Joint Statement on Procurement for Environmentally and Ethically Sound Kidney Care Products and Services

This Joint Statement on Procurement provides a global template for procuring products* and commissioned services** that aim to improve the lives of people, globally, who live with kidney disease, by supporting environmentally sustainable, climate-adapted, and ethically sound kidney care that is affordable, accessible and limits health inequities.

** e.g. medications, consumables, dialysis equipment*

*** e.g. pharmacy services, patient transportation*

This Joint Statement on Procurement was developed by the GREEN-K Steering Committee representing the African Association of Nephrology, Asian Pacific Society of Nephrology, Canadian Society of Nephrology, European Kidney Health Alliance, European Renal Association, International Society of Nephrology, Latin-American Society of Nephrology and Hypertension and United Kingdom Kidney Association.

The following societies support the vision/aim of the Joint Statement on Procurement

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Executive Summary

The International Society of Nephrology (ISN)-led Global Environmental Evolution in Nephrology and Kidney Care (GREEN-K) steering committee recognizes that reducing the environmental impact of patient-centred kidney therapies and services, while simultaneously expanding their delivery and improving system resilience, are essential aspects of quality and environmentally sustainable kidney care. Approximately 70% of health and kidney care greenhouse gas emissions arise 'upstream' (i.e. production, packaging, transport of goods and services), and 'downstream' (i.e. product disposal / waste management) of direct patient care. With the intention to mitigate these impacts, GREEN-K, informed by procurement experts and in collaboration with global clinical community and industry stakeholders, introduces this voluntary, globally applicable framework for procurement of kidney care therapies and services that aims to improve adult and pediatric kidney health everywhere. This Joint Statement on Procurement ('JSP') integrates six innovative procurement domains (decarbonization, supply chain ethics, reduction of health inequalities (within countries and globally; including fair pricing), climate resilience (of healthcare facilities and supply chains), circularity in product design and management, and protection of the living planet) to create demand for the acceleration of innovation, while improving quality, access, and affordability of care. Procurement decisions should prioritize patient outcomes, continuity of care, and equitable access while seeking opportunities to achieve progressive improvement across these additional social, environmental, and economic dimensions. This document provides background and rationale for the JSP, and outlines targets, objectives, or aspirations for each JSP domain, recognizing variable maturation of existing standards or assessment methodologies for each. Tools to operationalize the JSP, including scoring matrices, will be released later. We are stronger together – collaboration and collective action can help drive ecologic, affordable, and ethical innovation in kidney care products and services.

Introduction and Background

1. The need for environmentally sustainable and equitable health systems

With the establishment of the triple planetary crises of global heating, pollution and biodiversity collapse[1] as key determinants of health,[2] the need to reduce the environmental impacts of health care is appropriately intensifying.

Reducing the environmental impact of quality, patient-informed, and shared decision guided kidney therapies and services, while simultaneously expanding their delivery and improving system resilience, are essential aspects of quality care.[3] People living with kidney diseases are communicating the importance of environmental sustainability for their kidney care experience, and for their well-being. [3,4,5] Both health, and a clean and sustainable environment, are human rights.[6] The 2025 Lancet Countdown on Health and Climate Change reports that climate-related health harms continue to rise, with 12 of 20 key risk and impact indicators recently setting 'concerning new records'.[2] The World Health Organization (WHO), via its recently adopted Global Action Plan on Climate Change and Health,[7] has positioned health systems as an essential part of the climate solution. Among the Plan's many objectives are protecting vulnerable populations, integrating health considerations across climate policy and response, and reducing pressure on health systems while decreasing the environmental and climate impacts of health-care delivery.

Though numerous health systems globally have committed to achieving net zero greenhouse gas emissions (45 at time of writing), sustainable, low carbon care (92), and climate resiliency (103),[8] it is increasingly recognized that sectoral, in addition to national, approaches to decarbonization are necessary.

2. The global kidney community's response toward health and climate solutions

Building on existing advocacy, policies and actions of many kidney care societies and consortia worldwide, the global kidney community is uniting via the GREEN-K initiative, led by the International Society of Nephrology, to mitigate the impacts of planetary crises on kidney health and the environmental footprint of kidney care delivery.[9,10] This initiative recognizes these goals as essential requirements of ethical, quality kidney care.

This Joint Statement on Procurement (JSP) aligns with United Nations Sustainable Development Goals[11] 3 (good health and well-being), 9 (industry, innovation and infrastructure), 10 (reduced

inequalities), 11 (sustainable cities and communities), 12 (responsible consumption and production), 13 (climate action), and 17 (partnerships for the goals). **It is grounded in the principle that we are stronger together – collaboration and collective action can help drive ecologic, affordable, and ethical innovation in kidney care products and services. The JSP aims to improve kidney health globally by improving access to, affordability of, and environmental performance of kidney care goods and services, leveraging procurement to drive innovation.**

3. The inequitable and rising burden of kidney disease, with planetary crises as a driving factor

Kidney care, for the purposes of this document, encompasses the prevention, detection and management of kidney disease in both paediatric and adult populations, including chronic kidney disease (CKD); kidney failure (KF; end-stage kidney disease), including supportive care or a kidney replacement therapy (KRT; comprising kidney transplantation and the various forms of dialysis); the prevention, detection and management of acute kidney injury (AKI); and the management of assorted rare kidney conditions.

CKD is highly prevalent, with 1 in 10 individuals affected worldwide — over 840 million people —[12] most of whom have disease of lesser, though still impactful, severity than KF. Globally, 4.6 million people are estimated to rely on a KRT for survival,[13] 69% of whom are managed with hemodialysis, which comprises 89% of all dialysis therapies.[14] The number of people with CKD–including those with more advanced disease stages and those requiring a KRT – is projected to rise substantially in the coming years. Global incidence and prevalence of paediatric CKD is also increasing, with children and adolescents in regions with lower sociodemographic levels experiencing disproportionately high CKD-related morbidity and mortality.[15,16] One report estimates that by 2032, the number of individuals with a functioning kidney transplant and those receiving dialysis could increase by up to 80% and 171%, respectively, in some regions.[17]

Inequitable access to care to prevent, detect and slow progression of disease, as well as to kidney failure therapies,[18] may compound what is now acknowledged to be a public health crisis, particularly in low- and low-middle-income countries where CKD growth rates are highest.[19] Along with established risk factors such as hypertension and diabetes, rising global temperatures and declining air quality are increasingly recognized as important contributors to the development and progression of CKD.[20] An increased incidence of AKI is linked with higher ambient temperatures even in the temperate zone[21] and this burden is likely to increase as the planet heats.

