POLICY dialogue BRIEF

Shifting to Sustainable Consumption for 1.5°C Gaps, Solutions, and New Policy Agendas

The Paris Agreement set a global target of maintaining temperature rises to well below 2°C above preindustrial levels, with the ambition of 1.5°C. At present, we are a long way off track. Combined commitments under the agreement are projected to overshoot to as much as a 3.1°C rise by 2100.¹ The likelihood of significant and possibly irreversible environmental consequences under this scenario is high.

Supply-side reductions in emissions, particularly from technological gains in the energy sector, have dominated emissions-reductions models and thinking to date. Prevailing evidence from existing efforts and commitments, combined with trajectories of increasing populations, affluence, and development, places stress on the likelihood that a focus on the supply side alone cannot keep pace with targets set.

An area that has received less attention in both policy and climate models is that of demand-side, lifestyle, and behavior changes to reduce emissions. This is in part due to the uncertainty around costs and measurable impacts from efforts to shift consumption, complicating modeling and evaluation efforts. Additionally, the practicalities of stimulating lifestyle changes carry complex, value-laden questions around norms, equity, freedoms, and market interventions that can become mired in contention. However, with current trends highly likely to overshoot targets, it may be the time for examining how demand-side consumption changes can contribute to emissions reductions. In July 2018 in Amsterdam, the Stanley Foundation and the Hoffmann Centre for Sustainable Resource Economy at Chatham House gathered a group of key actors for a focused, facilitated discussion to identify concrete ways to embed incentives for sustainable consumption into policy agendas at national and international levels.

As a product of the workshop, this policy dialogue brief outlines why demandside measures are needed and their potential for supporting efforts to stay below 1.5°C. The first section emphasizes the need to lessen the emissions curve as soon as possible in order to reduce reliance on riskier or unproven emissions-reductions methods in the future. The brief then lays out the common framework for demand-side action: informing, nudging, and regulating. Six strategic priorities are then presented for future action: (1) optimizing consumption, (2) emphasizing the role of cities, celebrities, and communities, Convened by

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(3) going beyond nudge policies, (4) stimulating sustainable substitutions, (5) creating aspirational narratives, and (6) reducing overall consumption. The policy landscape for taking action is then analyzed, acknowledging barriers to implementation and opportunities for action. Finally, these opportunities are put into the context of landing zones for action in the international policy community.

Addressing Demand-Side Measures to Stay Below 1.5°C

Under business as usual, we are on a pathway to adding over 4,000 GtCO₂ emissions by 2100. Compare this to the likely allowable budget of 800-1,000 GtCO₂ if we are to stay below 2°C of warming, or a budget as low as 200 GtCO₂ if we are to stay below 1.5°C, and the magnitude of effort required to not overshoot is evident.² Models for how either of these targets might be achieved call for rapid decarbonization across major emitting sectors with emissions peaking around 2020-2030 and falling steeply from there. Even with this rapid decline, there is an assumed need for extensive negative emissions during the second half of the century to 2100. This could be delivered through a range of activities from natural solutions, such as afforestation and capturing carbon in soils, to yet unproven negative emissions technologies such as bioenergy with carbon capture and storage and direct air capture.

Lessening the emissions curve earlier from demandside efforts can reduce reliance on negative emissions technologies in the future, diminishing some of the entailed risks. In agriculture alone, dietary shifts, spearheaded by reductions in meat consumption, could lead to as much as a 70 percent reduction in emissions compared with current trajectories by 2055, while simultaneously freeing up demands on land.3 Projections estimate that by 2100, through significant change in diet, food-waste reductions, transport, and residential energy use, as much as 3,000 GtCO₂ could be avoided from consumption shifts alone. 4 These assessments may carry sizable uncertainties, but a case can also be made for experimentation, as many efforts to shift demand carry less risk or potential for lock-in and are often much cheaper when compared with more-technological interventions. Additional co-benefits may also exist (e.g., shifts in diets could deliver improvements in public health), meaning that many interventions to shift consumption could be considered no- or low-regret options.

Remaining within a 1.5°C rise cannot be achieved without demand-side interventions. In addition, while a common charge leveled at efforts to shift consumption is that they are inherently complex, it is not clear that supply-side efficiency gains are necessarily easier or cheaper. They simply tend to be better understood through more-established policy and private sector pathways to deliver on them. Therefore, it is necessary that demand-side efforts be given greater scrutiny and space for policy-relevant discussion, so as

to inform where valuable contributions can be made to emissions-reductions efforts

The Toolkit for Changing Consumption

A number of tools and frameworks exist for influencing consumption. They are most effective not in isolation but when implemented as complementary approaches and levers that can be used in combination to affect consumption. Tools can be broadly separated into three categories: informing, nudging, and regulating.

