The NAMI Approach: Refuse, Rethink, and Reduce in Public Procurement

How can this be achieved in the facilities management sector?

Colophon

This whitepaper was jointly produced by the Prevention Working Group under the FM Circular programme and by the NAMI research team at The Hague University of Applied Sciences.

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INTRODUCTION

Despite efficiency improvements in production chains, environmental pressure in the Netherlands has increased by 58% over the past 30 years due to rising consumption. This growth has led to higher demand for goods and services, which in turn requires more energy and raw materials (CLO, 2024).

Examples of efficiency improvements in production chains that have reduced environmental pressure include making electricity production more sustainable, more energy-efficient household appliances, better insulated homes and increased paper recycling. Environmental pressure can also be reduced through changes in consumption patterns, for example through the growing popularity of plant-based dairy and meat substitutes. These products generally have a lower environmental footprint than animal-based alternatives (CLO, 2024).

Despite these advances, the Netherlands has not yet succeeded in significantly reducing the amount of raw materials it consumes (Hanemaaijer, et al., 2025). According to the Integrated Circular Economy Report 2025 by the Netherlands Environmental Assessment Agency (PBL), progress towards a circular economy remains insufficient.

Why is this important?
At the current pace, the Netherlands will not achieve its 2030 target to halve the use of fossil, mineral and metal raw materials, nor its 2050 ambition of becoming fully circular. These goals are essential for addressing climate change and biodiversity loss, which are largely driven by the extraction of raw materials from the earth for products, energy and food (Ministry of Infrastructure and Water Management, 2023).

INTRODUCTION

Using materials more efficiently also means generating less waste, helping to reduce pollution and supporting the transition to a circular economy. Another important benefit is that the Netherlands becomes less dependent on other countries. This is particularly relevant for critical metals, which are only mined in a limited number of locations worldwide, and for raw materials whose supply is increasingly under pressure due to geopolitical developments (Hanemaaijer, et al., 2025).

The Less is More working group of the FM Circular community, together with the Research Group on Public Procurement at The Hague University of Applied Sciences, has examined the challenges organisations face when applying the aforementioned strategies and what procurement professionals need in order to do so effectively. This whitepaper presents our findings.

Reducing the use of raw materials
We must use raw materials more sparingly, and this can be achieved through organisations' own procurement activities. Choices regarding materials, their origin and production methods determine the impact an organisation has on people and the planet. Change can begin with a different procurement approach, particularly when guided by the R-strategies refuse, rethink and reduce.

Who should read this?

- Procurement officers, contract managers, category managers, facility management consultants and sustainability advisors seeking ways to apply the strategies Refuse, Rethink, and Reduce within their organisation.
- Commissioning bodies and budget holders wishing to contribute to the circular economy.

With this whitepaper we aim to:
Enable procurement professionals to reduce their organisation's use of raw materials by showcasing examples of applied strategies and providing practical steps to put these into practice.

ABSTRACT

This whitepaper focuses on the role of procurement in the transition towards a circular economy. Despite improvements in production processes, environmental pressure has increased in recent decades as a result of sharply rising consumption. To achieve the targets for 2030 (halving the use of primary raw materials) and 2050 (becoming fully circular), a change in procurement behaviour is essential. The core of this lies in applying the circular strategies refuse, rethink and reduce. These strategies, positioned at the top of the R-ladder, have the greatest impact because they directly prevent or reduce the use of raw materials.

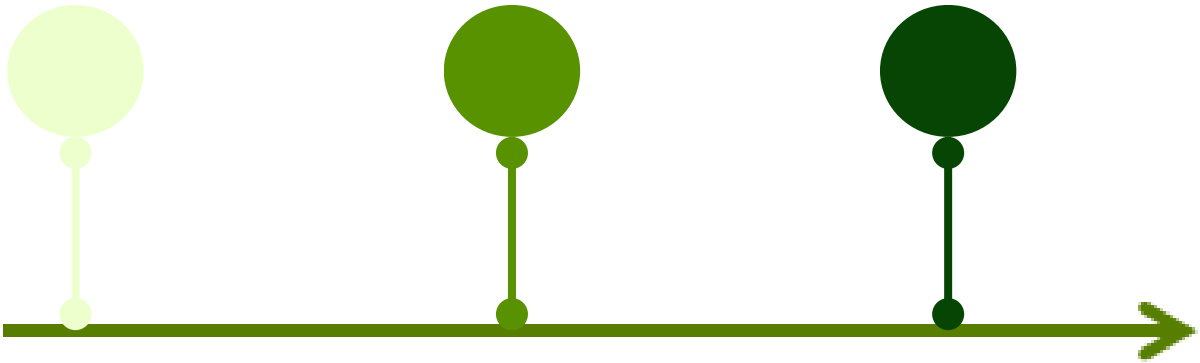
The research underpinning this whitepaper shows that translating these strategies into procurement practice is crucial. Refuse requires a critical analysis of actual need and the avoidance of unnecessary purchases. Rethink involves creative, alternative solutions and functional specifications. Reduce focuses on fewer purchases and more efficient use of products. Case studies demonstrate that this can range from reducing the number of gloves used in cleaning, to replacing cut flowers with plants or drastically limiting the supply of office materials.