People living with kidney disease, and the systems that deliver their care, are increasingly vulnerable to extreme weather events and other shocks. Examples of system vulnerability include the disruption of dialysis and parenteral fluid supplies following Hurricane Helene in the United States (US) in 2024[22] and of continuous renal replacement therapy consumables after earthquakes in northern Italy in 2012.[23]

4. Health and kidney care's environmental impacts – a needed focus on supply chains

Healthcare itself causes planetary harm, with its annual global carbon footprint of 2 million metric tons (Mt) carbon dioxide equivalents (CO_2e) predicted to triple by 2050 if the current trajectory continues.[24] The environmental impact of CKD care is likewise expected to increase, with projected increases exceeding 11% by 2032 across 8 higher income settings.[17] For pre-dialysis CKD, recent analyses in high income settings reveal, on a per person basis, progressively higher greenhouse gas (GHG) emissions with worsening CKD stage.[25] KF imposes a particularly significant environmental burden, with per patient GHG emissions from one UK dialysis program exceeding that of the average National Health Service (NHS) England patient by nearly 18 times.[26] Although most assessments of GHG emissions from KRTs have been performed in high income settings,[27,28,29,30] studies that determined HD emissions in Morocco[31] and Mexico,[32] low middle and upper middle-income countries, respectively, have comparable results. Further, kidney care in lower middle-income settings is often constrained by poor waste management infrastructure and is relatively carbon-intensive due to the predominance of HD over the lower emitting KRT options of PD or transplantation.[33] Though per patient per year GHG emissions for dialysis therapies vary by modality and prescription, region, and scope of processes evaluated, published estimates are from 1.4 to 10.2 tons CO_2e per patient per year.[27,34] Impact becomes substantial when scaled to population level, with recent per annum modeled emissions from CKD care (all stages) in the United Kingdom and United States, respectively, totaling 1.8 and 30.5 megatons (Mt) CO_2e.[25] Put another way, even modest improvements in the sustainability of CKD management carry potential for huge overall gains.

Approximately 70% of global health and kidney care emissions arise from supply chains, encompassing both up-stream activities (e.g. resource extraction, manufacturing and transport to site of use) and down-stream processes (e.g. waste management following care delivery).[26,35,36] Pharmaceuticals are consistently identified as the largest emitting category within procurement, constituting between 17-35% of health system emissions, followed closely by clinical equipment and consumables, such as those used in dialysis therapies, which contribute 18-25%. Greenhouse gas emissions determined by global expenditures on pharmaceuticals were estimated

at 219.6 Mt in 2019, an increase of 77% from 1995.[37] However, accurate emissions data for individual pharmaceuticals are largely unavailable, as such information is either unmeasured or proprietary. It is recognized that appropriate prescribing constitutes a cardinal patient care and sustainability opportunity. As such, this Joint Statement on Procurement addresses procurement across **both pharmacotherapies as well as kidney replacement therapies**.

Prevention of KF through optimized health promotion and disease prevention, early detection, and optimized management of CKD remains the highest priority. A 'whole of system' approach is needed, involving public health measures and equitable access to responsibly produced essential medications. Nonetheless, effective prevention does not obviate the need to address the impacts of KF treatments, which will continue to be required, at scale, for the foreseeable future.

5. Addressing Equitable and Environmentally Sustainable Global Kidney Care via Procurement – a Novel GREEN-K Approach

Recognizing that the environmental impacts of kidney care products and services are embedded across their entire life cycle – from design and manufacture to delivery, use, and disposal stages – **this call to action for ethical and environmentally sustainable procurement applies across the full spectrum of paediatric and adult kidney care. It includes, but is not limited to, consumables, hardware, procured services including patient transportation for KF treatments, as well as pharmaceuticals used in the care of people living with all stages of kidney diseases, including KF**. Decarbonization has been the primary focus of efforts to improve the sustainability of healthcare. However, an exclusive emphasis on carbon reduction risks 'carbon tunnel vision', which may, at best, neglect social factors, health system factors and non-carbon environmental impacts or, at worst, lead to unintended adverse consequences for people and Earth. Such consequences might include adverse working conditions, worsening health system vulnerability, inequitable distribution of healthcare resources, and the generation of unnecessary waste, with associated environmental – and potentially health – harms stemming from toxic chemical pollution, biodiversity loss, water scarcity, desertification and deforestation.

Kidney care has an opportunity to align with the World Health Organization's Sustainable Development Goals and Global Action Plan on Climate Change and Health (both as described above), as well as its 14th General Programme of Work agenda to 'advance health equity and build resilience',[38] by creating low carbon and climate-resilient kidney health systems, reducing financial barriers to KRTs, and reducing health inequities from economic and environmental determinants of health. This Joint Statement on Procurement for Environmentally and Ethically Sound Kidney Care Products and Services, therefore, covers 6 separate domains:

1.  **Decarbonization**
2.  **Supply chain ethics**
3.  **Reduction of health inequities, both within countries and globally, including fair pricing**
4.  **Climate resilience of healthcare facilities and supply chains**
5.  **Circularity in product design and management**
6.  **Protection of biodiversity and the living planet**

These domains are expected to be applicable across all aspects of kidney care procurement, learn from evolving process and allow for progressive improvement over time. They do not supplant other 'conventional' procurement domains that:

- Support high-quality patient care
- Include equipment that is user friendly and intuitive.
- Deliver demonstrable clinical, cost, and resource benefits
- Meet all necessary standards in relation to quality, approvals, ethics, data protection, and inter-operability
- Comply fully with all required standards and regulations of each purchaser

This JSP is intended to cover both tenders and the targeted procurement of individual products and/or services. While scoring matrices are most readily applied to tenders, the framework is also

intended to be deployed for use in individual procurement decisions to ensure that key domains of interest are considered as a matter of routine practice.

