CIRCULAR INNOVATION COUNCIL

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Recycling Council of Ontario

PUTTING CIRCULAR ECONOMY CONCEPTS INTO ACTION

Circular Procurement Virtual Series 2020

Putting Circular Economy Concepts Into Action

SELLING CHANGE

Monday, 16 November, 2020

11:30 a.m. – 1 p.m.

Recycling Council of Ontario

BACKGROUND

- Established in 1978 as Recycling Council of Ontario with a focus on solid waste
- Instrumental in facilitating partnership between government and municipalities to create the Blue Box program
- Unique membership: spans entire value and supply chains
  - government, industry producers, sellers, collectors, processors, educators, academia, researchers
- Policy and Advocacy | Resources and Services | Programs and Pilots

PLASTIC ACTION CENTRE

10 000 CHANGES™
Canada's Commitment to Rethink Plastics

PLASTIC BAG GRAB challenge

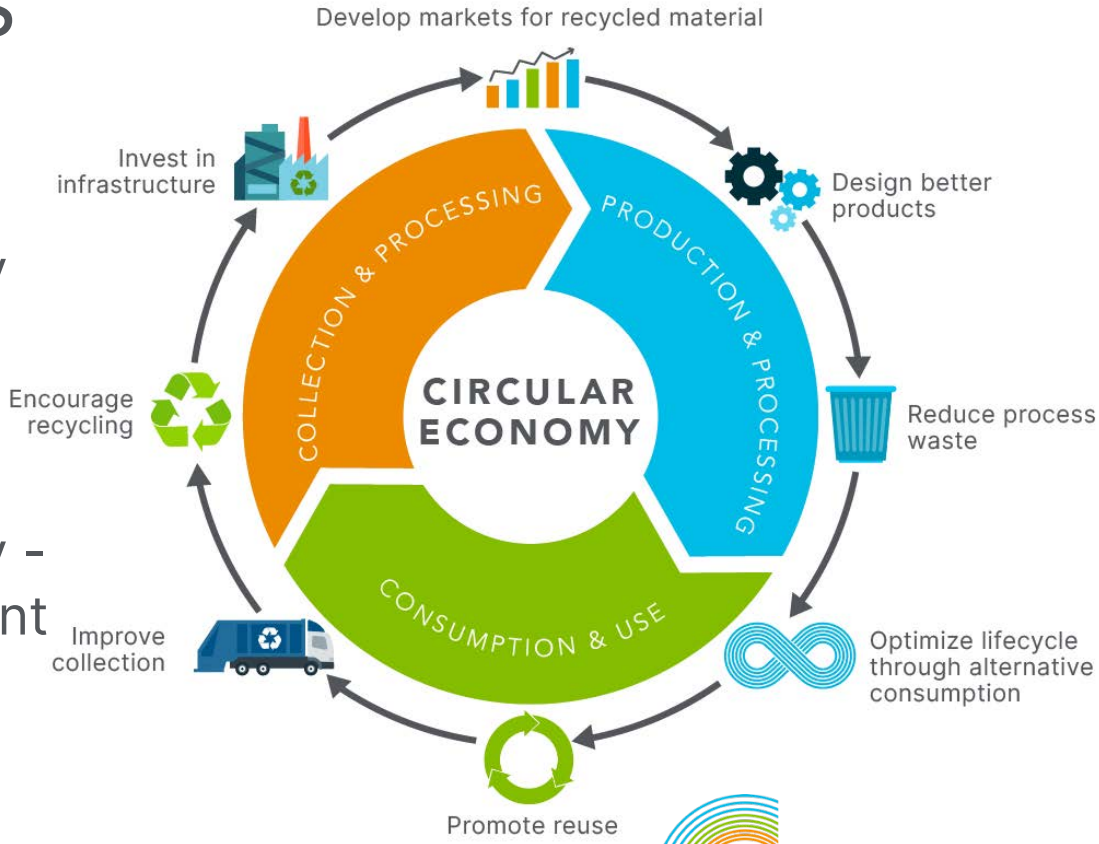
3R Certified

WASTE REDUCTION WEEK IN CANADA

TAKE BACK THE LIGHT

OUR FOCUS

- Driving greater recognition of circular economy and its benefits
- Advancing the circular economy - linking it to current objectives
- Putting circular economy concepts into action



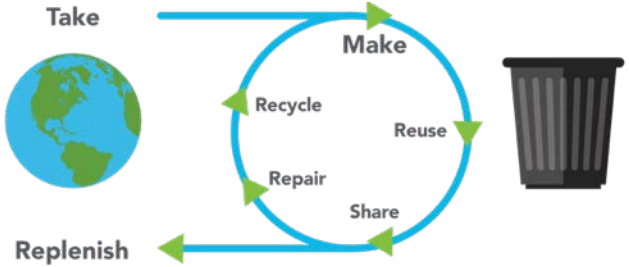
CIRCULAR INNOVATION COUNCIL

MODELS OF CONSUMPTION

LINEAR ECONOMY

Sustainability is improved by focusing efficiency within “take-make-waste”- model i.e. **maximizing economic value with a minimized environmental impact.**

CIRCULAR ECONOMY



Restorative and **regenerative** by design, and aims to keep products, components, and materials at their **highest utility and value** at all times.

BENEFITS

SUSTAINABLE DEVELOPMENT GOALS

BENEFITS

Environmental

- Reduced reliance on virgin materials
- Better efficiency of existing resources
- Create market demand increased for recycled materials and content
- GHG / waste / water usage reduction
- Limit single-use where possible

Economic

- Local employment opportunities
- Innovation is stimulated
- New revenue streams created
- Improved fiscal responsibility and economic growth
- Avoidance of purchase or maintenance
- Savings on disposal and management

Social

- Local employment opportunities
- Overcome barriers to employment
- Gender equity
- Engage marginalized communities
- Fosters unique public and private partnerships

BENEFITS

- Supports environmental, economic, and social objectives simultaneously
- Direct and in real-time
- Outcomes focused: *buy the change you want want*
- Can be right-sized or scaled up
- Effective mechanism to shift markets with or without legislation
- Incents innovation: challenges collaborative in nature and works with vendors / suppliers to be innovative
- Can build local supply chains for domestic solutions
- Creates the *right* demand and supply simultaneously
  - Effective market transition tool: economic incentive rather than punitive regulation
- Builds capacity in public and private sectors
- Goes beyond recycling, avoidance, reuse, reduction
- Effectively applied to products, packaging, and systems

CIRCULAR PROCUREMENT

PUBLIC SECTOR

- Drive broader public policy objectives: Economic, Social, Environment
- Directly: buying requirements and specifications
- Indirectly: funding agreements and partnerships
- Influence and educate the public

PRIVATE SECTOR

- Achieve corporate objectives
- Directly: supply chain requirements
- Indirectly: support of third-party organizations
- Influence and educate consumers

CIRCULAR INNOVATION COUNCIL

HOW TO BUY CIRCULAR

Recycling Council of Ontario

FIVE BUSINESS MODELS OF CIRCULARITY

Circular Supplies

Supply fully renewable, recyclable, or biodegradable resource inputs to support circular production