However, implementation remains challenging due to obstacles at various levels. At the system level, legislation, regulations and economic principles restrict the scope for circular choices. At the organisational level, barriers include inadequate data, limited capacity and time and a risk-averse culture. At the individual level, emotional resistance, attachment to habits and a lack of knowledge about circular alternatives play a role.

To overcome these barriers, the whitepaper highlights the importance of the right tools for procurement professionals, based on the AMO model: knowledge and skills (ability), encouragement through goals and incentives (motivation) and the scope and mandate to experiment (opportunity). Success factors include sound policies with concrete objectives, reliable data, organisational support and a culture that allows for experimentation.

The whitepaper advises organisations to begin step by step. In the short term, baseline measurements, pilot projects and ambassadors are essential. In the medium term, the focus should shift to training, business cases and opportunities for experimentation. In the longer term, adjustments to legal and economic frameworks and collaboration across the supply chain will be necessary. A crucial aspect is also addressing emotion and perception: change requires not only technical solutions, but also change management and communication.

This document therefore provides practical guidance and inspiring examples to support procurement professionals in contributing to the circular economy.



Short term

- Baseline measurements
- Pilot projects
- Ambassadors

Medium term

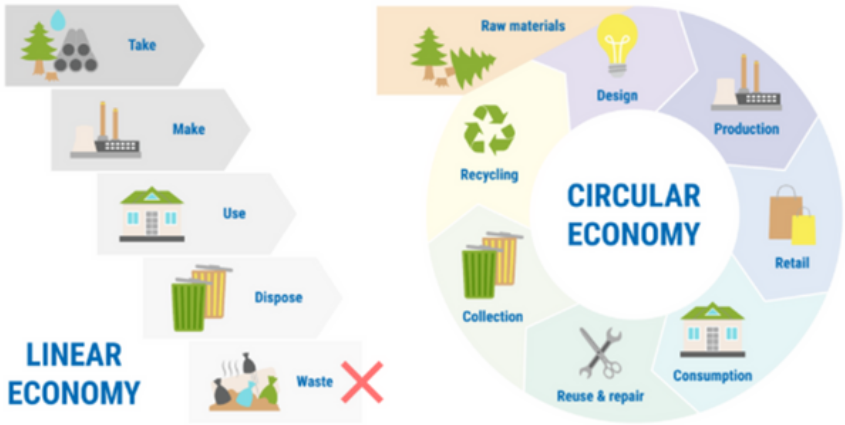
- Training
- Business cases
- Opportunities for experimentation

Long term

- Legal frameworks
- Chain collaboration

1. The circular strategies refuse, rethink and reduce

A circular economy is a model of production and consumption in which existing materials and products are used for as long as possible and waste is kept to a minimum. This model focuses on creating greater value, in contrast to the traditional linear model which relies on large quantities of cheap, readily available materials and energy. In a linear economy, raw materials are extracted to manufacture products that are discarded after use, leading to waste and the depletion of natural resources.



Circular strategies such as recycling, repair and reuse are often illustrated using R-ladders. The first ten-step R-ladder of circular strategies was introduced in 2014 by Jacqueline Cramer of the Utrecht Sustainability Institute. Since then, several variations of the R-ladder have been developed. The underlying idea remains the same: an R-ladder, or circularity ladder, outlines a range of circular strategies (R-strategies) that contribute to reducing the use of primary raw materials. As a general rule, strategies higher on the ladder use fewer materials, thereby reducing environmental pressure caused by material use, energy consumption and pollution.

The strategies refuse, rethink and reduce are at the top of the ladder. Their aim is to use fewer raw materials or to avoid their use altogether, thereby preventing environmental pressure. This is often referred to as **narrowing the loop**. The middle group of R-strategies aims to ensure that products remain in use for longer and at a high quality, for example through reuse or repair. These strategies focus on slowing consumption, known as **slowing the loop.** The lowest group of strategies seeks to return materials to the production cycle through recycling, commonly referred to as **closing the loop**. Recover – converting materials into energy – is the least favourable option and not truly circular, since the materials are removed from the loop altogether.