6. The Joint Statement on Procurement Approach - Building on Systems Expertise and Existing Innovative Procurement Strategies

This Joint Statement on Procurement was informed by existing innovative procurement strategies and aligns with the World Health Organization's strategy for healthcare supply chain decarbonization.[39] The JSP is a collective statement of demand from the global kidney community for environmentally sustainable, climate resilient, equitable, and ethically sound kidney care products and services. The JSP uses procurement as a lever to drive innovation in kidney care. It outlines shared priorities and expectations for procurers and suppliers across innovative domains spanning decarbonization, ethics, equity, resilience, circularity, and biodiversity. The JSP allows operationalization to be adapted to local contexts, by rate (incrementally or more comprehensively up front) and by extent - informed by clinical need, regulatory requirement(s), and market maturity. It was created following consultation with professionals with expertise encompassing health systems and the six innovative procurement domains (refer to Acknowledgements, below). The process used to create the JSP is described in detail elsewhere.[40]

The JSP is similar to other documents and procurement processes termed 'Joint Statements of Demand' that have been implemented in healthcare and other sectors. Ecoquip, an innovative European procurement organization, has many examples of Joint Statements of Demand that pool procurers for novel products or services and thereby stimulate suppliers to innovate.[41] This GREEN-K Joint Statement is an approach that balances the urgency of addressing the ethical and environmental challenges facing kidney care with a commitment to respectful collaboration across stakeholders, including industry partners, who have had opportunity to provide feedback on this framework.

Novel procurement approaches have been sought because of unmet need that can result from, among other factors, environmentally sustainable and affordable products not yet existing or produced to required scale, lack of vendor presence in small markets, and/or provider concerns regarding fragility of supply or service provision (for various reasons including but not limited to rising costs, supply chain disruption from extreme weather events or production shortages). Innovative procurement strategies in other realms have objectives that variably include enhanced access to, and affordability of, healthcare products and services, or improved environmental sustainability of these products and/or services. Selected examples include:

- Pan American Health Organization's Strategic Fund – a pooled procurement mechanism for essential medicines and 'strategic health supplies', intended to strengthen product availability through price agreements and expanded access to non-communicable disease (NCD) management technologies[42]
- 'Design bugs out' – a successful design challenge run by NHS Purchasing and Supply Agency and the UK's Department of Health that sought redesigned hospital furniture and equipment that would be easier and faster to clean, with a goal of reducing infections[43]
- Africa Centre for Disease Control and Prevention's Regional Procurement Mechanisms and African Pooled Procurement Mechanism – collective procurement initiatives intended to increase supply stability and attract competitive suppliers with a goal of improving access to quality and affordable health product technologies and promote localized manufacturing[44]
- Ecoquip's 'Towards Zero-Waste Operating Theatres' project – a joint procurement initiative led by University Hospitals Bristol and Weston NHS Foundation Trust, UK, seeking innovative products and services to support transition to circularity in operating theatres through reductions in single-use items and unnecessary packaging, and to ensure residual waste is optimally managed (i.e. zero exported plastics, optimal recycling, waste to energy if incineration)[45]
- Ecoquip's 'Smart emergency call and response solution for hospitals' – a joint procurement initiative seeking innovative emergency call and response solutions for hospital systems across Europe[46]

We are not aware of any such innovative procurement examples in kidney care to date.

The present JSP does not prescribe how industry should meet ethical and environmental sustainability goals. Further, it does not specify whether the required change(s) should be incremental or transformational; however, the intention is for GREEN-K to develop future procurement scoring matrices that will reward solutions that demonstrate greater ambition in advancing ethical and environmental sustainability goals.

The JSP also recognizes that change may occur through technological innovation or through alterations in process – for instance, a change in the manufacture and logistics of supply of a dialysis consumable may be as transformative, or even more transformative, than a new technology, and may be easier to achieve in the short-to-medium term.

Use of this sustainable procurement framework will require procurers to consider domain, and key performance indicators (KPIs) for each domain, that are pertinent to local and/or regional equity, resiliency, and/or sustainability priorities. Standard KPIs and scoring matrices will be created by GREEN-K, that can be adaptable to local context, to support JSP operationalization and to assist procurement teams.

KPIs and scoring matrices should be incorporated from the start of a procurement exercise and should meet regional requirements. Procurement teams may initially choose to focus on selected domains (e.g. decarbonization and ethics) or components, with additional domains and KPIs incorporated over time as experience, reporting capability, and standards evolve. Scoring matrices that support variable operationalization pace (i.e. stepwise versus more immediate JSP / domain uptake) will also be available. KPIs should be developed at the level of the procuring entity, which in many cases will be the individual kidney unit or hospital, but may also be at network, regional or even national levels.

The JSP facilitates the use of forward-commitment procurement, a potentially powerful tool to drive innovation in which there is a forward-looking and aspirational agreement to purchase a product or service that currently does not exist (either conceptually, or at a scale commensurate to demand) in order to meet an unmet need. Such an approach provides suppliers with greater certainty so that investment in research, development, and production can occur. Forward-commitment public procurement is used to advance environmental innovation in the United Kingdom, where, among other criteria, product characteristics and delivery date(s) are specified, and provision is made that the good or service procured can be delivered to agreed performance levels and costs.[47]

The EU describes two complementary forward innovation procurement models[48]:

- Public Procurement of Innovative solutions (PPI); used when innovative solutions that already exist are close to market and can be procured without the need for research and development
- Pre-Commercial Procurement (PCP); used when no near-to-market solutions exist, so new research and development is procured; the pros and cons of alternative solutions are compared to allow stepwise de-risking of the most promising through iterative design, prototyping and testing.