Resource Recovery

Eliminate material leakage and maximize economic value of product return flows

Product Life Extension

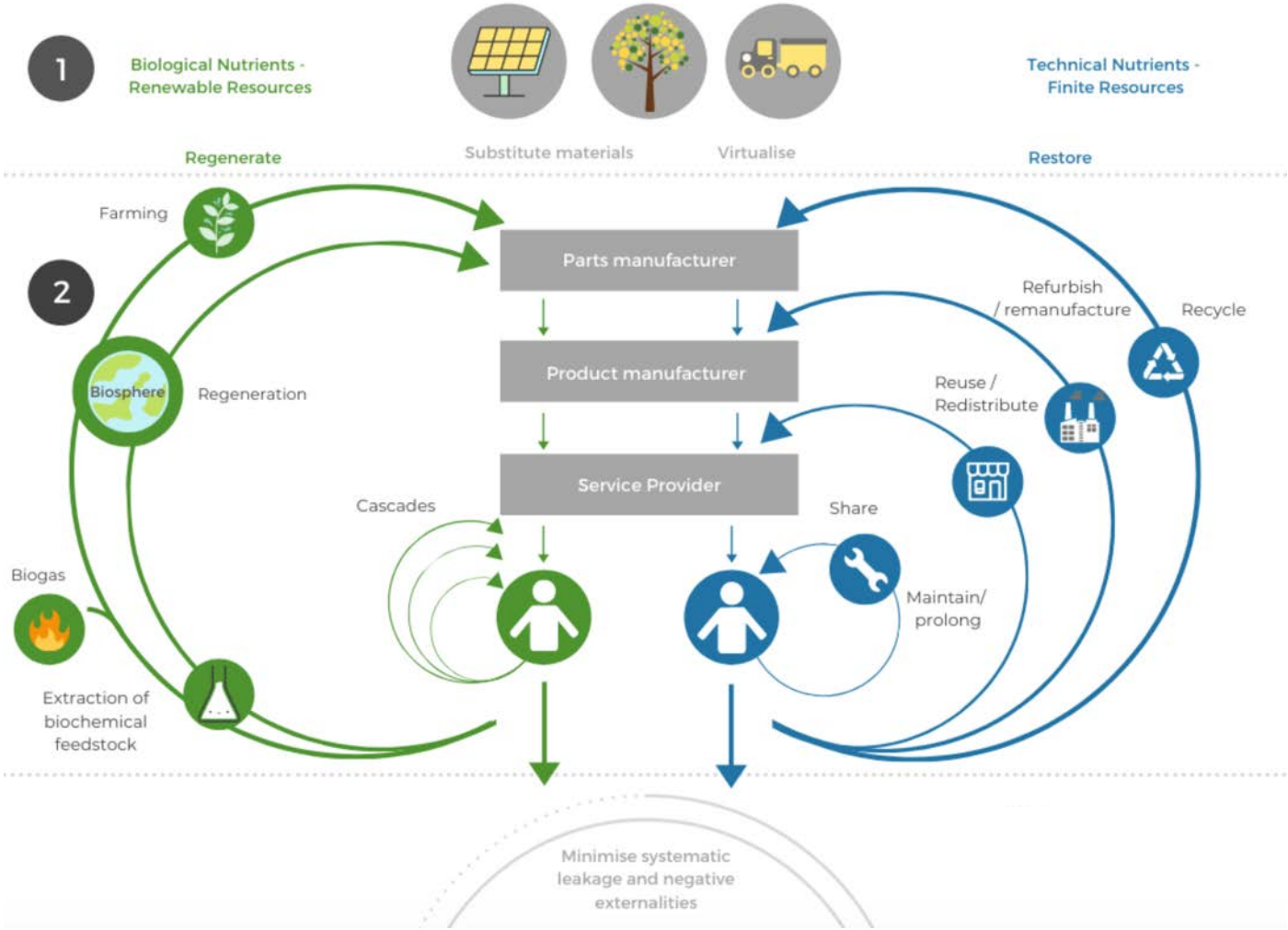
Extend the current lifecycle of a product: repairability, upgrading, reselling

Sharing Platforms

Stimulating collaboration among product users

Products As Service

Products are used by one or many customers through lease or pay-for-use arrangements


1
Biological Nutrients -
Renewable Resources
Technical Nutrients -
Finite Resources
Regenerate
Substitute materials
Virtualise
Restore
Farming
2
Parts manufacturer
Refurbish
/ remanufacture
Recycle
Biosphere
Regeneration
Product manufacturer
Reuse /
Redistribute
Service Provider
Cascades
Share
Biogas
Maintain/
prolong
Extraction of
biochemical
feedstock
Minimise systematic
leakage and negative
externalities

EXAMPLES

HARDWARE

Circular Supplies

Supply fully renewable, recyclable, or biodegradable resource inputs to support circular production

Resource Recovery

Eliminate material leakage and maximize economic value of product return flows

Product Life Extension

Extend the current lifecycle of a product: repairability, upgrading, reselling

SERVICE

Sharing Platforms

Stimulating collaboration among product users

Products as Service

Products are used by one or many customers through lease or pay-for-use arrangements

PUBLIC PROCUREMENT OPPORTUNITY IN CANADA

- **15%**: average country's GDP spent on procurement
- **$200 billion**: Canada's spend on procurement
- **$160 billion**: local governments combined spend
- **$6 billion**: Government of Ontario spend
- **20%**: percentage of annual provincial economic outlook
- **$3.5 billion**: Ministries' spend on goods and services:
  - consulting, courier services, office supplies and furniture, wireless devices.
- **$2 billion**: City of Toronto spend on goods and services

EARLY ADOPTERS

CITY OF VANCOUVER

Richmond

Region of Peel
working with you

Montréal

TORONTO

CIRCULAR PROCUREMENT IN CANADA

The Government of Canada committed to reducing single-use plastics in operations and using procurement to reduce waste and support secondary plastics markets as part of the Oceans Plastic Charter.

The City of Toronto committed to be the first municipality in Ontario with a circular economy and developed a circular procurement framework.

CIRCULAR PROCUREMENT IN CANADA

The City of Montreal integrated sustainable development into sourcing processes, which has reduced environmental impacts and increased social benefits.

The City of Vancouver implemented a procurement standard to help achieve its vision of zero waste by 2040.

TOP SPEND CATEGORY	CATEGORY SPEND ($M)	TOTAL SPEND
Construction & Infrastructure	111.6	54%
Information Technology	74.9	4%
Transportation & Fleet Management	51.9	3%
Facilities Management	35.5	2%
Furniture & Office Supplies	37.7	2%
Textiles	10.4	1%
Food & Catering	18.7	1%

IMPLEMENTATION BARRIERS

- Lack of awareness, understanding, exchange, and collaboration between actors
- Considered nice to do - not strategic to do
- Lack of leadership: considered sustainability function or add on - not core to smart business
- No direct line to financial decision makers: procurement or finance
- Perception barriers:
  - Leads to sole sourcing
  - Costs more
  - Violates Trade Agreements
- Quantifying *value*: limited qualifiers for social and environmental gains or losses
  - Inability to measure all benefits or baseline against status quo
- Change management: we always do it this way: relationships: I'm locked in or I always use that vendor
- Market readiness: The market isn't ready or I will have no bidders
- Minimal implementation sources and tools

IMPLEMENTATION OPPORTUNITIES

- Educate Educate Educate
  - Understand circular economy, circular procurement, and the
  - business models that support it
  - Read case studies
  - Talk to those already doing it
- Engage internally: broaden understanding and expand uptake
- Link Benefits
  - *environmental, economic, and social commitments: track and report impacts and quantify value*
- Set Priority Areas
  - *highest spend; easiest to implement; most impactful*
- Engaging Vendors and Suppliers as Partners:
  - *What is possible? Who is willing to collaborate?*

OUR WORK

Circular Procurement Summit June 11 - 13, 2019

Advancing the Circular Economy Through Public Sector Purchasing

One planet handle with care

Richmond

RESOURCES

CircularProcurement.ca

UPCOMING WEBINARS

Circular Procurement Virtual Series 2020
Putting Circular Economy Concepts Into Action

IDENTIFYING OPPORTUNITY AND AMBITION

Monday, 30 November 2020
11:30 a.m. – 1 p.m. ET

SIDE EVENT

MEASURING SUCCESS

Monday, 14 December 2020
11:30 a.m. – 1 p.m. ET

Register: RCO.on.ca
CircularProcurement.ca

Buying the future we want:

Circular Business models in Action

Frances Edmonds, Head of Sustainable Impact: HP Canada

HP: Canada's Most Sustainable Technology Company

Planet

Listed on Canada's Greenest Employers list in 2020 for the 13th year in a row, and the only PC vendor on this list.

HP's closed-loop recycling process is based on Canadian formulated plastics recycling and uses a million used water bottles a day.

HP Planet Partners Program has recycled 528,300 tonnes of hardware and supplies since 1987, with a goal to recycle 1.2 million tonnes from 2016 to 2025.