Narrowing the loop Making and using products more intelligently	R0 Refuse	Rendering a product redundant by discontinuing its function or supplying it with another product
	R1 Rethink	Intensify product use, for example by sharing products or using multifunctional products
	R2 Reduce	Manufacturing products more efficiently by using fewer raw materials and resources in the product or its use
Slowing the loop Extending the service life of products and components	R3 Reuse	Reuse of discarded products that are still in good condition in the same function by another user
	R4 Repair	Repair and maintenance of broken product for use in its original function
	R5 Refurbish	Refurbishing or modernising old products
	R6 Remanufacture	Using parts from discarded products in new products with the same function
	R7 Repurpose	Using discarded products or parts thereof in new products with a different function
Closing the loop Useful application of materials	R8 Recycle	Processing materials into the same (high-quality) or lower (low-quality) quality
	R9 Recover	Incineration of materials with energy recovery

Overview of R-strategy definitions

The NAMI Approach: Refuse, Rethink, and Reduce in Public Procurement

What can we learn from experiments in which professionals consciously shape and implement the circular strategies refuse, rethink and reduce within procurement practice? This is the central question in the work package 'Refuse, rethink and reduce in action' of the NAMI research project, conducted by the Research Group on Public Procurement. This research question is divided into three sub-questions, outlined below:

1. How do organisations apply the higher R-strategies refuse, rethink and reduce?
2. In which dimensions do dilemmas or obstacles arise when implementing the chosen strategy?
3. What knowledge, skills, motivation and opportunities are needed for procurement professionals to apply the circular strategies refuse, rethink and reduce?

These sub-questions were explored together with the Less is More working group of the FM Circular programme. During a series of workshops, participants shared their experiences of how they apply the R-strategies (H2), the obstacles they encounter (H3 and H4) and what they need as procurement professionals to do so effectively (H5). These insights were translated into perspectives for action (H6). The development of example cases (H7) and a decision tree for applying the R-ladder (H8) provide practical guidance for getting started with Refuse, Rethink, and Reduce in procurement.

2. How to apply refuse, rethink and reduce

For procurement professionals to apply the R-strategies refuse, rethink and reduce, it must be clear what each strategy entails and what steps can be taken. The R-ladder definitions mainly concern product design and production. For this reason, we have adapted these definitions for procurement practice.

For refuse, it is important to have a clear understanding of the organisation's needs and product use. With this insight, procurement professionals can enter into dialogue with commissioning bodies to forgo a purchase or meet the need in another way, for example by using existing solutions within the organisation.

Rethink calls for innovative solutions. This means exploring alternative, more sustainable ways of meeting needs, such as conducting market research, requesting functional specifications in procurement procedures or applying alternative business models.

Reduce is about buying less. This can mean purchasing fewer products, or selecting products that are made using fewer raw materials and resources. Reducing purchasing requires insight into how products are used within the organisation.

The table below summarises the definitions and their application in procurement. The final column explains the types of activities that procurement professionals can undertake (Sturm, 2024).

As one participant noted: "For me, this explanation makes far more sense for us as procurement professionals than other terms I've seen used in the R-ladder. It makes it easier for me to start the conversation, because it's explained in a very clear and practical way."

	Definition of R-ladder	Procurement application	Implementation of action perspective
Refuse	Rendering a product redundant by abandoning its function, or by supplying it with a radically different product.	Is it really necessary? No, then do NOT purchase it. Not purchasing is all about NEED and how this is determined.	Gather information about existing solutions within the company that can be used instead of purchasing a new solution.
Rethink	Intensify product use, e.g. by sharing products or using multifunctional products.	Is it really necessary in this form? No, purchase DIFFERENTLY. When purchasing differently, the emphasis is on the PRODUCT, SERVICE or WORK and which materials are used and taken back in what quantities.	Functional requirements specifications Trend scouting and market research Public procurement to promote innovation.
Reduce	Manufacturing products more efficiently by using fewer raw materials and resources in the product or its use.	Is this quantity really necessary? No, purchase LESS. When purchasing less, the emphasis is on USE during the term of the contract.	Apply criteria relating to life cycle efficiency, such as Total Cost of Ownership and energy consumption.
Reflectie	*Focus on product design and manufacturing.*	*Focus on whether or not to purchase, more sustainable products or raw materials and their use or the process.*	*''Practical and concrete explanations that make it easier for a purchaser to engage in conversation.''*
Source	*10R model (J. Cramer)*	*NAMI Research*	*Article by Ines Maria Sturm, ÖBB*

Translating the R-strategies into perspectives for action helps clarify how to approach the application of refuse, rethink and reduce.