The JSP anticipates that innovation and efficiency gains arising from reconceptualized products and/or services (i.e. in their design, delivery or site of manufacture, and/or their function) will generate cost savings for manufacturers and, in turn, for procurers. It is expected that savings to procurers would be further amplified through economies of scale as expanded kidney care provision enables the adoption of cost contained products and services.

Finally, the JSP recognizes that universal standards or methodologies of assessment do not presently exist for all domains. Where such standards exist, we make this clear, below. Where such standards do not presently exist, this is similarly made clear, and illustrative examples of potential alternatives are proposed to support the incorporation of human health and environmental protection measures beyond climate change.

JSP Content

This document outlines ethical, climate resilient, and environmentally sustainable procurement targets, objectives, or aspirations (as above, criteria specificity depends on existence / maturity of existing standards or assessment methodologies) for which collaborative consensus was obtained by global kidney care stakeholders. Highlighting the overarching goal of improving the lives of people who live with kidney disease, globally, it is emphasized that products and services procured will further quality, patient-informed, and shared decision guided kidney care, while simultaneously expanding its delivery.

GREEN-K Procurement, Infrastructure, and Innovation resources that operationalize the content of this JSP (e.g. scoring matrices) will be released subsequently.

Neither the GREEN-K sustainable procurement framework, nor this Joint Statement on Procurement, are legally binding. Though we are stronger together, procurers must always consider the suitability of applying the JSP to their organization and/or region's setting (e.g. contractual or legal requirements, preservation of product and/or service provision, feasibility if markets are limited to few suppliers particularly if those enterprises are small).

We recommend that all procurements include a minimum 10% environmental and social weighting, encompassing all of the 6 domains, to drive progress in each. The weighting applied to each individual domain within this minimum 10% allocation is adaptable according to local priorities; for instance, a local scoring matrix may place a greater weighting on water savings than materials circularity if applied in a water stressed setting.

In general, the recommendations below relate to the specific kidney care product or procured service under consideration and not just the overarching ambition and performance of the individual supplier.

Taking the domains in turn:

1. Decarbonization

Tenders must include both decarbonization targets and decarbonization timelines:[39]

a) The high ambition decarbonization target of the WHO Alliance for Transformative Action on Climate and Health (ATACH) is whole health system (including scope 1,2 and 3 supply chain) net zero emissions (ideally by 2050) [49,50]

i. by extension, for health systems to meet this commitment, this ambition is expected for all procured products and services, and must be clearly stated at both the level of the product and the level of the company (i.e. each procured product / service and the company providing it must have credible net zero goal(s) by 2050 for scopes 1,2, and 3)

b) By April 2027, all suppliers will, at the time of tender, be expected to publicly report targets and emissions at global corporate level, and to have a published Carbon Reduction Plan for their global scope 1, 2 and 3 emissions aligned to the stated target.

c) By April 2028, all suppliers will be required to provide carbon foot printing data for individual products/services being procured.

d) Methodology of carbon foot printing should align with that of the latest GHG protocol[51] with any residual carbon offsetting adhering to accepted principles (e.g. those of the Voluntary Carbon Markets Integrity Initiative[52] or the Science Based Targets Initiative[53]). Suppliers should aim to replace expenditure data from the E-Class classification system (an international standard for the classification of products and services)[54] in favor of carbon assessment methodologies further up the hierarchy. Life cycle assessments and data reporting for pharmaceutical products should adhere to requirements specified in PAS (Publicly Available Specification) 2090 product category rules specification.[55]

Additional procuring entity decarbonization considerations:

1.1 An existing national (or international) target (e.g. that of NHS England[35]) would normally take primacy over ATACH if these are in place to avoid confusion during tendering although the latter may be chosen if local requirements are less ambitious.

1.2 If procurement bids do not specify decarbonization strategies a(i), b, c and/or d above, procurement scores should must reflect this.

1.3 Commitments that exceed a(i) (i.e. those with earlier and/or interim decarbonization targets) should be rewarded in the scoring matrix. One example of such a target is the near-term emissions reduction target aligned with the 1.5°C pathway of the Sustainable Markets Initiative,[56] with commitment to achieve net zero emissions by 2045.

1.4 It is recommended that suppliers be disqualified from a tender if minimum ambitions for decarbonization requirement a(i) above is not met.

2. Supply chain ethics

The JSP aspires to the United Nations Guiding Principles on Business and Human Rights[57] and encompasses:

a) immediate and full compliance with international labor standards per the 11 fundamental instruments of the International Labour Organization[58]

b) immediate and full compliance with the ten principles of the UN Global Compact, which includes human rights, workers' rights, and an anti-corruption commitment, as well as environmental protection[59]

c) suppliers will be disqualified from a tender if minimum ambitions for supply chain ethics are not declared

Additional procuring entity ethics considerations and tools, to ensure active and constructive engagement across all levels of the supply chain.[59,60]

2.1 British Medical Association's Ethical Procurement for Health: workbook.[61]
Developed in partnership between the British Medical Association, the Ethical Trading Initiative, and the UK Department of Health, this flexible tool aids understanding of labour standards throughout health care supply chains. Using a stepwise policy /people/ process/ engagement/ measurement approach, the tool provides an overall framework for ethical procurement. It also contains numerous useful links, illustrative case studies, guidelines, and templates.

2.2 International Organization for Standardization (ISO) standard 26000, a guidance standard on social responsibility[62]
Intended primarily for organizations, a framework is provided to aid integration of values and sustainable practices into organizational governance and function, going beyond legal compliance. Wider consideration of human rights, fair operating practices and community involvement and development are collectively intended to improve impacts on workers, communities, and nature.[62]

2.3 Pharmaceutical Supply Chain Initiative's 'PSCI Principles for Responsible Supply Chain Management'. Intended to reach all businesses operating within an organization's supply chain, five areas to be upheld, with expectations outlined for each, are: ethics; labor, health, and safety; environment; and management systems.[63] Although created by and for the pharmaceutical industry, these principles could also be applied to the medical supply realm.