Canada's Clean 50: Only tech company with 2 Clean 16 awards for sustainability leadership and 3 Clean 50 Top Project awards (2 with WWF).

Jade ranking in Credit Valley Conservation's Greening Corporate Grounds program, recognizing our ecological landscaping and education.

First tech company globally to disclose full carbon footprint including Scope 3 emissions, independently audited and verified.

Numerous awards from Canadian Environmental Print Awards for our products and environmental strategy.

Received A list rankings by CDP in the climate, water, forests & supplier categories in 2020 (only 5 companies worldwide achieved this)

People

Only tech company to have received Canada's Best Diversity Employers award in 2020.

2nd on Know The Chain's ICT Benchmark in 2020 for addressing forced labor in supply chain.

HP has the world's most secure printers[1] and PCs.[2]

HP offers employees 4 hours paid volunteer time per month, dollars for doers, donation cash matching and time off grants.

Community

Listed as one of Canada's 2020 Top Foreign Corporate Citizens by Corporate Knights for the 6h year.

Developed transformational partnerships with a wide variety of Canadian non-profits.

Most comprehensive environmental education program in Canada's tech industry.

New education goal in 2017: Improve education outcomes for 100 million people from 2015 to 2025.

Sustainable Impact

Listed 5th on Corporate Knights' Clean200 Companies in 2020, a list of the world's 200 largest companies ranked by their clean revenues.

Listed on Corporate Knights 2020 Global 100 Most Sustainable Corporations.

Committed to UN Sustainable Development goals (SDGs), driving progress on select goals.

For a multi-year view HP's achievements, see HP Canada's milestones and global Sustainable Impact report.

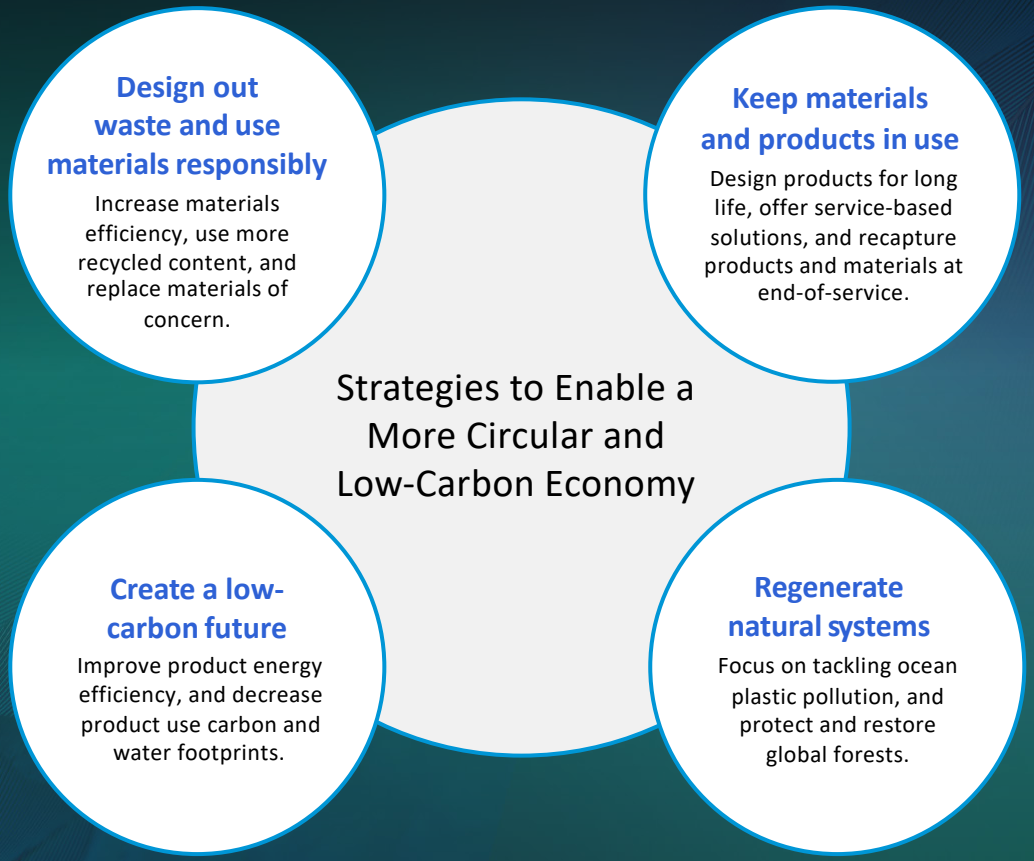
1. HP's most advanced embedded security features are available on HP Enterprise-class devices with FutureSmart firmware 4.5 or above and is based on HP review of 2019 published embedded security features of competitive in-class printers. Only HP offers a combination of security features for integrity checking down to the BIOS with self-healing capabilities. For more information visit: hp.com/go/printersecurityclaims. 2. Based on HP's unique and comprehensive security capabilities at no additional cost and HP's Manageability Integration Kit's management of every aspect of a PC including hardware, BIOS and software management using Microsoft System Center Configuration Manager among desktop workstation vendors as of July 2018 on HP Desktop Workstations with 8th Gen and higher Intel® Processors

“the real reason HP exists is to make a difference”

keep reinventing

HP'S STRATEGY

Delivering the world's most sustainable PC portfolio Based on the number of EPEAT registrations worldwide



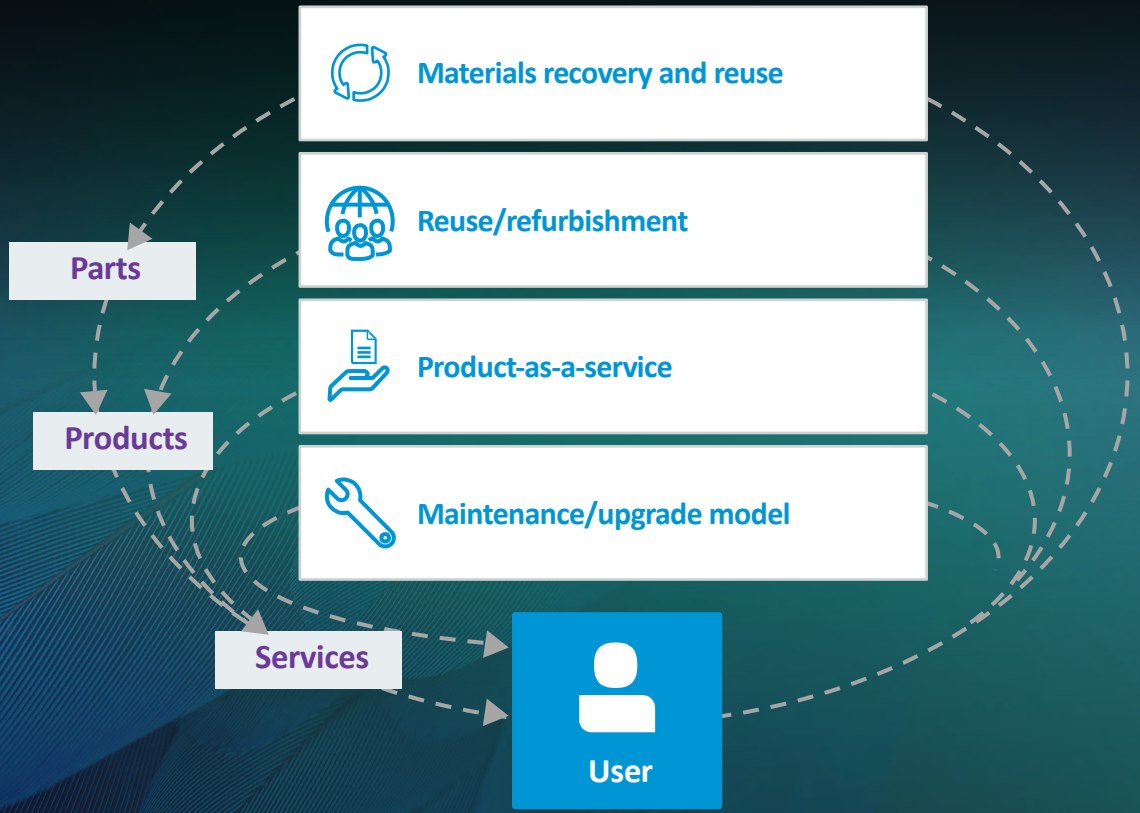
Our pledge is that printing will be forest positive, printers and their energy will be carbon neutral, and all printer materials will put safety first and support a circular economy.