3. Challenges for procurement professionals

Applying refuse, rethink and reduce in practice is not straightforward. This chapter shares the experiences of participants in the Less is More working group within their own organisations. These experiences have been categorised into four dimensions relevant to embedding innovation: technological, legal, economic and socio-cultural (Van den Broek, et al., 2020). We then examined the level at which each challenge occurs: at the individual level, in collaboration with colleagues; at the organisational level due to the culture or structure; and at the systemic level, as a result of certain societal rules and frameworks.

		Dimensions			
Levels		Technological	Legal	Economically	Socio-cultural
	System	Lack of data and insight	Accountability Act Public Procurement Act	Current linear rules	Lack of awareness
	Organisation	Business processes are not aligned	Risk-averse organisation	Lack of time and capacity	No support or policy
	Individual	Lack of knowledge	Current contracts Fear of summary proceedings	Lack of knowledge Price above circular	Expected resistance

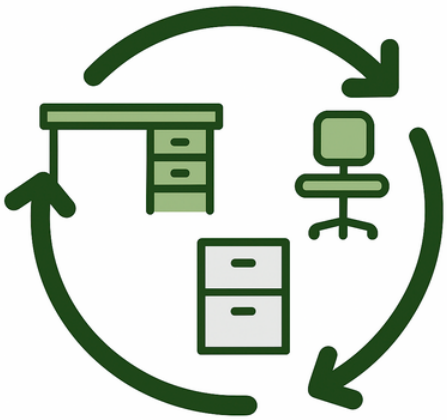
Overview of identified obstacles across different dimensions and levels

System level
At the system level, the current linear economic rules and legal frameworks, such as the Public Procurement Act and the Government Accounts Act, are seen as the main obstacles to applying the R-strategies.

Examples of linear economic rules that hinder circular procurement include:
- Depreciation policies for equipment that result in the automatic replacement of items that are still in good working order.
- Annual budget cycles, which can encourage unnecessary purchases to prevent future budget reductions.
- Circular and more sustainable alternatives being more expensive due to the high taxation of labour-intensive activities. In addition, the pricing of linear products does not sufficiently account for the social and environmental costs of raw materials and resources.

True pricing is a method that includes the hidden social costs of products and services in their price. This means looking not only at direct production costs, but also at the costs to the environment, human health and social conditions that are otherwise excluded from the retail price. Making these hidden costs visible provides a more complete picture of a product's true cost and impact.

According to the national regulation on the management of movable assets, all surplus movable property that has not been used for a certain period must be reported to the Domeinen Roerende Zaken (DRZ, the government agency responsible for managing surplus movable assets, part of the Ministry of Finance). The DRZ operates an online platform, the Rijksmarktplaats, where surplus office furniture such as desks, chairs and cabinets can be offered for reuse within central government. However, this system does not yet function optimally. To make better use of each other's stocks and surplus furniture, a more proactive approach and uniform cross-government collaboration are needed. This requires earlier insight into future surpluses and needs so that furniture can be used elsewhere within central government.



Organisational level

At the organisational level, the working group identified obstacles mainly in the technological and economic dimensions. Examples of technical obstacles include the absence of necessary logistical processes and the lack of data and insight into material flows and stock levels.

From an economic perspective, there is insufficient time, capacity and financial resources to support innovation and carry out experiments. Understanding the business cases for circular alternatives helps decision-making, but this too requires time and knowledge of life cycle analyses and sustainability certifications.

A lack of support from senior management, inconsistent policy and risk-averse behaviour also play a role at the organisational level. Underlying causes include silo thinking between procurement, facilities management and sustainability, a lack of mandate for procurement staff to deviate from standard procedures and a risk-averse culture that discourages experimentation.

To systematically reduce unnecessary procurement of workwear within central government, cooperation is needed between the workwear procurement category, central government entities and external stakeholders such as suppliers. The reduce R-strategy is recognised at policy level, but in practice it has yet to become embedded. Current purchasing behaviour is largely driven by fixed clothing packages, individual clothing budgets and culturally ingrained routines, with workwear often regarded as a long-standing entitlement. Data on usage, stock levels and replacement is insufficiently available or rarely used. Procurement processes include little assessment of whether a purchase is actually necessary. Structural data collection on stock levels, product lifespan, return flows and complaints is needed to support sound policy decisions and optimise the procurement process.

Having an established policy framework with defined objectives is an important prerequisite. It provides a clear basis for decision-making during operations and supports effective implementation of procurement procedures.