- Informing: Giving consumers the knowledge with which to make more-informed choices is traditionally seen as a first-order action, preparing the foundations for societal shift. Information may result in increased awareness, but this alone may not translate into behavior change, particularly when larger systems drive behavior.⁵ Examples of tools and instruments that inform and empower include awareness-raising campaigns, consensus building, community movements, product labeling, and the publication of voluntary or aspirational guidelines.
- Nudging: These actions look to engage beyond just informing consumers and instead guide or influence behaviors toward desired outcomes. A product of advances in behavioral science and insights, these interventions harness what is known about human behavior and use this understanding as an entry point to influence decisions in a more evidenced way. Interventions here are particularly applicable in bridging the gap between pro-environmental beliefs and intentions, and actual actions (known as the intention-action gap). Thus it is perceived that many of these nudge principles could have value in the creation of public policy, evidenced by the establishment of dedicated behavioral-insights units within governments, otherwise known as nudge units. Examples such as deliberate setting of a default, use of framing or priming, and enticing behaviors through lotteries have all been applied to influence consumption patterns.
- Regulating: Perhaps the most commonly used suite of tools, these interventions go beyond information sharing or nudging. Actions range from financial incentives such as home solar feed-in tariffs, disincentives such as taxes, consumer bans on particular commodities or practices, or infrastructure reinvestment such as that which allows new mobility options. These methods can be perceived as problematic at times because of their potential for perverse or unintended consequences, as well as having to overcome societal acceptance. However, due in part to a longer history of application, there is evidence of success in the use of regulation. Recent examples include plastic-bag taxes that have been put in place from South Africa to Ireland. A seemingly insignificant financial levy attached to plastic-bag consumption has

resulted in rapid and significant reductions in usage (up to 90 percent reductions in a year in some cases).⁶

Across these areas of intervention, advances in technologies are providing a new set of tools that are radically changing and shaping the nature of consumption and demand. Artificial intelligence, big data analytics, robotics, and digitalization are all creating new methods of production, distribution, and communication that allow consumption to shift from the generic to the personal. This capacity to reach individuals or key constituents quicker and more accurately opens avenues for influencing and shaping consumption behaviors. Technologies are also playing a greater role in forming new shared communities.

Beyond providing for new opportunities to reduce demand, the adoption of technological innovations goes a long way in proving that not only are behavior changes possible, but they can occur with impressive speed. The smartphone, for example, took hold in many markets within a few years, with developing markets taking little time to catch up.7 This not only changed the way people communicate, but altered the way people interact with their environments writ large. Applications like Uber re-shaped transportation and mobility within a few years in many cities, and GPS in nearly everyone's pockets has made road maps increasingly irrelevant. For better or worse, social media apps like Facebook and Twitter incentivized users to engage more frequently and altered the modalities for human interaction.8 Most technological innovation is socially and environmentally agnostic; it can harm or help societies—and sometimes do both at once. It has become increasingly clear however, that technology is capable of ushering in behavior change in extraordinarily short periods of time.

Areas that appear ripe for action include mobility, where driverless cars, electrification, and transportation apps may provide an opportune moment to shift consumption patterns; the built environment, where developments in substitutable materials could usher in significant reductions in the carbon footprint of consumption; and food, where health and well-being could help reframe the issue of reducing meat consumption in developed countries, with huge greenhouse gas (GHG) emissions-reductions implications. In each of these areas, policymakers and stakeholders have already begun to examine possible action, from efforts by cities to promote plant-based diets to circular economy models at scale that test the application of new building materials.

Some opportunities, such as reducing meat consumption, are more applicable or desirable in developed countries or among wealthy communities. However, opportunities do exist for developing countries to leapfrog unsustainable consumption models and frame the idea of prosperity in a more sustainable manner. Development of mobility infrastructure, urban planning, and building codes all hold the potential to reduce the impact of transport, change mobility patterns and habits, and reduce the GHG

footprint of the built environment through new materials in developing countries, mitigating the need to lock in unsustainable infrastructure.

Six Strategic Priorities for Shifting Consumption

While there are notable efforts under way, there is a clear need for further research and coordinated efforts to engage with, and shift, consumption. Behavioral scientists and policy thinkers need to connect more concretely in a number of areas and fill out the gaps in where to take action. We offer six priority areas for action that can help drive, both in the near- and mid-term, a shift of consumption to help meet the 1.5°C target.