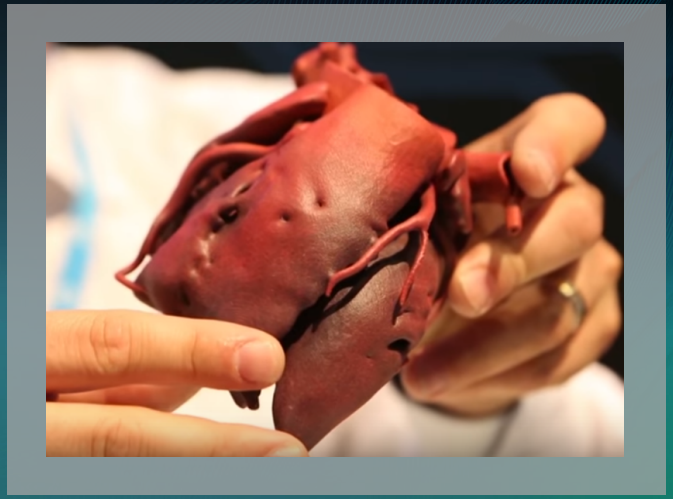
HP HAS COMMITTED TO TAKING OUR ENTIRE BUSINESS CIRCULAR

HP GOALS THAT DRIVE TO THE CIRCULAR ECONOMY

- Use 30% post consumer plastics across the print & PC portfolio by 2025
- Eliminate 75% of single use plastics in packaging by 2025
- Recycle 1.2 million tonnes of hardware & supplies by 2025 (since 2015)
- Use 60% renewable energy in operations by 2025 (100% by 2035)
- Reduce product use GHG intensity by 30% by 2025 (since 2015)
- Zero deforestation from packaging & paper sold by end of 2020
- Supply chain – cut 2 million tonnes of carbon dioxide (CO2e) by 2025 (since 2010)

HP’s circular economy strategy





DESIGN FOR REPAIRABILITY

Modular designs make it easy to maintain and repair products, helping eliminate costly replacements

Free online service manuals available for most products

HP personal systems devices earn highest marks for serviceability[1]

HP Instant Ink Consumer service

IoT strategy ensures customers never run out of ink when they need it

Customers can choose a monthly service plan based on pages printed

Used cartridges returned directly to HP's closed-loop recycling program

Customers can save up to 50% on ink

Reduces carbon footprint of ink purchase and disposal by 73%, energy use by 69%, and water use by 70%

TECHNOLOGY AS A SERVICE

Managed Print Services

Hardware | Supplies | Service | Solutions

Multi-year cost per page contract

Device as a Service

Lifecycle management

Discovery & design | Configure | Deploy | Maintain | Optimize | Renew

REFRESH

SUSTAINABILITY BENEFITS

- Optimized device utilization
- Reduction in printing-related energy usage and paper waste
- Improved lifecycle management and repairability
- Secure asset disposal

HP MPS helps reduce carbon emissions compared to client owned and managed

HP MPS customers can*

Reduce greenhouse gas emissions by 12%

Improve resource efficiency by 13%

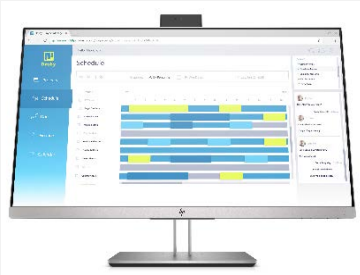
Decrease ecosystem impacts by 12%

“World’s first” innovations from HP

With ocean-bound plastic material

Over 60 million bottles diverted

HP Ink Cartridges



HP Elite Display E273D Docking Monitor

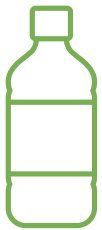
HP Elite Dragonfly

HP ZBook Create and ZBook Studio

HP Elite c1030 Chromebook

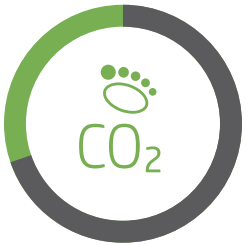
HP in action: closed-loop recycling program

Manufacturing new cartridges using returned HP cartridges and other plastics contributes to a circular economy



1 million

In the past five years, HP has helped divert on average almost **one million bottles per day.**[1]



30% smaller

Recycled plastic has up to a **30% smaller footprint** than virgin plastic.[2]

60% less

HP processes enable a **60% reduction** in system fossil fuel consumption[2]

39% less

HP's processes allow HP to use **39% less** water per year[2]

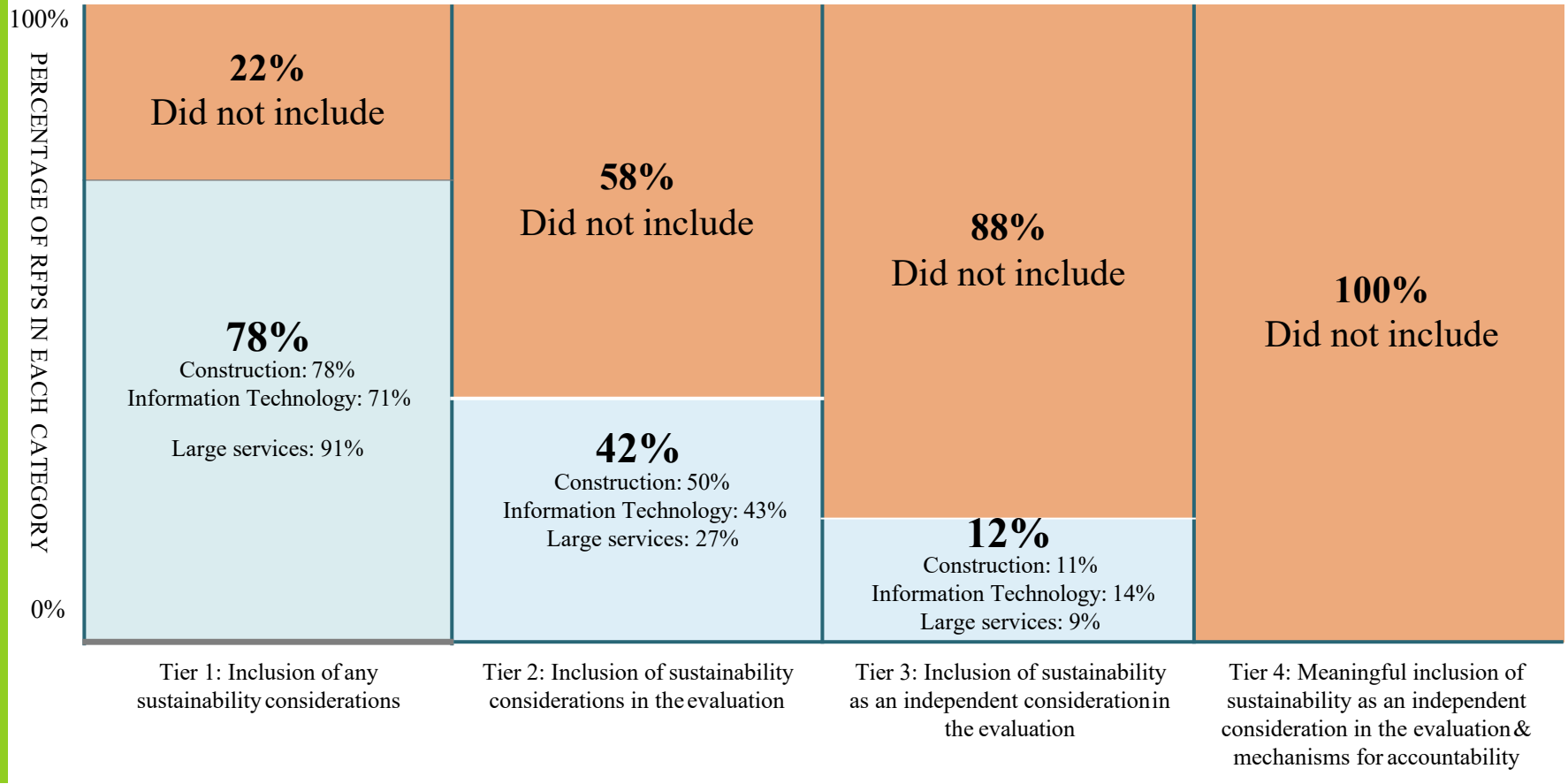
1. www.hp.com/sustainableimpact 2 For rPET and recycled polypropylene cartridges produced in 2017 and beyond. Based on a 2018 life cycle assessment (LCA) performed by Four Elements Consulting and commi[illegible] by H with the environmental impact of using recycled PET and the impact of using polypropylene and recycled polypropelene to manufacture new Original ink cartridges. For details see www.hp.com/go/recyledplastics[illegible]

