *Circular by design, products in the circular economy*. Available at: https://www.eea.europa.eu/publications/circular-by-design/at_download/file.

ENDNOTES

12. European Environmental Agency (2017). *Circular by design, products in the circular economy*. Available at: https://www.eea.europa.eu/publications/circular-by-design/at_download/file.
13. United Nations Environment Programme (2015). *Using Product-Service Systems to Enhance Public Procurement*. Available at: http://www.oneplanetnetwork.org/sites/default/files/using_product-service_systems_to_enhance_sustainable_public_procurement.pdf.
14. Further details available at: <https://www.ellenmacarthurfoundation.org/case-studies/selling-light-as-a-service>.
15. Further details available at: <https://www.abnamro.com/en/sustainable-banking/our-focal-points/circular-economy/circular-procurement/index.html>.
16. ICLEI - Local Governments for Sustainability (2017). *Circular Procurement Case Study Collection*. Available at: http://sppregions.eu/fileadmin/user_upload/Resources/Circular_Procurement_Case_Study_Collection.pdf.
17. European Environmental Agency (2017). *Circular by design, products in the circular economy*. Available at: https://www.eea.europa.eu/publications/circular-by-design/at_download/file.
18. Nordic Council of Ministers (2017). *Circular Economy and the Nordic Swan Ecolabel. An Analysis of Circularity in the Product-Group-Specific Environmental Criteria*. Available at: <http://norden.diva-portal.org/smash/get/diva2:1142769/FULLTEXT01.pdf>.
19. Trucost (2013). *Natural capital at risk: The top 100 externalities of business*. Available at: <https://www.trucost.com/publication/natural-capital-risk-top-100-externalities-business>.
20. United Nations Environment Programme (2017). *Towards a pollution-free planet. Report of the Executive Director*. Available at: <http://web.unep.org/environmentassembly/report-executive-director>.
21. International Institute for Sustainable Development – IISD (2015). *Handbook for the Inter-American Network on Government Procurement (INGP) – Implementing Sustainable Public Procurement in Latin America and the Caribbean*. Available at: <https://www.iisd.org/sites/default/files/publications/iisd-handbook-ingp-en.pdf>.
22. International Institute for Labour Studies – IIIS (2011). *Green Policies in the EU: A Review, International Institute for Labour Studies*. Available at: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---inst/documents/publication/wcms_194184.pdf.

ENDNOTES

23. United Nations Environment Programme (2017). *Comparative Analysis of Green Public Procurement and Ecolabelling Programmes in China, Japan, Thailand and the Republic of Korea*. Available at: <http://www.oneplanetnetwork.org/resource/comparative-analysis-green-public-procurement-and-ecolabelling-china-japan-thailand-and>.
24. ICLEI - Local Governments for Sustainability (2017). *Circular Procurement Case Study Collection*. Available at: http://sppregions.eu/fileadmin/user_upload/Resources/Circular_Procurement_Case_Study_Collection.pdf.
25. European Commission (2017). *GPP in Practice – Issue no. 70*. Available at: http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue70_Case_Study_140_Ghent.pdf.
26. ICLEI - Local Governments for Sustainability (2017). *Circular Procurement Case Study Collection*. Available at: http://sppregions.eu/fileadmin/user_upload/Resources/Circular_Procurement_Case_Study_Collection.pdf.
27. More information available at: <https://www.c2ccertified.org/>.
28. United Nations Environment Programme (2012). *The Impacts of Sustainable Procurement – Eight Illustrative Case Studies*. Available at: <http://www.oneplanetnetwork.org/resource/impacts-sustainable-public-procurement-eight-illustrative-case-studies>.
29. O'Carroll, Sarah & Basson, Lauren & Lyons, Jarrod & Smout, Sam & Nuwarinda, Henry. (2017). *The Nature and Role of Industrial Symbiosis in South Africa*. Available at: https://www.researchgate.net/publication/319504306_The_Nature_and_Role_of_Industrial_Symbiosis_in_South_Africa.
30. Available at: <http://www.oneplanetnetwork.org/>

FURTHER READING

Ellen MacArthur Foundation, McKinsey Center for Business and Environment (2015). *Growth Within: A Circular Economy Vision for a Competitive Europe*. Available at: https://www.ellenmacarthurfoundation.org/assets/downloads/publications/EllenMacArthurFoundation_Growth-Within_July15.pdf.

European Commission (2017). *Public Procurement for a Circular Economy – Good practice and guidance*. Available at: http://ec.europa.eu/environment/gpp/pdf/Public_procurement_circular_economy_brochure.pdf.

European Commission (2015). *Closing the loop - An EU action plan for the Circular Economy*. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52015DC0614>.

Green Deal Circular Procurement, the Netherlands (2017). *Added value – reaping the benefits of three years of the Green Deal on circular procurement*. Available at: <http://www.oneplanetnetwork.org/resource/added-value-reaping-benefits-3-years-green-deal-circular-procurement>.

Green Purchasing Network Malaysia (2017). *A Sampling of Successes in Green Public Procurement: Case Studies of Green Public Procurement Implementation in Asia-Pacific Countries*. Available at: <http://www.oneplanetnetwork.org/resource/sampling-successes-green-public-procurement-case-studies-green-public-procurement>.

Nordic Council of Ministers (2017). *Circular Public Procurement in the Nordic Countries*. Available at: <https://norden.diva-portal.org/smash/get/diva2:1092366/FULLTEXT01.pdf>.

The Sustainable Public Procurement Programme section of the One Planet Network is available at: <http://www.oneplanetnetwork.org/sustainable-public-procurement>.

United Nations Environment Programme (2017). *Training module on procuring Product Service Systems*. Available at: http://www.oneplanetnetwork.org/sites/default/files/level_2_1_day_cp_training.pdf.

United Nations Environment Programme (2017). *Guidelines for Providing Product Sustainability Information*. Available at: <http://www.oneplanetnetwork.org/resource/guidelines-providing-product-sustainability-information>.

World Economy Forum (2014). *Towards the Circular Economy: Accelerating the scale-up across global supply chains*. Available at: http://www3.weforum.org/docs/WEF_ENV_TowardsCircularEconomy_Report_2014.pdf.

Contact

United Nations Environment Programme
Economy Division
Resources and Markets Branch
1 rue Miollis, Building VII
75015 Paris, France

Tel: +33 1 44 37 14 50
Fax: +33 1 44 37 14 74

www.unenvironment.org

Building circularity into our economies through sustainable procurement aims to introduce the role that sustainable procurement can play to accelerate the transition to a circular economy and the shift towards more sustainable patterns of consumption and production, based on the work conducted by the United Nations Environment Programme in this field and on experience documented by partners and governments. The document intends to inform dialogues on how best to bring more circularity in our economies at global level; it is addressed to both public procurers and policy makers, as well as corporate buyers and business leaders.

It has been developed as part of UN Environment work on sustainable consumption and production and continuous engagement with building circularity into our economies.



UNEP