1. Optimize Current Consumption

A first step in shifting consumption should look to build on conventional efforts to reduce the emissions impact from the demand side through minimizing the resource intensity of consumption. Whether through efficiency gains or more effectively utilizing waste cycles for productive ends, steps can be taken to optimize current consumption to achieve more with less. Efforts in this area have seen promising results, but achieving greater savings is possible through focus in some key areas. For instance, improved use of waste and circular economy processes can realize significant reductions in the impacts of consumption patterns supporting the transition toward more-sustainable consumption.

2. Harness the Power of Cities, Leaders, and Communities

Consumption behaviors are often shaped by the local environment or community in which they are situated. The influence of figureheads and important community members has been shown to be particularly effective, with religious leaders, for instance, often holding tremendous sway with their constituents. The embrace of climate and environmental concerns by faith communities—such as Pope Francis's "Laudato Si" encyclical⁹—has proven effective in quickly changing attitudes. Celebrities have also played catalytic roles in behavior change, from reducing cigarette smoking to curbing shark fin soup consumption in China.¹⁰

New communities emerging from online spaces, increasing interconnectedness, and urbanization all point to opportunities for further pockets of change to occur. Tailoring messages and framing to these communities can improve uptake and provide momentum for influence, as networks offer fertile ground for change. New technologies can also help micro target specific communities, where they can have greater impact. Working with parents in local school districts to increase vegetarian options, for instance, may have far greater pull than a national-level campaign.

Cities may be one of the best testing grounds for consumption policy, and local leaders will play an important role in shaping these policies. They must involve a variety of sectors, such as transportation, health, and land management. Organization and collaboration is required to then observe and share results in meaningful ways. Networks, such as C40, will prove vital in order to compile and compare results across different cities and formulate recommendations or best practices.

3. Go Beyond the Nudge

Advances in behavioral insights must be harnessed more effectively. To date, the application of emergent nudge theory and behavioral science learnings have been seen to be too isolated and piecemeal in application and not used to inform the policy-production process. While this has delivered important marginal gains in some areas, such as organ donation or tax compliance, this approach restricts the application of these insights to the fringe of policy. Treating behavioral insights less as a discrete tool for application (as in the form of a nudge) and more as a set of guiding principles used to inform policy formulation, articulation, and application could deliver broader outcomes.

Being able to use big data on consumption as a policy tool can further help the policy process deal with the as-yet-underappreciated dimensions of demand and behavioral patterns. The proliferation of analysis and data production should be supported with the skilled capacity to interpret and use data at a policy level. This is also true of integrated assessment modeling of future emissions projections, which could benefit from greater integration with the latest behavioral science insights to modify and shape the dynamics modeled. Growing the skill capacity at the policy level can improve how decisions that affect consumption are made, basing them on consumer evidence rather than perceived wisdom.

4. Stimulate Substitutions

In order for consumption to shift away from emissionsintensive activities, viable alternatives are required. Without the outlet of an alternative, in many cases positive intentions cultured through campaigns and nudge efforts cannot be translated into changed behaviors. This is true of shifts away from personal car use within cities, clothing materials, and avoiding single-use plastic water bottles. Without a low-emission, accessible alternative to the car, cotton, and plastic bottles, shifts are unlikely to be realized.

Capitalizing on enhanced public awareness and recognition of the impacts of consumption choices can stimulate the uptake and demand for alternatives. As younger generations increasingly place value on the sustainability of products they consume, 11 a timely opportunity emerges for products to be radically

rethought and the emergence of more-attuned social enterprise-style businesses to develop.

Substitutes can also be a key tool to overcome framings of loss or diminished lifestyles associated with the demand shifts required. A viable substitute can be framed as aspirational as opposed to a downgrade in lifestyle or consumption, while also acting to reduce overall environmental footprints. This has the potential to become problematic if substitutes become a status purchase without genuine sustainability credentials (e.g., if increasing popularity of electric/hybrid vehicles were to lead to double car ownership, this might not necessarily reduce overall impact).

Innovation is required on an unprecedented scale. Substitutes and alternatives should be promoted, which requires the research and development that can produce them to be stimulated. Creating the incentive for innovation that is environmentally sustainable will be critical in the production of viable alternatives reaching scale quickly enough to supplant incumbent technologies.

New markets and new investors are needed. Much of the development of recent new technologies (such as in clean energy) has been led by government and public financing.¹² The current structure of private sector investment, such as that of the venture capital community, is predicated on investments that deliver quick returns being valued over longer-term buyin. This is where governments need to play roles in providing "patient capital" to support long-term future technologies and ideas, lowering risk to entry for private capital and thus developing more-ambitious alternative products.¹³ Additionally, lending criteria, new financial products, and business models can all play a role in stimulating innovation and building momentum for radical shifts in the choices presented to consumers. The case of alternative meat substitutes can be pointed to as one of growing success. Global sales of plant-based meat alternatives have grown on average 8 percent a year since 2010, around double the rate of processed meat.14 With growing activity and interest around plant-based as well as meat-based cultured meats, this presents an area where substitutions could play a pivotal role in consumption-based emissions reductions.