PLASTICS AS AN EXAMPLE OF PROCUREMENT NOT "PULLING" THE CIRCULAR ECONOMY:

- Very few RFPs ask for
  - Post consumer or ocean bound recycled content
  - Goals to reduce quantities of virgin plastics used
  - Transparency in reporting on action on plastics in product or packaging or
  - What actually happens to plastics/products that are returned for recycling

BUT Recycled plastic costs more than virgin plastic today

Sustainability integration into public sector procurement Findings



HP RECOMMENDATIONS FOR PROCUREMENT TO DRIVE THE CE

- Set a clear policy and publish it externally
- Have a dialogue with vendors (existing and potential) – explain your goals and how they can contribute
- Indicate you want to see best value through using services and TCO (Total cost of ownership)
- Set expectations early and show they will increase – offer vendors opportunities to delight you with things like carbon neutral services and ocean plastics (watch for greenwashing!)

RFP SUGGESTIONS TO DRIVE THE CIRCULAR ECONOMY
MAKE QUESTIONS MANDATORY CRITERIA AND SCORE WELL ENOUGH TO DRIVE CHANGE

1. Provide total cost of ownership (TCO) for the **services**/products (including waste and carbon costs)
   - score higher if costs are lower and include end of life management
2. List all the Eco Labels applicable to this product
   - In tech specs of bid document and score higher for better ratings e.g. EPEAT gold
3. Identify how this service or product assists you in meeting your sustainability goals
   - Score higher if alignment between vendor and your goals and actions
4. List your CDP (carbon, forests, water, and supply chain) and ECO Vadis scores
   - in tech specs and higher score for better ratings
5. List your company carbon footprint and goals to reduce
   - score higher for goals in all 3 areas of business (supply chain, operations, customer use)
6. Identify % of post consumer, ocean-bound and or closed loop plastics in the products and your publicly stated recycled content goal
   - Score higher for all 3, for the ambition of the goal and for higher % of content and certified content

Resources

HP & WWF have collaborated to produce a Buying Responsibly Guide 5-step guide to help organizations learn about the importance of sustainable procurement and lead forward on their sustainable procurement journey

LIVING PLANET @WORK

HP Sustainable IT Purchasing Guide

Free resource helps customers make socially and environmentally sound purchasing decisions

Eco Labels for tech and includes circular economy

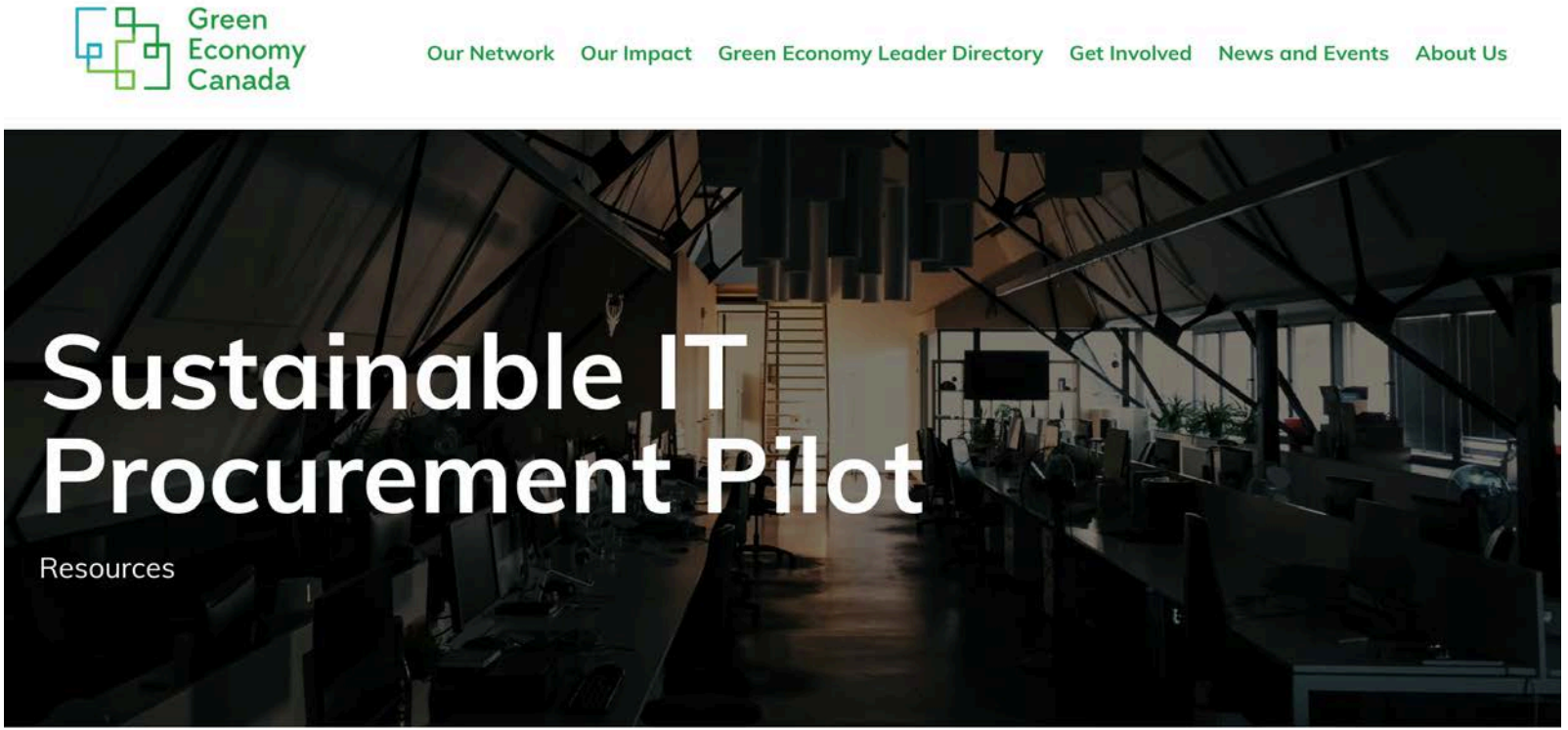
Features information on resource and packaging mini as well as data privacy & security