3. Reduction of health inequities, both within countries and globally, including fair pricing

The Framework for Developing Dialysis Programs in Low-resource Settings[64], a part of the ISN's collaboration plan with the WHO, calls for more cost-effective dialysis machinery, inexpensive manufacture of PD solutions, and financial efficiencies in dialysis care that include central negotiated strategic purchasing, operational efficiencies, product and process re-engineering, and

introduction of new/affordable technologies. In addition to procurement of KRTs, a major aim of a kidney community procurement strategy is to enhance demand for sustainably produced, packaged, and distributed kidney protective pharmacotherapies, and immunosuppressive therapies for kidney transplant recipients.

More recently, the WHO's 2025-2028 Global Health Strategy seeks to advance health equity (via enhanced health promotion and protection, and universal health care provision) and resilience.[65] Importantly for kidney care, Joint Outcome 4.3 of this Strategy aims to reduce financial barriers and out-of-pocket health expenditures, with plans to collect, track and analyze these expenditures, as well as financial hardship and foregone care - pertinent indicators recognizing the inequity of access to kidney care worldwide.[66,67]

Procuring entity equity considerations include:

3.1 Collection and reporting of performance data for health equity, such as Global Kidney Health Atlas data on KRT provision, and WHO SDG indicator 3.8.1 'coverage of essential health services' and 3.8.2 'incidence of catastrophic out-of-pocket health spending'.

3.2 Engagement of regional, national, and international health organizations and associated funding mechanisms to optimize use of 'best buys'[68] (effective interventions with demonstrated cost effectiveness in low-income and lower middle-income countries)

3.3 Potential application of novel health care funding models such as 'progressivity' financing.[69] (where a service is equitably available to rich and poor through different pricing) or tiered pricing (products are sold at prices systematically lower in lower income versus higher income settings).[70]

3.4 Potential use of climate health funding mechanisms (e.g. grants from donor agencies or philanthropies, loan and/or volume guarantees, Green/Theme bonds (a structure in which a borrower raises capital expressly for climate or sustainability focused projects).[71]

3.5 It is anticipated that efficiency gains arising from the manufacture (e.g. solvent recycling for pharmaceuticals), distribution (e.g. optimized logistics/shipping), or other 'leaner' features of reconceptualized products and/or services will generate cost savings for manufacturers and, in turn, for procurers, together with environmental benefits. Financial and environmental costs of procured goods and/or services could also be mitigated via improvements in energy efficiency (e.g. lower energy consumption for transportation networks, refrigeration (e.g. pharmaceuticals storage), and for novel dialysis equipment). Better affordability should permit expansion of the market for kidney therapies, thereby improving the lives of many.

3.6 Wider value considerations in procurement beyond direct cost (i.e. societal benefits of enhanced health including life engagement, regional economic stimulation, regional environmental benefits of reconceptualized product or service delivery models).

3.7 Upheld pricing and service within negotiated contracts, including local or regional technical support (e.g. for dialysis equipment), and consistent supplies delivery (e.g. pharmaceuticals, dialysis consumables) including all reasonable measures taken in the event of disruption or disaster.

With no uniformly accepted standard for measuring equity within or between countries, each procurement will need to be assessed on its own merits, with scoring of each tendered product or service aligned with the broad principles noted above.

Expanding kidney health worldwide is a priority, with this domain being an area of active development; though a specific timeline is not defined.

4. Climate resilience of healthcare facilities and supply chains

Care for people with kidney diseases depends on reliable infrastructure (facilities, water, energy), and uninterrupted flow of people (patients and providers), consumables, and pharmaceuticals. Each step in a product's pathway and use may be vulnerable to climate shocks – hence the need to incorporate resilience into product design, care delivery, and service provision.

Procurement matrices should reward solutions:

a) that support and facilitate resiliency measures sensitive to local challenges and developing risks, whilst also demonstrating security to climate-, socio-economic and other shocks, within their own supply chains to ensure continuity of service.

Additional procuring entity considerations:

4.1 Both WHO[72] and Health Care Without Harm (Europe), through their LIFE-RESYSTAL program[73] have provided guidance to promote facility- and health care system-resilience. The WHO calls on the entire health workforce, facility managers in particular, to understand climate risks, and to strengthen climate resilience.
The WHO identifies four primary health facility resiliency requirements:

a) a stable, informed workforce (adequate human resources including surge capacity, healthy and safe working conditions, disaster and emergency management informed workforce, practicing environmentally sustainable care)

b) water, sanitation, hygiene and health care waste systems (consistent availability of services allowing sustainable supply and delivery of water and goods and their appropriate disposal, including of chemicals; also monitoring, risk mitigation, and health and safety regulations available and followed)

c) sustainable energy (use of energy from renewable sources, low facility greenhouse gas emissions, off-grid energy production capacity (i.e. solar, wind, hydroelectric, batteries) in the event of electrical grid disruption)

d) resilient infrastructure (e.g. load-bearing building elements (i.e. beams, floor slabs); construction that resists floods / storms / rising water levels; fire protection systems; exit and evacuation routes); and critical health systems resiliency (medical and laboratory operations, digital health resiliency)

4.2 The WHO strategic healthcare supply chain decarbonization strategy advises lower emitting, lower performing health systems to prioritize climate resilience while adopting sustainable low carbon technologies.[39]

With no uniformly accepted standard to measure resilience, each procurement will have to be viewed in and of itself with a tailored scoring structure aligned with the broad principles noted above.

No specific timeline has been set for this domain.

5. Circularity

Circularity seeks to keep materials in use at their highest possible value throughout the product life cycle through strategies such as reducing resource use by design, repairing, refurbishing, repurposing, and recycling.[74]

Procurement scoring matrices should reward solutions:

a) that are managed and/or supported by the supply chain rather than the end-user (front-line clinical teams and health care facility operations and maintenance teams); for instance, an assertion that mixed materials packaging is recyclable at the point of use fails to recognize that front-line work-flows may preclude this

b) that are designed for extended life, repair and re-use

c) that allow resources to retain their highest intrinsic value without degradation down the waste hierarchy (e.g. repairing or refurbishing is preferred to recycling or disposal as waste)

Additional procuring entity circularity considerations:

5.1 Transparency regarding actual (and not just the intended) fate of spent materials is a vital consideration, regardless of whether responsibility for waste processing resides with the supplier or end-user. Plastics intended for recycling but ultimately dumped or incinerated is one example of the potential gap between intent and reality[75] that should be assessed at the time of tender.