Individual level
At the individual level, the obstacles most frequently mentioned fall within the socio-cultural dimension. These are primarily related to (anticipated) emotional resistance due to attachment to existing processes, products or suppliers and fear of criticism.

The culture within the facilities management sector is characterised by hospitality and a focus on service, which may appear to be at odds with applying the R-strategies refuse, rethink and reduce. Participants noted that management often bases decisions on assumptions about potential resistance, rather than on research into the actual wishes and expectations of employees. End users also sometimes find it difficult to let go of old habits or focus excessively on perceived barriers. Yet, by simply trying or testing a new approach, one may find that many of these assumptions and barriers are not relevant in practice. It can help to experience the new way of working over a longer period before evaluating it – a "100 days without complaints" approach. This can make it easier for old habits to give way to new, more sustainable solutions.

A lack of knowledge about circularity also plays a significant role. Procurement staff may not know which sustainable alternatives are available, which certifications or labels are most appropriate or how to balance lifecycle costs against purchase costs.

The 100-days-without-complaints approach: agree that a new way of working will be tested for 100 days. Comments and experiences are set aside during this period, after which evaluation takes place based on facts. Experimenting in the form of pilot projects and gaining hands-on experience in this way is valuable.

The organisation uses the Leesman Index to measure workplace experience. Sanitary facilities are one of the categories measured, and this currently scores below the target. At the same time, the organisation is working to reduce costs. Management is reluctant to introduce circular recycled toilet paper, fearing that it could further reduce the Leesman Index score. They also worry that building users might perceive the introduction of this toilet paper as a cost-saving measure rather than a sustainability initiative. As a result, management does not investigate the actual wishes and expectations of building users regarding sanitary facilities and sustainable improvements such as recycled toilet paper.

4. Summary of obstacles

The analysis of reported obstacles reveals several overarching themes.

Negative reactions only arose after the organisation widely communicated its achievement of increasing the share of vegetarian food in catering to 70 percent. Apparently, this only became a problem once it was made explicit. This underlines the importance of perception: employees felt as though something was being taken away from them, even though the change had already been implemented.

Emotional resistance
Changes in procurement policy are often perceived as restrictive, both by employees and by senior management. Employees may feel personally attached to existing processes or products, which makes them experience change as a form of loss. Resistance can also stem from fear of the unknown or from a lack of involvement in decision-making.

Lack of knowledge
Employees often have insufficient understanding of circular procurement and its associated benefits, which can lead to misconceptions and uncertainty about practical implementation and impact. Without adequate understanding of the advantages and opportunities afforded by circular procurement, there is little motivation to embrace change.

Legal barriers
Strict legislation, tendering rules and contractual obligations are perceived as obstacles, and organisations often have limited scope within existing contracts to introduce sustainable alternatives. Moreover, complex regulations and rigid procurement procedures can hinder innovation and flexibility.

Economic feasibility
Budgets are often fully spent to avoid reductions in future allocations. Another reason is that circular and more sustainable alternatives may be overlooked because they appear more expensive in the short term. Organisations also risk clinging to traditional procurement models to maintain financial security.

Limited innovation and flexibility
Many organisations struggle to implement new ideas because of rigid processes. Innovation is often hindered by existing structures and priorities, leaving little scope to test and scale up circular initiatives on a small scale. Organisations that continue to adhere to traditional ways of working therefore miss opportunities for improvement.

When the number of types of workwear was reduced, resistance arose mainly because employees felt that their freedom of choice was being restricted. This confirmed that emotions play a significant role in organisational change processes.

Social and cultural resistance
Employees and management often cling to existing habits and do not always recognise the need for change. This may be linked to a lack of urgency or to a cautious wait-and-see attitude within organisations. Without clear behavioural change and support from management, it is difficult to implement circular procurement policy effectively.

Convincing employees to accept second-hand products is particularly challenging. There is a prevailing sentiment that 'new is better and more appealing', which forms a major obstacle within organisations.

5.The procurement professional's toolkit

Successfully applying refuse, rethink and reduce involves many factors. What skills does a procurement professional need to apply Refuse, Rethink, and Reduce? These aspects were explored during the workshops using the AMO model. This model states that an employee's performance depends on three factors: ability, motivation and opportunity.

Ability
To be able to act, knowledge and skills are essential. Applying refuse, rethink and reduce requires broad knowledge of sustainable products and innovations, certifications, legislation and regulations, contracts, business cases, and the organisation itself – its policies, needs and usage patterns. Much can also be gleaned from pilot projects and lessons learned by other organisations.