www.hp.com/go/sustainablepurchasing

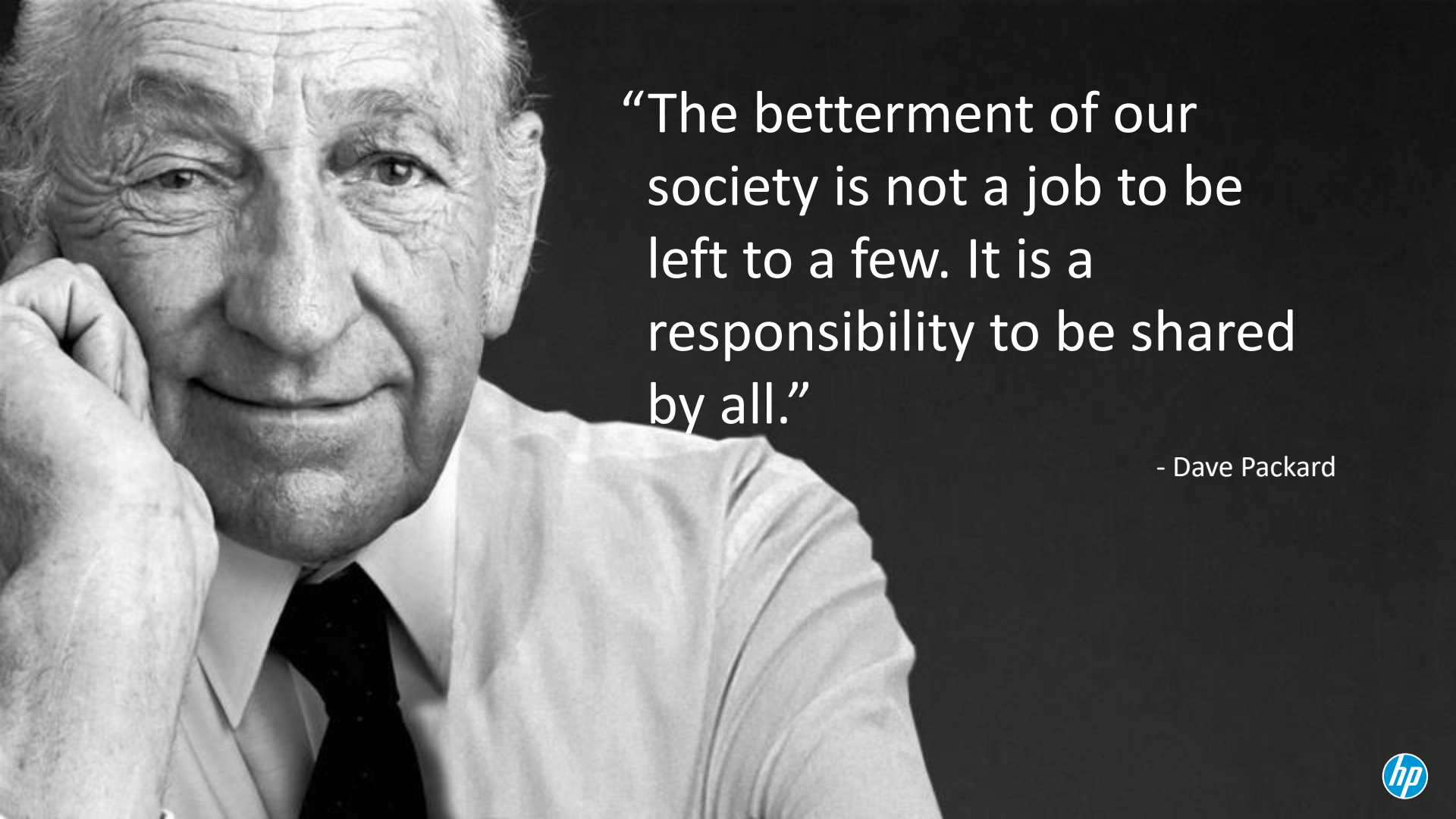
Green Economy Canada & HP Sustainable IT Procurement self assessment – Draft available for your feedback

Green Economy Canada

Resources



greeneconomy.ca/sustainable-it-procurement-resources/


“The betterment of our society is not a job to be left to a few. It is a responsibility to be shared by all.”
- Dave Packard


Thank
you

Driving the transition to the **circular economy**

November 2020

Eric Pothion

innovation + you

Our purpose – to improve people's health and well-being through meaningful innovation.

We aim to improve the lives of **2.5 billion people** per year by 2030*

* 2 billion by 2025; 1.64 billion in 2019

Environment, Social and Governance (ESG) dimensions that guide our actions

Environment

We **act responsibly towards our planet**

Social

Health and well being through meaningful innovation

Act responsibly towards society and partner with our stakeholders

Governance

Deliver **superior long-term value**

Live up to the **highest standards of ethics and governance** in our culture and practices

Our action plan **supports the UN SDG's**

Health and well-being for all

Climate action

Partnerships

Enablers

Circular economy

- We generate 25% of our revenue from circular products, services and solutions
- We offer a trade-in on all professional medical equipment, and take care of responsible repurposing**
- We embed circular practices at our sites* and put zero waste to landfill

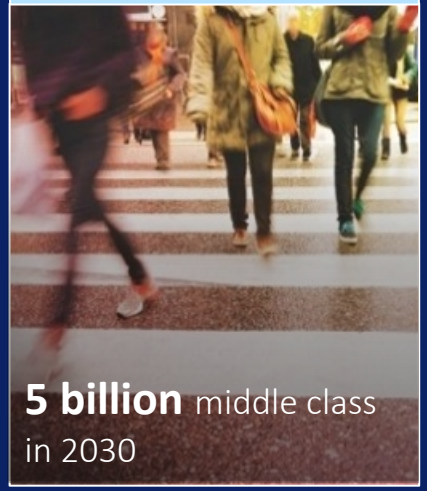
* including non-manufacturing sites, such as large offices, warehouses and R&D facilities
**either refurbished at Philips, or locally recycled in line with Philips policies

Global challenges make the circular economy an **urgent necessity**

Overconsumption of resources

1.7x Earth's resources

Growing demand from an expanding population



5 billion middle class in 2030

Waste and pollution

50 million tons electronic waste

Climate change

45% of CO_2 emissions relate to production

The transition to circularity presents real **business opportunities** via seven distinct value drivers*


Align with public expectations


Enter new markets


Reduce cost


Reduce risk and future-proof the business


Trigger innovation capacity


Attract and retain talent


Deliver greater customer value

* Based on PACE Circular Value Driver

To reach **25% circular revenues** by 2025, we need to grow our circular propositions

Examples of **circular revenue** categories

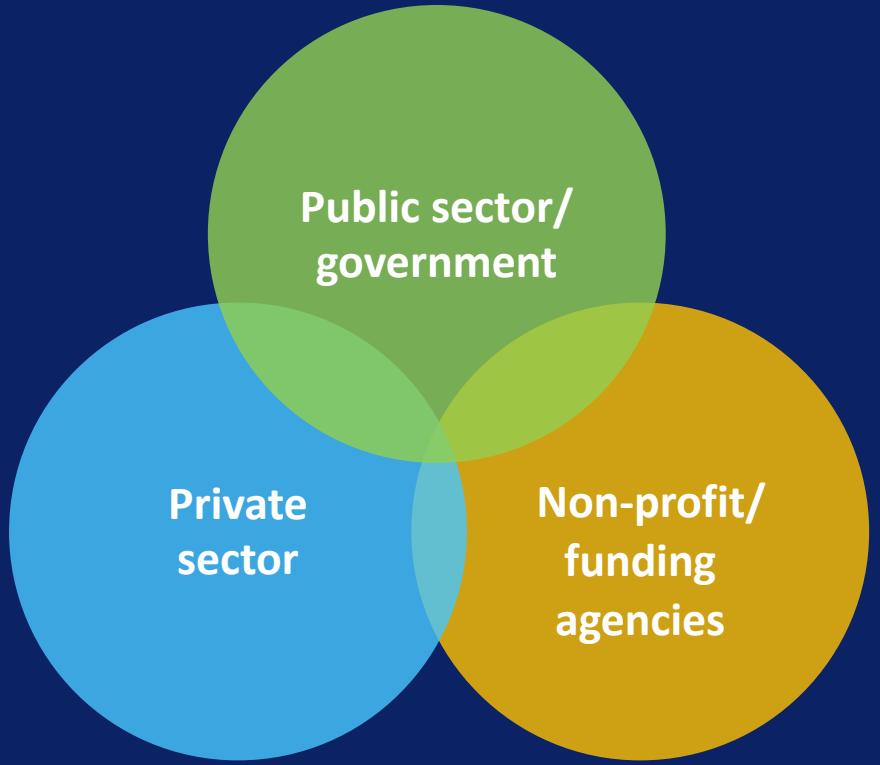
Hardware revenue (products/systems)
Re-use products, parts and materials to close the loop