5.2 Procuring entities should recognize that while 'dematerialization' (the digitalization of physical processes or products) and 'servitisation' (the provision of products as a service, such as equipment leasing rather than ownership) may offer environmental benefits, they may not always serve the best interests of the end-user through the addition, for instance, of licensing or other fees.

5.3 Acknowledging that many jurisdictions have underdeveloped waste management (that may include recycling) infrastructure, procurement decisions should consider actual local and/or regional waste management capability, not only theoretical disposal and/or recyclability characteristics.

With no uniformly accepted standard for measuring circularity, each procurement will need to be assessed on its own merits, with scoring of each tendered product or service aligned with the broad principles noted above.

No specific timeline has been set for this domain although we note that the Ecodesign for Sustainable Products Regulation (ESPR) legislation is now in force across the EU and is the cornerstone of the Commission's approach to more circular as well as environmentally sustainable products.[76]

6. Protection of biodiversity and the living planet

Adherence to local, national and international environmental law as relevant to the specific jurisdiction is taken as a given.

Various aspects of this domain are explored below:

a) *General environmental management*

Organizations are encouraged to obtain ISO 14001 certification for the design and implementation of an environmental management system.[77]

This Standard provides a framework to protect the environment while responding to changing environmental conditions in balance with socio-economic needs, with a holistic view of product and service design, manufacture, distribution, consumption, and disposal through a life cycle perspective.

b) *Water Management*

Considering that millions of people who rely on dialysis for their survival reside in water scarce regions,[78,79] procurers should demand products with low water use.

i. All organizations should have, or undertake, a comprehensive water management policy, such as that outlined by the Alliance for Water Stewardship.[80]

ii. Suppliers should provide details of water usage (e.g. per unit) through full life cycle of the product, including expected levels of consumption during routine use, as well as throughout manufacturing and end use phases

iii. Procurement tender evaluations should explicitly score water conservation across both operational use (i.e. end user water consumption) and the full product life cycle, (including production and supply chain) stages.

iv. Guidance for disclosure of water withdrawal, discharge, and consumption throughout a product's life cycle can be obtained via Global Sustainability Standards Board (GSSB) Standard 303: Water and Effluents 2018.[81]

c) *Toxic Chemical Pollution*

Assessing the impacts of chemicals on human and ecosystem health is complex, and, ideally, requires life-cycle assessment of individual chemicals within their specific production, use, and disposal contexts.

A variety of frameworks guide chemical stewardship. The UN Global Framework on Chemicals[82] offers a guide for countries and stakeholders to take measurable actions to address overall management of chemicals and waste, including plastic waste. European healthcare's phase out list for chemicals of concern[83] attempts to avoid chemical pollution by regulating substance groups instead of individual substances, in part via avoiding 'regrettable substitution', where chemicals are replaced by those with different or unknown hazards. 'Green chemistry'[84] involves the design of chemical products and processes that reduce or eliminate the use or generation of hazardous substances.

Guiding principles for procurers:

i. Procurers should expect organizations to have chemical stewardship processes and to communicate these processes, or plans to achieve them.

ii. In compliance with the UN Global Framework on Chemicals, organizations are expected to use safer alternatives, innovative and sustainable production (including green chemistry) and handling throughout value chains so benefits to human health and environment are maximized and risks prevented.

d) *Plastics*

Suppliers should demonstrate a comprehensive approach to plastics prioritizing only necessary plastic use, and avoiding plastic waste throughout a product's life cycle (from

raw materials sourcing through manufacture, distribution, and use, to disposal). Specific stewardship examples include minimizing plastics in products themselves through improved design, ensuring optimal recyclability (i.e. avoiding adhesives or inks that may impair plastics recycling), and using less toxic plastic types and constituents[85] when more sustainable alternatives exist.

e) *Nature-related Issues*

The Taskforce on Nature-related Financial Disclosures has guidance and disclosure recommendations to enable businesses to report and act on their nature-related dependencies, impacts, risks and opportunities.[86] Aligned with the goals and targets of the Kunming-Montreal Global Biodiversity Framework, organizations can ensure that their activities shift financial flows toward nature-positive outcomes.

i. Procurers should expect organizations to have considered their (and their supply chains') effects on land use and biodiversity, and ways to minimize adverse impacts. Such information should be provided in procurement bids.

ii. Additional biodiversity considerations: The Global Sustainability Standards Board (GSSB) Standard 101: Biodiversity 2024[87] may serve as reporting reference, with sections on corporate policies to halt, reverse, and manage impacts of biodiversity loss, to locate drivers and locations of biodiversity loss, and to mitigate impact on ecosystems (valuing ecosystems' benefits to health).

With no uniformly accepted standard to measure any of the above content areas surrounding protection of the living planet, each procurement will have to be viewed in and of itself with scoring aligned with the broad principles and guidance materials noted above.

No specific timeline has been set for this biodiversity and living planet domain.

7. Verification and Assurance

Suppliers should provide evidence to support claims made within procurement submissions for both products and services. Information that adheres to recognized international standards is preferred, with subsequent tiers of verification &/or assurance including, for example, third party independent verification, &/or public reporting.

Acknowledging limitations introduced by the lack of uniformly accepted scoring standards for many of the innovative procurement domains, it is expected that suppliers should nonetheless demonstrate commitment to transparency and continuous improvement.

Future scoring matrices that will be created by GREEN-K to support JSP use will reward progressively higher levels of evidence, disclosure, and assurance as methodologies and reporting systems mature.

Table: Summary: JSP Content and Goals

Table 1 (Summary Version): ISN-led GREEN-K Joint Statement on Procurement Content and Goals

This table is a summary of JSP content and goals, by domain. This is not a procurement scorecard. Not all procurements are anticipated to require all domains / goals in this table.
Future sample procurement matrix scorecards will incorporate this content and reward escalating ambition toward or beyond each of the above targets and timelines.

