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Knowledge-Action Network on Systems of Sustainable Consumption and Production

—Political Economy Working Group—

POLICY BRIEF:
PROGRESS ON SUSTAINABLE PRODUCTION-CONSUMPTION REQUIRES INDICATORS ATTENTIVE TO GLOBAL PATTERNS OF RESOURCE USE *AND* INEQUITIES

There is a growing international consensus that total levels of production-consumption must be reduced to avoid dangerous climate change and prevent the violation of other critical planetary boundaries [1, 2, 3, 4, 5, 6, 7, 8, 9]. Nearly 10 years ago the international community recognized this need with the 12th Sustainable Development Goal (SDG12) "to ensure sustainable consumption and production patterns". Most recently the European Parliament called for legally binding targets for resource consumption reductions [10]. Despite these goals, global progress toward more sustainable production-consumption patterns has been slow. This policy brief stresses the importance of footprint indicators and argues that they must be included in any policy framework that aims to ensure more sustainable systems of production-consumption. Footprint indicators are essential for understanding global patterns of resource extraction, production, distribution and use. When integrating social indicators, they also have the potential to ensure that the social dimensions of production-consumption are made clear and that progress in one region is not offset by impacts displaced into another, or from one material or social group to another, since no resource extraction is free from environmental and social impacts [11, 12]. *These indicators are essential for understanding global distributional inequity and environmental injustices which are key enablers of unsustainable levels of production-consumption.*

KEY MESSAGES:

- **Sustainable production-consumption patterns cannot be achieved without a global perspective attuned to system-wide rebound effects and leakage.**
- **Domestic efficiency improvements alone are unlikely to reduce global materials use and should happen together with absolute reductions of resource consumption.**
- **System-level analyses can illuminate the underlying drivers of unsustainable production-consumption patterns.**
- **Overproduction and consumption are enabled by injustices in the global economy.**
- **Distributional equity must be considered at a global scale to reduce patterns of unsustainable resource use.**

A Global Lens is Necessary: Climate change, biodiversity loss, waste, deforestation, resource depletion, ocean plastics, toxic burdens—all of these worsening problems are clearly connected to current societal levels of materials use in production-consumption systems. All the materials we extract, process, manufacture, distribute, use, consume and discard have direct and indirect impacts on the environment and human wellbeing [13, 1]. According to the International Resource Panel, "Focusing on single resources, single economic sectors or single environmental and health impacts will not achieve the collective vision of the Sustainable Development Goals" [1]. Instead, we need a global-systems imaginary and approach. Social, economic, and environmental factors are tightly coupled in global systems, marked by international supply chains, trade, unprecedented flows of finance capital, movements of people, and the transboundary nature of pollution and emissions [14, 15]. Goods produced with different carbon and materials intensities are continuously exported and imported in the global market [16] and studies suggest that the indirect materials embodied by products (those used locally in processes of extraction, production) exceed the mass of final products that cross borders by a factor of four [17]. However, many efforts to track or reduce resource use have failed to adopt a global political economy perspective, focusing instead on indicators that do not capture the coupling of social and ecological impacts and/or are limited by methodological nationalism— despite the deeply global nature of contemporary production-consumption systems [18]. Footprint indicators must take social and ecological impacts into account and provide a systemic view of the world political economy that can make clear how the costs and benefits of resource consumption are distributed across human societies.

The Need to Move Beyond Efficiency: Many nations have made significant investments in improving materials and energy efficiency, enabling claims of progress and the fulfillment of mitigation responsibilities. However, there is clear evidence that efficiency gains are not keeping up with growing levels of global production and consumption [19]. Models estimate that aggressive carbon pricing and resource efficiencies can help mitigate environmental impacts but are unlikely to lead to absolute reductions in energy or material footprints [17, 20]. Further, the cost savings associated with efficiency gains often stimulate demand for additional consumption. These rebound effects are well documented across scales [19]. Moreover, domestic efficiency improvements are often associated with an increase in environmental burdens outside national borders when, for example, a country moves toward a less carbon- and materials-intensive, information-based economy but maintains high levels of materials consumption increasingly fulfilled through international trade [21]. In these cases, the environmental impacts of production and consumption are no longer incurred domestically, but they have not been diminished, only displaced. Too often the ecological and social burdens are shifted to lesser developed countries —unable to make similar investments in materials and energy efficiency. Further, concerns about the depletion of local resources in environmentally concerned, affluent contexts have motivated investors to purchase land and other natural assets abroad, increasing vulnerability in developing communities who are burdened with ecological deficits, increasingly limited access to their resources, and foreclosed development opportunities [22].