Service revenue
Re-use products and extending lifetime to close and/or slow the loops

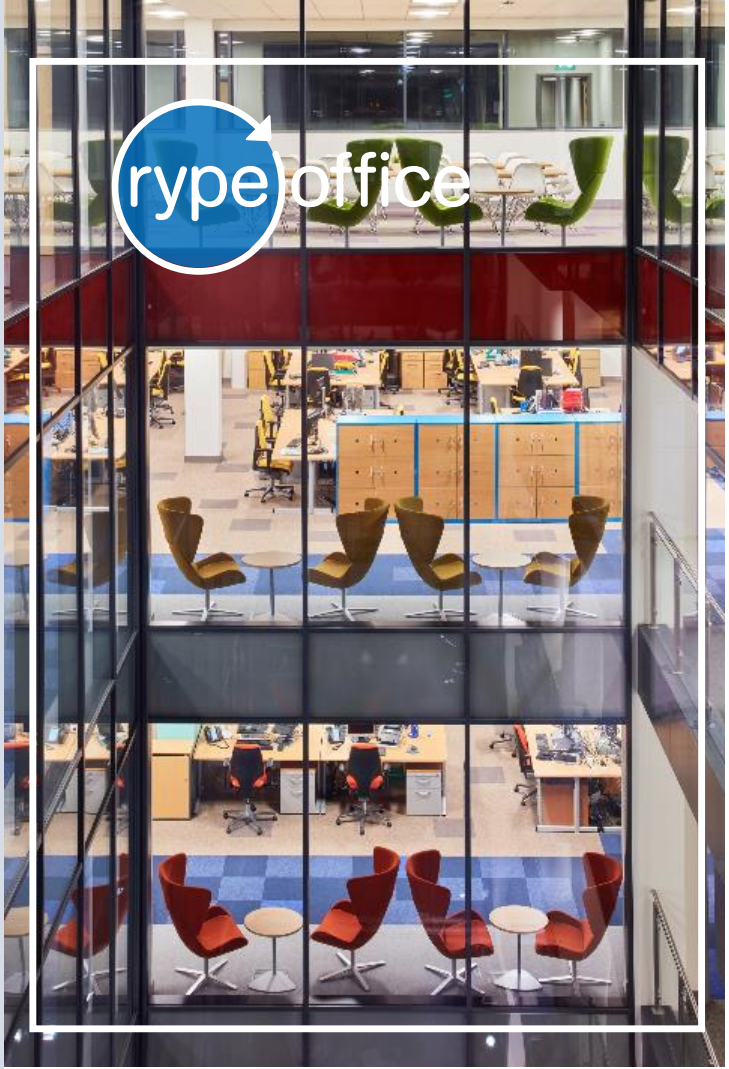
Software revenue
Replace or optimize resource usage of hardware with digital technologies to narrow the loop

Re-use of commercial returns	Refurbished, Remanu-factured products / systems	Refurbished, Remanu-factured elements / parts	Products with recycled content	Performance and access-based models	Upgrades / life time extension on-site or remote	Software optimizing resource use	Analog to digital
							
Re-using returns from dealers & consumers	Diamond Select program	Re-using parts in customer services	Performer Ultimate vacuum cleaner	Lumea Try & Buy subscriptions	SmartPath to Dstream	Performance Bridge	Lumify

By **working together**, we can drive global action on circular economy



eric.pothion@philips.com



Circular Procurement Virtual Series 2020

Selling Change

16 Nov 2020

Dr Greg Lavery

What is Circular Economy office furniture to us?

Guaranteed **take-back**

Understand customer's requirements

Free office **design** (or work with your designer)
Free **audit** of existing furniture

Source

Quality pieces from:

- **Existing** furniture
- **Used** furniture from other office clearances (300t/day going to landfill)
- **New** sustainable furniture made by social enterprises and SMEs (e.g. MTIB)

Re-manufacture

Remanufacturing = a quality-controlled engineering process that takes the long-life components of furniture (like aluminium frames), checks and resurfaces them, and rebuilds the item around them

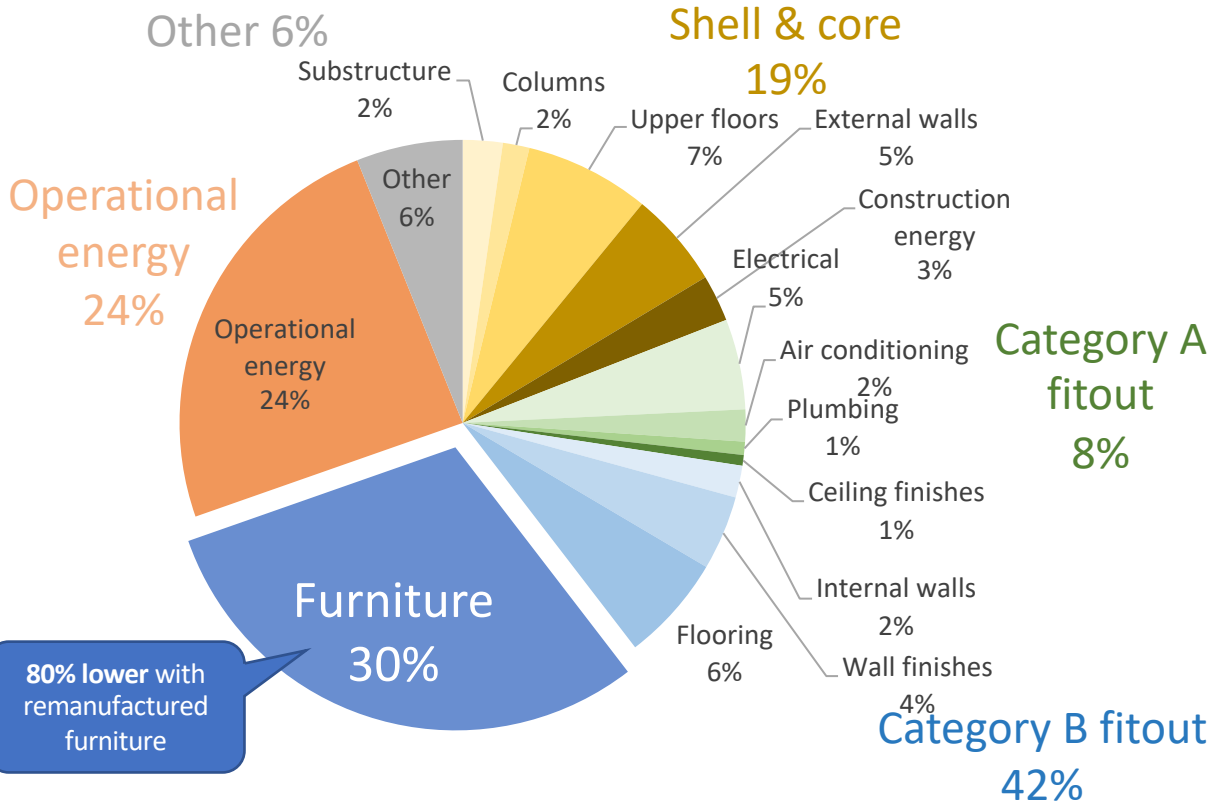
Transport & Install

Locally, creating **local jobs**
Quality controlled

Circular Economy

The Circular Economy is an enabler of the Low Carbon Economy

Greenhouse gas emissions over the lifetime of a commercial building



Source: Treloar, GJ. Et al, 1999, *Embodied energy analysis of fixtures, fittings and furniture in office buildings*, Facilities, Volume 17, Number 11, pp. 403-409 (Accessed on 14 June 2019 at https://www.academia.edu/18481731/Embodied_energy_analysis_of_fixtures_fittings_and_furniture_in_office_buildings)