We recommend all procurements include minimum 10% environmental and social weighting encompassing all of the 6 innovative domains, below			
Domain	**Level**	**Goal / target**	**Timeline**
Decarbonization*	**Company** (global operations)	Net zero Scopes 1,2,3**	2050
	Company	Decarbonization status and plan (current emissions plus interim targets toward goal)	Per tender, starting April 2027
	Product	Net zero Scopes 1,2,3*	2050
	Product	Carbon footprint data for individual procured product(s) / service(s)	Per tender, starting April 2028
Ethics	**Company (global operations)**	Full compliance with ILO 11 fundamental instruments and 10 principles of UN Global Compact	Prior to ILO web reporting application go-live, all procurements to report compliance with ILO fundamental instruments and UN Global Compact principles As of 2027 go-live of ILO web application, reporting via this mechanism
Reduction of health inequities	**Level**	**Equity Inclusion in Procurement Bid**	**Timeline**
	Company and product / service	Pricing rationale and cost mitigation opportunity	Unspecified but priority for kidney health worldwide
		Assurance of upheld pricing and service(s) negotiated	Unspecified
Climate Resilience	**Level**	**Resiliency Inclusion in Procurement Bid**	**Timeline**
	Company and product / service	Measures that consider local challenges and developing / future risks from climate, socio-economic and other factors	Unspecified
Circularity	**Level**	**Circularity Inclusion in Procurement Bid**	**Timeline**
	Company and product / service	How company maintains materials and products at highest possible value through value chain	Unspecified
Living Planet / Biodiversity	**Level**	**Consideration in Procurement Bid, by sub-domain**	**Timeline**
General environmental management	**Company**	State / describe environmental management certification (i.e. ISO 140001)	Unspecified
Water management	**Company and product/service**	Water stewardship policy, and per product usage through life cycle; and consumption during routine use	
Chemical pollution		Chemical(s) of concern stewardship undertaken	
Plastics		Plastics reduction strategy & stewardship; quantify plastics (including by type) generated in routine use	
Nature protection		Reporting & mitigation per Global Reporting Initiative Biodiversity Standard	

* Public reporting standard to align with latest GHG protocol[51] or Science Based Targets[53]; for pharma PAS 209055

** Scope 1 = Direct emissions from owned or directly controlled sources, on site, Scope 2 = Indirect emissions from the generation of purchased energy, most commonly electricity, Scope 3 = All other indirect emissions that occur in the production and transport of goods and services along their entire ('cradle to grave') supply chain.

Conclusion and Next Steps

Innovative procurement on a global scale of equitable, environmentally sustainable, and climate resilient kidney care products and services is a novel approach to improve the health and lives of all people who live with kidney disease. The framework outlined in this Joint Statement on Procurement was co-created with global clinical and industry stakeholders, generating ownership and trust with a 'market pull' strategy that seeks to guide innovation through novel procurement domains and targets. Procurers at all levels (e.g. hospital, health region, country) are encouraged to use this sustainable procurement framework so we can, together, drive innovation and improvement.

The JSP recognizes that procurement decisions may involve trade-offs between the above-described innovative domains. For example, a pharmaceutical might be produced, packaged, and/or transported with lower greenhouse gas emissions than comparable alternatives, but it may have higher toxicity to aquatic ecosystems. Another example is that a diversified supply chain might have higher adverse environmental impacts, but provide greater resilience.

Trade-offs might also exist between innovative and conventional procurement domains. For instance, circular solutions may require additional infection-prevention considerations.

Procurers are therefore encouraged to adopt a balanced, whole-system approach that considers potential benefits, risks, and unintended consequences of procurement decisions across all procurement domains. Where trade-offs arise, decisions should prioritize patient outcomes, continuity of care, and equitable access while seeking opportunities to achieve progressive improvement across additional social, environmental, and economic dimensions.

Soon, GREEN-K Procurement, Infrastructure, and Innovation members will hold a series of webinars to introduce this equitable, sustainable, and climate resilient procurement framework; including the JSP, to kidney care stakeholders. There will be subsequent focus on supporting the operationalization of the JSP, and providing an array of tools (e.g. graphics, guidance documents, simple scoring templates) that can be adapted based on individual context and need.

Numerous kidney care organizations have already endorsed the JSP,[88] and GREEN-K invites individuals, societies, and kidney care organizations globally to join in its endorsement.

For more information, feedback, and/or inquiry regarding use of the JSP in a vanguard procurement exercise, please contact the GREEN-K Procurement, Infrastructure, and Innovation working group at: procurement@theisn.org

We look forward to creating positive change together.

Acknowledgements

Expert panel with areas of expertise

Procurement Expert	Organization / Affiliation	Area of Expertise
Fiona Adshead, Keith Moore	Sustainable Healthcare Coalition	Sustainable procurement, Industry liaison, Health inequities
Stephen Blenkinsop	Newcastle University, Engineering	Climate resilience
Michael Collins	Environmental Resources Management	Carbon foot printing, Decarbonization
Tsanko Dimov	Greener NHS	Decarbonization, Ethics
Gabriella Abruzzo, Tristan Couberes	Healthcare Without Harm Europe	Climate resilience
Gil Manning	Centre for Sustainable Healthcare, UK; Association of Renal Industries	Sustainable procurement, Industry liaison
Fiona Miller	CASCADES Canada, University of Toronto, ATACH Procurement	Sustainable health systems, Sustainable procurement
Gaynor Whyles	JERA consulting	Sustainable procurement
Nicole Fletcher	NHS England	Sustainable procurement

Annex

Table 1: ISN-led GREEN-K Joint Statement on Procurement Content and Goals (Detail)*

This table provides a listing of JSP content and goals, by domain. This is not a procurement scorecard. It is envisioned that the decarbonization and ethics domains will be included in each procurement using this JSP. Importantly, not all procurements are anticipated to include all of the contents in this table. Future sample procurement matrix scorecards will incorporate this content and reward escalating ambition toward or beyond each of the above targets and timelines.