Identifying Underlying Drivers: In assessing the possibility for absolute reductions and seeking solutions, footprint indicators that take social and ecological impacts into account can help to clarify primary drivers of material use and emissions [2]. *Our assertion is that global inequities help to make overproduction and consumption possible in affluent locales* [23]. The ability to shift the true costs of materials extraction, processing, packaging, shipping, distribution, use, and disposal on to other actors (beyond those who benefit from the product) makes production more profitable and consumer goods artificially cheap. This burden shifting is made possible by political and economic inequality rooted in colonial and post-colonial patterns of extraction and exploitation [24]. Ecologically unequal exchange allows high-income countries and/or subnational jurisdictions to appropriate resources from beyond their borders and to enjoy a monetary surplus generated through international trade [25]. Those with significant economic and political power are able to produce and consume at high levels without incurring or sharing in the full life-cycle costs of the products and services they enjoy [9]. Research now makes it clear that household ecological impacts tend to increase with income [26] and international analyses suggest that high-income countries consume 10 times more per person, on average, than low-income countries [1].

Facing Inequities through Just Transitions: The European Commission has acknowledged that Europe uses 3-4 times more biocapacity than is located within its borders. These levels of use are not sustainable, are deeply unjust, and only possible because the costs have been externalized to developing communities. Today the 1.2 billion poorest people account for 1 per cent of the world's consumption, while the billion richest consume 72 percent of the world's resources [27]. Those with power in the system must participate in the solution for lasting and substantial change to occur [28, 29]. Estimates suggest that moving the global poor to an income level of US $3–8 per day income will consume 66% of the available two-degree global carbon budget [30]. However, models of energy demand estimate that income redistribution efforts can help to lift people out of poverty without significantly increasing overall demand due to likely shifts in consumption profiles [31]. Just transitions towards sustainable production-consumption will have to ensure that the necessary reductions in parts of the Global North and affluent Global South cannot take place at the expense of the poor [32]. Any approach that does not distribute the burden of reduction fairly is destined to fail in the long-term, generating instabilities, increasing displacement and international migration of environmental refugees, and increasing international tension— amongst other negative consequences. It is also important to ensure that necessary production-consumption increases in large parts of the Global South are not absorbed by local elites [33].

Policy that Recognizes Differential Footprints and Levels of Mitigation Responsibility: A range of policy proposals and practices have emerged along with growing recognition of the need to reduce total resource production-consumption. These propositions range from the conceptual like consumption corridors [34] and doughnut economics [35] to specific proposals for taxation on materials or carbon, alternative frameworks for determining international mitigation responsibilities, efficiency standards, and materials bans. Our primary recommendation is that, regardless of which forms these policies and practices take, they should be based on objective analyses of resource use that take into account socio-ecological impacts and injustices. Footprint analyses have the benefit of making clear how the benefits and costs of resource use have been globally distributed. These analyses, if utilized, can help to ensure that environmental burden shifting, leakage, or system-wide rebound effects are avoided. Perhaps more central to our argument here, these tools are essential as we increasingly understand that high levels of injustice and inequality (political, economic, material access) have enabled overproduction and consumption among the world's most affluent. Footprint analyses that account for the coupled social and ecological dynamics of the global political economy thus open the opportunity for policy conversations about justice and redistribution as a means for poverty alleviation, total reduction in global resource use, and for building solidarity with environmental defenders who highlight injustices but are often the victims of extreme violence [36]. In summary, these tools are essential as the global community grapples with the dual challenges of both environmental degradation and levels of inequality that leave too many without the resources necessary to live fulfilling lives or to resist the unfair burdens associated with high levels of production-consumption in wealthier and more politically powerful nations.

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