Bringing furniture back to as-new condition

Remanufactured

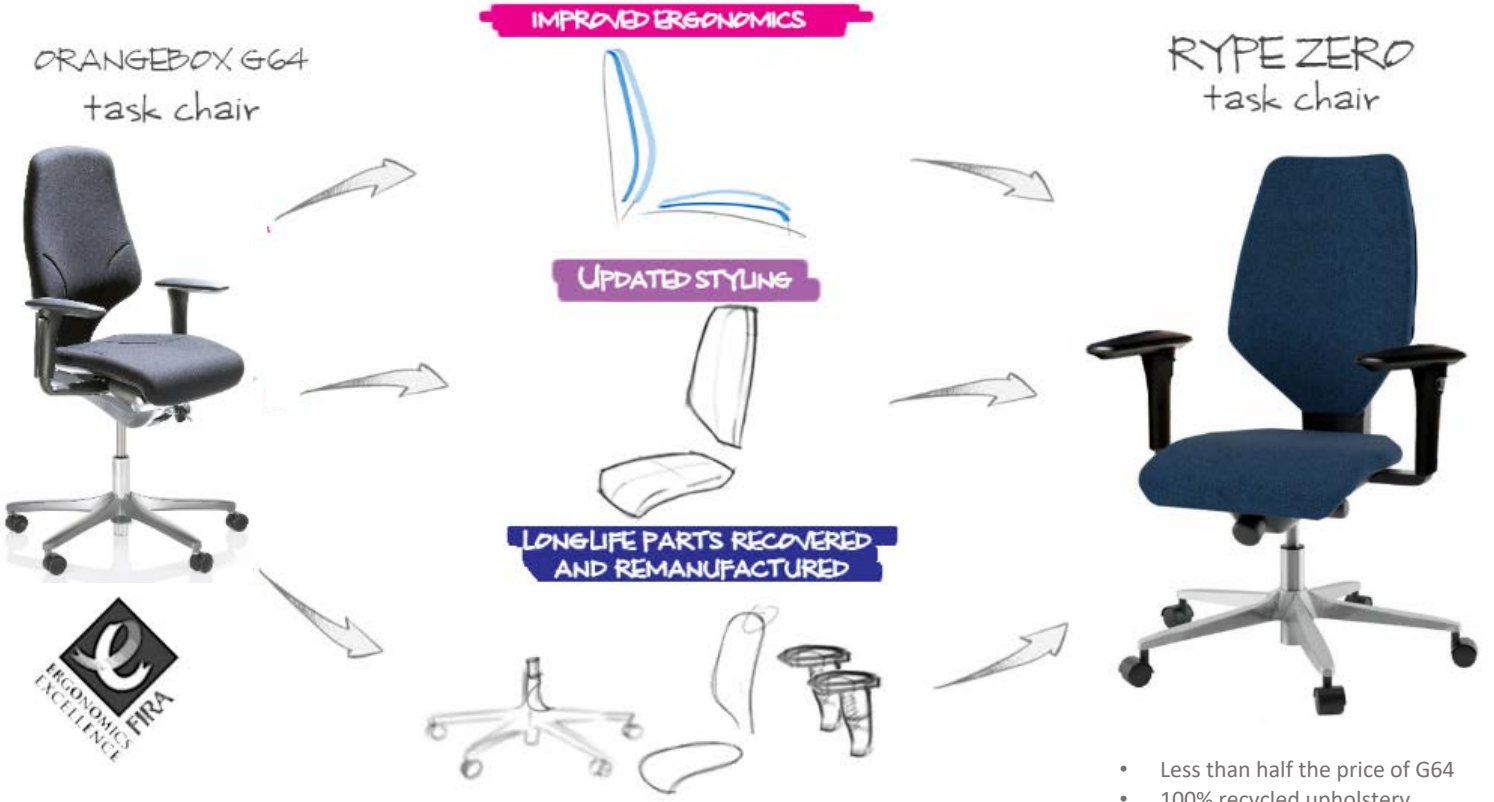
- **Cost 20% to 30% lower** than framework prices
- **80%** lower carbon emissions
- Local **jobs**
- High scorer for WELL & LEED
- Same warranty
- Large volumes available

Vs

New

- No take-back
- Overseas jobs and profits

Rype Zero: possibly the most sustainable task chair ever



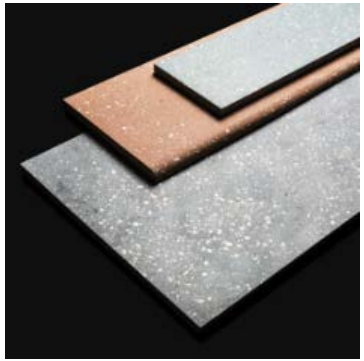
- Less than half the price of G64
- 100% recycled upholstery
- No glue (scores WELL points)
- Taken back to remanufacture for further lives

Furniture made from post-consumer waste plastic

Kitchen chopping boards and black bin bags

Yoghurt pots

Circular Economy office fitout solutions

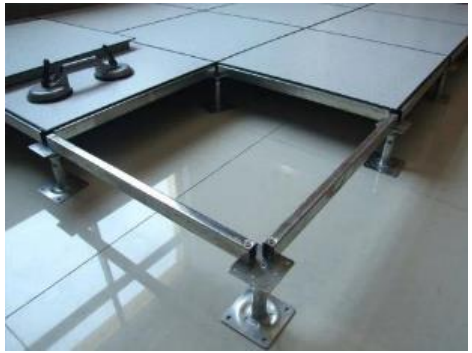


RECYCLED CERAMIC TILES

RECYCLED CEILING TILES

RECYCLED PAINT

RECLAIMED FLOORING



REMANUFACTURED RAISED FLOORING

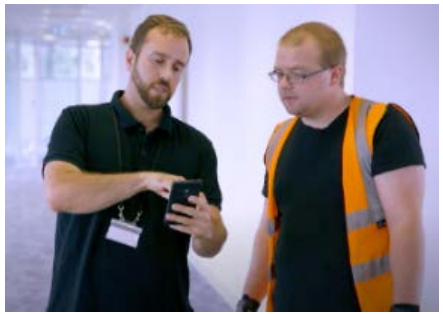
REMANUFACTURED ELECTRONICS

REUSED KITCHENS

Progress to date

In 200+ projects Rype Office has:

- Saved clients **£ millions**
- Saved over **1 million kg CO2e** of GHG emissions
- Avoided **400 tonnes** of furniture going to waste
- Provided over **7,000 hours** of paid work & training for local long-term unemployed people with disabilities



See https://www.youtube.com/watch?v=8tZqnPvLVWU


chargemaster
this way

Best practice circular economy furniture procurement

1. Use "**Market Testing**" phase prior to tenders/framework renegotiation
   - Check your ambition can be met by the market (you may be surprised)
   - Shape the tender/framework to suit

2. Procure **furniture separate from build** (2 contracts)
   - Avoid being ripped off by middle man (who only wants to sell new low quality furniture)
   - Work directly with furniture supplier so they can take back the furniture

3. Include **interior design** with circular furniture provision
   - Allows supplier to create a beautiful office seamlessly incorporating remanufactured furniture (including existing furniture which can be transformed so it is unrecognisable)
   - Most interior designers are stuck in a linear mindset of fast fashion

4. Set **evaluation criteria** that encourage circular economy furniture
   - End users set the criteria
   - Difficult to change procurement processes

Best practice evaluation criteria

All evaluation criteria create value

The bid sum is just one aspect of value and so does not need a large weighting (e.g. **30%** used by Transport for Wales)

1. Percent use of **existing furniture**? (or include cost of disposal in tender sum)
2. What percentage of the furniture will be externally sourced and **remanufactured**?
3. What are the embodied **greenhouse gas emissions** in the furniture that you will supply compared to furniture made from virgin resources?
4. How the furniture that you provide will enable us to score **WELL** and **LEED** credits?
5. What will you do with the furniture when it is **no longer required**/serviceable to minimise disposal costs and environmental impacts?
6. How will your furniture create **social value**? (e.g. local jobs, opportunities for those furthest from the workforce) Provide statistics related to the above from past projects to demonstrate your past history on this topic.
7. How do you intend to involve **local small businesses/social enterprises** in the provision of furniture?
8. How much of your furniture was manufactured **outside of the country**, impacting on the national balance of payments? (local assembly of overseas-made components does not count)

Contact us to discuss further

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