We recommend all procurements include minimum 10% environmental and social weighting encompassing all of the 6 innovative domains, below						
Domain	**Level**	**Goal / target**	**Scope***	**Public Reporting Requirement**	**Public Reporting Standard****	**Timeline**
Decarbonization**	**Company**	Net zero	1,2,3 (global operations)	Yes	Align with latest GHG protocol[51] or Science Based Targets[53]; &/or for pharma PAS 2090[55]	2050
	Company	Decarbonization status and plan **(current emissions plus interim targets toward goal)**	1,2,3 (global operations)	Yes		Per tender, starting April 2027
	Product	Net zero	1,2,3 (global operations)	Yes		2050
	Product	Carbon foot print data for individual procured product(s) / service(s)	1,2,3 (global operations)	Yes		Per tender, starting April 2028
Ethics	**Company**	Full compliance with ILO 11 fundamental instruments *** [58]	Global operations	Yes	Report addressing the 15 thematic areas of ILO Conventions and Protocols through ILO web application[89]	Prior to ILO web reporting application go-live, all procurements to report compliance with ILO fundamental instruments and UN Global Compact principles As of 2027 go-live of ILO web application, reporting via this mechanism
	Company	Full compliance with 10 principles of UN Global Compact **** [59]	Global operations	Yes		
Reduction of health inequities (within and between countries, including fair pricing)	**Level**	**Equity consideration**				**Timeline**
	Company and product or service	Statement regarding pricing rationale and cost reduction(s) to be shared with procurers (e.g. efficiencies in manufacturing and/or lean product design, innovative pricing policies such as transparent tiered pricing that have potential to expand markets thereby further lower costs)				Unspecified but priority for kidney health worldwide
		Statement regarding assurance for upheld pricing and service within negotiated contracts, including local and regional technical support, and consistent supplies delivery including all reasonable measures taken in the event of disruption or disaster				Unspecified

Climate Resilience (healthcare facilities and supply chains)	**Level**	**Resiliency consideration**	**Per tender**
	Company and product or service	Statement regarding what resiliency measures are planned &/or in place, and how such measures have considered local challenges and developing / anticipated future risks	Unspecified
		Statement demonstrating what resiliency measures are planned &/or in place regarding security to climate-, socio-economic and other shocks, along entire supply chains, to ensure continuity of service	Unspecified
Circularity	**Level**	**Circularity consideration**	**Timeline**
	Company and product / service	Statement demonstrating how the company and its product(s) / service(s) maintains materials at highest possible value throughout the value chain	Unspecified
Protection of biodiversity and the living planet	**Level**	**Pertinent consideration, by sub-domain**	**Timeline**
General environmental management	**Company**	Has the company obtained ISO 14001 certification for the design and implementation of an environmental management system? If not, is another environmental management certification in possession?	Unspecified
Water management	**Company**	The organization must state if it has a comprehensive water management policy and describe this policy.	Unspecified
	Product or service	Details of per product water usage through full life cycle should be provided, including: a) Comprehensive consumption: From raw materials acquisition through production, packaging, distribution, and disposal stages b) Consumption during routine use	Unspecified
Toxic chemical pollution	**Company**	Statement outlining process of chemical stewardship, including a specific statement on management of chemicals of concern	Unspecified
	Product or service	Statement whether product or service contains, or creates, a chemical of concern (as listed in European healthcare's phase out list for chemicals of concern) through its manufacture, routine use, &/or disposal Statement should include human health and environmental harm mitigation if chemical(s) of concern are used, and any interim targets and timelines to fully address such harms	Unspecified
Plastics	**Company**	Statement whether global company operations have plastic reduction strategy, and outline any targets and timelines to ensure no unnecessary plastic consumption	Unspecified
	Product or service	Statement whether product or service has plastic reduction strategy in place, and outline quantity of plastic (wrapping, waste (regardless of type i.e. biohazard, toxic) resulting from routine use	Unspecified
Nature-related issues	**Company, product &/or service**	Statement on company's global biodiversity impacts, per GRI Biodiversity Standard[87] content including: full biodiversity-relevant transparency throughout the supply chain, location-specific reporting on impacts (including within region in which procurement is taking place). Statement is to include disclosures on land use, effect on climate change, potential for overexploitation, pollution, and invasive species; and any impacts on society including communities and Indigenous Peoples. Statement should also include whether company has made / will engage in restoration of affected ecosystems.	Unspecified

* Scope 1 = Direct emissions from owned or directly controlled sources, on site

Scope 2 = Indirect emissions from the generation of purchased energy, most commonly electricity

Scope 3 = All other indirect emissions that occur in the production and transport of goods and services along their entire ('cradle to grave') supply chain.

** Public reporting standard to align with latest GHG protocol[51] or Science Based Targets[53]; for pharma PAS 2090[55]

*** International Labour Organization (ILO) Fundamental Instruments[58]

Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)
Right to Organise and Collective Bargaining Convention, 1949 (No. 98)
Forced Labour Convention, 1930 (No. 29) (and its 2014 Protocol)
Abolition of Forced Labour Convention, 1957 (No. 105)
Minimum Age Convention, 1973 (No. 138)
Worst Forms of Child Labour Convention, 1999 (No. 182)
Equal Remuneration Convention, 1951 (No. 100)
Discrimination (Employment and Occupation) Convention, 1958 (No. 111)
Occupational Safety and Health Convention, 1981 (No. 155)
Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187)

**** United Nations (UN) Global Compact[59]

Human Rights

- Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
- Principle 2: make sure that they are not complicit in human rights abuses

Labour

- Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right
- to collective bargaining;
- Principle 4: the elimination of all forms of forced and compulsory labour;
- Principle 5: the effective abolition of child labour; and
- Principle 6: the elimination of discrimination in respect of employment and occupation

Environment

- Principle 7: Businesses should support a precautionary approach to environmental challenges;
- Principle 8: undertake initiatives to promote greater environmental responsibility; and
- Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

- Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

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