Key skills include creativity, innovative thinking, curiosity, courage, willingness to take risks and show vulnerability, the ability to persuade and build support, to communicate and share knowledge, to handle resistance, to act decisively, to experiment and to connect through active listening.

Motivation
To ensure that people are willing to contribute, it is important to appeal to the right drivers and incentives. Some individuals are intrinsically motivated because they are aware of the consequences of raw material use. Others can be encouraged by setting sustainability goals, either at organisational level or individually during performance reviews. Another motivational factor may be agreeing on cost savings in procurement or maintenance, or committing to convert financial savings into job retention. Positive motivation can also stem from a desire to give the organisation a competitive advantage through a more sustainable business model, making it a more attractive employer.

It is helpful to build support early in the procurement process. Invite colleagues, end users and research institutions to contribute ideas in an engaging, interactive session.

Opportunity
To what extent are procurement professionals able to apply refuse, rethink and reduce? What conditions and forms of support are needed to do so? The market must be sufficiently mature in terms of sustainability, with professional suppliers. At the same time, the organisation must have enough influence within that market, and an established internal policy framework with the right incentives in place to guide behaviour accordingly. Equally important is a positive organisational culture: support from senior management and motivated colleagues willing to contribute. There should be room to experiment, reflected in trust, mandate, time and budget. In addition, a clear understanding of organisational processes and data on existing stock are essential. The foundations must be in order to determine which levers can be adjusted.

From this extensive list of requirements, the most import preconditions for being able to apply refuse, rethink and reduce in procurement are the **presence of established policy, reliable baseline data and scope for experimentation**.

6. Where to begin

All participating organisations recognised the obstacles identified in their own processes. In particular, the role of emotion and perception in driving or hindering change proved crucial. Implementing circular procurement requires not only technical and legal adjustments, but also attention to communication and change management within organisations.

Based on the obstacles identified and the needs of procurement professionals seeking to implement the strategies Refuse, Rethink, and Reduce in procurement, we recommend that organisations begin with the following actions.

SHORT TERM
0-6 months

Short term (0-6 months):

- Invest in baseline data on material flows and stock levels. Conduct baseline measurements to establish targets and report on progress.
- Define clear circular procurement policy with concrete objectives.
- Launch low-risk pilot projects to gain experience.
- Appoint circular procurement ambassadors for each department.

MEDIUM TERM
6-18 months

Medium term (6-18 months):

- Implement training programmes for procurement professionals and internal clients or budget holders. Organise peer-to-peer learning sessions to share experiences and best practices.
- Develop business cases for circular alternatives to secure internal approval for sustainability initiatives. In addition to outlining the required investments, prepare a Total Cost of Ownership (TCO) calculation to substantiate your business case.
- Create scope for experimentation with dedicated time and budget. Establish an innovation fund for circular experiments.

LONG TERM
18+ months

Long term (18+ months):

- Engage in dialogue with supply chain partners to adjust legal and economic frameworks that hinder progress.
- Develop collaboration with other organisations to strengthen your influence on the market.
- Recognise and reward employees who take circular initiatives. Include sustainability objectives in employees' personal development plans.
- Integrate circularity into all procurement processes. Apply Most Economically Advantageous Tender (MEAT) criteria to incorporate sustainability considerations and specify requirements in a way that allows suppliers to propose innovative solutions. You do not need to wait for a contract renewal or tendering process; suppliers can be challenged or invited to bring forward ideas during the contract period. You can introduce a KPI that rewards suppliers for sustainability initiatives that can be implemented.

7. Example case studies

Refuse/reduce: office supplies

Situation: *In many office environments, large quantities of office supplies such as pens, notebooks and binders are still used. This often happens automatically or out of habit, without considering whether the products are truly necessary. Storage cupboards are also routinely replenished, leading to waste and overconsumption.*

Strategy: *Refuse/reduce – avoiding the purchase of unnecessary products and waste and encouraging more efficient use.*

Solution: *A critical assessment was carried out to determine which office supplies were truly essential. Two behavioural experts provided advice during the process. An experiment was conducted to limit the number of products in storage cupboards and to encourage ordering through an online shop offering a more sustainable product range. In the pilot, the product range in storage cupboards was reduced from 55 to 21 products at one location. Attention was also paid to preventing the unintended consequence of employees ordering directly from the online shop once cupboard stock was reduced.*

Implementation: *Insights from the pilot were incorporated into a new procurement procedure. The storage cupboards were not removed altogether, but the number of products in them was drastically reduced nationwide. Where possible, sustainable alternatives were chosen. In addition, the product selection in the online shop was reviewed critically to manage this unintended consequence in a more professional way.*

Result: *This approach led to reduced waste and greater awareness among employees. By streamlining the product range, adjusting stock management and promoting sustainable alternatives, the use of office supplies was reduced in the pilot. The nationwide rollout will be incorporated into the implementation of the new contract.*

Rethink: sanitary products and supplies

Situation: *The organisation aims to make its services more sustainable, including the products it uses itself. For this reason, research was conducted into how facility management services could be made more sustainable.*

Strategy: *Rethink – reviewing product specifications in the existing range and assessing whether a higher R-level can be achieved.*

Solution: *The research identified several potential improvements, such as the use of a sustainable soap dispenser combined with a more environmentally friendly soap.*

Implementation: *The soap dispenser is being tested at one location and, if successful and supported by a sound business case, will be rolled out to all sites.*

Result: *A trial was conducted with the eco-friendly soap, and user satisfaction was positive. The decision was therefore made to roll out the soap system throughout the building and conduct a year-long pilot in preparation for potential implementation across all locations nationwide.*

7. Example case studies

Rethink: from flowers to plants

Situation: *Flowers are a popular gift, but they have a short lifespan and a high environmental impact. Plants are a more sustainable alternative and contribute to a healthy working environment.*

Strategy: *Rethink – using behavioural nudges to encourage employees to gift plants instead of flowers.*

Solution: *Use communication campaigns and visual reminders to promote plants as the new gift alternative.*

Implementation: *Implementation begins with the development of a visual catalogue featuring sustainable plant options, created in collaboration with suppliers to offer a broad and accessible selection. By distributing the catalogue, employees are encouraged to choose plants. Finally, the results are monitored and communicated to raise awareness and make the impact visible.*

Result: *This approach encourages employees to make more sustainable gift choices.*

Refuse: gloves

Situation: *In the facilities management sector, large numbers of gloves are used in both cleaning and catering. However, in 95 percent of cases, cleaning does not involve any danger, and in kitchens, the use of gloves is not necessary. The minimum potential reduction is 50 percent fewer gloves used.*

Strategy: *Refuse – avoiding the use of raw materials.*

Solution: *Work processes in catering and cleaning were adjusted. Gloves are now used only when required for safety reasons or when specifically mandated by the client.*

Implementation: *Work processes were adapted and the approach aimed to shift users' and consumers' perceptions.*

Result: *Based on the use of Gloovy Eco Gloves (a more sustainable nitrile material), annual CO_2 emissions were reduced by 50 percent (see the glove supply chain analysis for details).*

7. Example case studies

***Rethink*: workwear**

***Situation*:** *The organisation aims to make its workwear more sustainable. The clothing must convey recognisability while being made from sustainable materials.*

***Strategy*:** *Rethink – assess the collections of different manufacturers and determine whether a higher R-level can be achieved, paying attention to both (logistical) processes and the raw materials from which the clothing is made. Include both narrowing the loop and closing the loop (recycling) principles.*

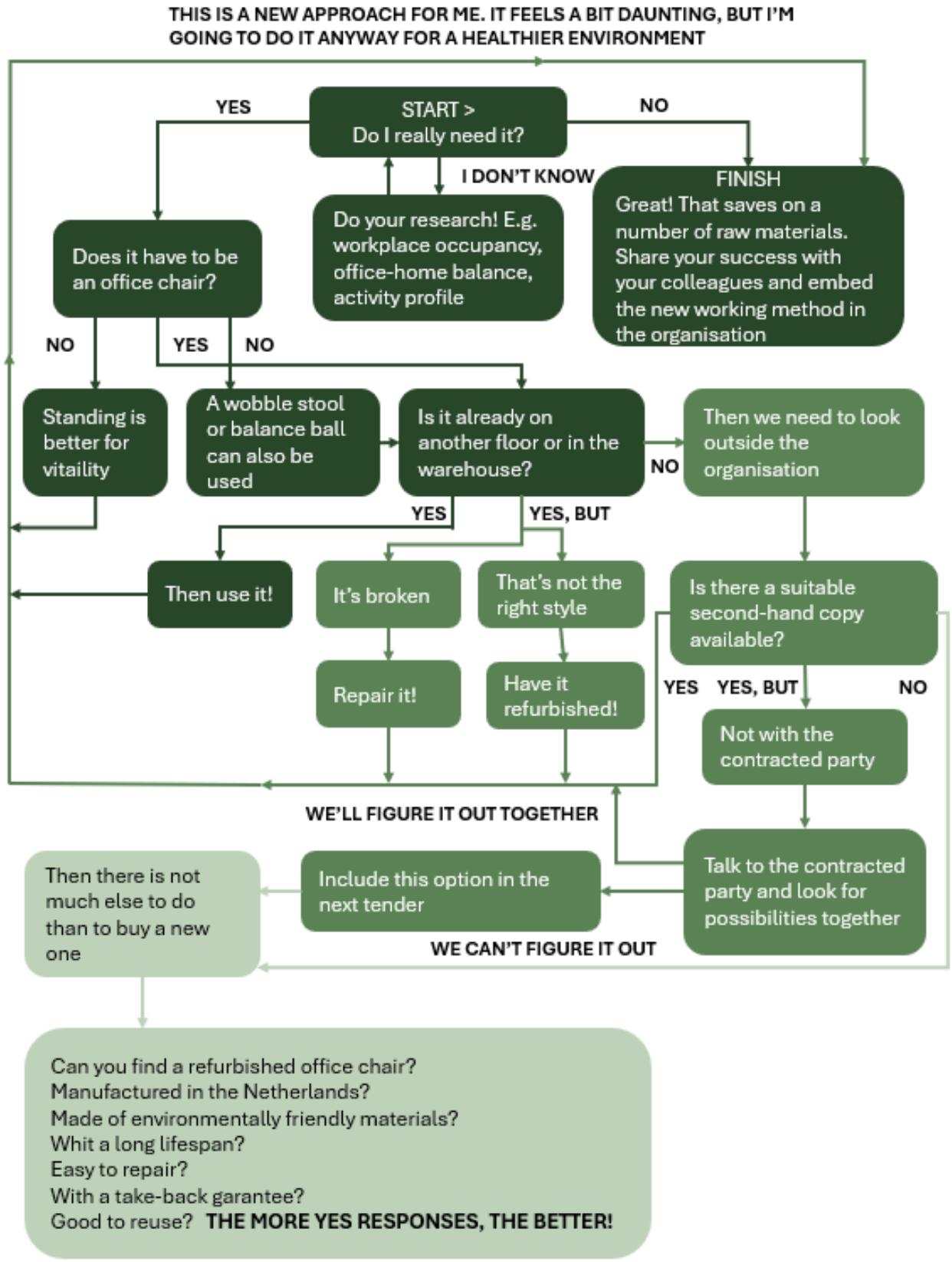
***Solution*:** *The research identified several improvements, such as garments made from recycled or organic materials. Avoiding bespoke designs and organisation-specific colours, and instead adopting the manufacturer's standard design and colour range, results in a significantly smaller footprint. Embroidering logos instead of printing them also has a positive effect on the garment's recyclability. At the end of the use phase, the clothing is collected and recycled into yarn – for example, for car upholstery – rather than being shredded or incinerated (lower R-value).*

***Implementation*:** *A wear test was conducted with different types of employees, across a range of sizes, over an extended period during their daily work. If clothing is comfortable, people are more likely to wear it for longer. The marketing and communications department was involved in selecting the collection that best matched the corporate style, rather than the other way round.*

***Result*:** *The workwear trial produced positive feedback. The decision was made to switch the entire collection to the manufacturer's standard line and to embroider small logos. At end of life, the garments will be collected, logos removed and the materials recycled into new yarn and raw material.*

More examples of reducing the procurement of items for facility management services can be found in the VANG Buitenshuis menu of options. On the next page, a decision tree illustrates how the R-strategies can be applied in practice.

8. Decision tree for R-strategies



References

European Parliament. (n.d.). Circular economy: Definition, importance and benefits. (Circulaire economie: Definitie, belang en voordelen). Accessed 9 July 2025.

CLO | Compendium for the Living Environment (Compendium voor de Leefomgeving), 10 September 2024. Environmental impact of consumption, 1995–2022 (Milieudruk door consumptie, 1995–2022). Retrieved 29 June 2025 from https://www.clo.nl/indicatoren/nl013712-milieudruk-door-consumptie-1995-2022. Accessed 29 June 2025.

Hanemaaijer, A. et al., 2025. Integral Circular Economy Report 2025. (Integrale Circulaire Economie Rapportage 2025). The Hague: Netherlands Environmental Assessment Agency (PBL).

Ministry of Infrastructure and Water Management (2023). National Programme for a Circular Economy 2023–2030 (Nationaal Programma Circulaire Economie 2023–2030).

Sturm, I.M., 2024. Recycling the 10 Rs into circular criteria. ÖBB. Accessed 3 July 2025.

Broek, J. van den, I. van Elzakker, T. Maas and J. Deuten, 2020. Beyond local enthusiasm – Lessons for scaling up living labs (Voorbij lokaal enthousiasme – Lessen voor de opschaling van living labs). The Hague: Rathenau Institute