Not all substitutes come from technological innovation, though, and technological innovation is not necessarily synonymous with sustainable behavior. In regards to the former point, there may be opportunities to substitute less technologically advanced solutions with the result of reducing emissions. For instance, substituting the bicycle for automobile for most urban travel may be far more effective than transitioning from an internal combustion engine to electric vehicles. On the latter point, there are also technological innovations that are unseen by consumers or which do not impact behavior.

The switch from coal-generated power to renewables may be one of those. Consumers do not experience the difference between power sources on an everyday basis when turning on the light, making it more difficult to understand their relationship to these sources of emissions.

5. Build Aspirational Narratives to Rally Around

Shifting aspirational ideals is ultimately necessary to deliver the level of change in consumption needed. As a starting point, adopting new business models may work well, but relying on the same systems and values that deliver overconsumption and focus on profit margins above all else will take us only so far. Policymakers should begin thinking about how to frame aspirational goals not around income or excess consumption but around modalities for achieving happiness that are low consumption. These may include reframing time-use in a way that sees increased leisure of certain types instead of constant work or intensive recreational activity. This could include valuing time spent growing one's own food, for instance. In the end, what is required is a revaluation and framing of what it means to be prosperous. Frameworks like this may not be as difficult as some would imagine, as many studies indicate a plateau in the rise of happiness at certain income and consumption levels.¹⁵ But policymakers and leaders must figure out how to have conversations focused on new modalities of prosperity, as this will likely be foreign to most people.

Narratives will need to work in disparate contexts (wealthy and poor) and at differing levels (private, public, and individual) if they are to be adopted successfully. Framing around sustainable consumption, in many of these contexts, will need to go beyond sustainability. Narratives that are built around the issues people care most about, such as health and air pollution, will likely go much further in changing consumption habits than the more abstract concept of climate change. This model could be built upon at very localized levels, such as improving the nutritional content at local schools while also campaigning to promote vegetarian menus, or movements to reclaim local streets for communal activities and benefits, as opposed to simply a method of transit.

6. Make Consuming Less a Reality

Changing what we consume or reducing the inefficiencies in the way we consume are necessary first steps, but alone, they are unlikely to tackle consumption at the rate needed. In absolute terms, a total reduction in consumption is necessary in order to achieve the ambitious targets set. Global air travel, food production, and the movement of goods are all examples of challenges to which improved efficiencies or alternatives do not readily provide enough emissions reductions in a feasible timeframe. For some

of these more intractable and ingrained consumption patterns, absolute reductions may be needed.

Considering reductions in consumption raises fundamental questions, such as what a business model for reduced consumption might look like, how such a shift might affect macro-level economic functioning, and what societal weighting is given to concepts such as prosperity under a reduced-consumption economy. The issue of equity must also be raised; who should be reducing what, and what are the trade-offs associated with reductions in consumption? While these are unlikely to be easily resolved, there is space for functionally grappling with reductions in consumption and a number of steps that can be taken to begin broaching the topic.

A road map offering a political-economy analysis for the future of less consumption is needed. There is a fairly developed understanding of what changes are needed, but further analysis is required to develop how to get there. This will also be very context specific, as behaviors and lifestyles are rooted in cultural and geographic underpinnings, and so the need for complementary local and national road maps is likely.

Envisioning business models that can support less consumption may open up political and industrial creativities. What is the value proposition, and can governments pull levers that actually inspire this kind of change? How might more-radical endeavors such as a universal basic income combined with artificial-intelligence-driven workforces shift the landscape for how business works?

Questioning the dominance of gross domestic product growth as a measure of economic success and revaluing well-being as a social good not predicated on consumerism is a discussion that needs to take place. A relationship between income and associated emissions footprints has been observed within most contexts, as increases in wealth often lead to increased consumption and resultantly increased per capita emissions. Developing new ways to measure progress that are not tied to consumption can help to decouple our understanding of progress from emissions-intensive consumption.

Prioritizing Action

Expanded research is needed across these areas broadly, from the impacts of certain behavior changes to the methods for altering behaviors and how best to communicate these shifts. Across all action there is also a clear need to prioritize and work on the highest mitigation value sectors of consumption to keep pace with what is required for 1.5°C compliance. While it is important to outline where the largest gains can be made, care should be taken to not homogenize effort. Multiple interventions from multiple entry points will increase the likelihood of success but should still be governed by a sense of prioritization.

The Landscape for Policy Implementation

It is clear that action is needed on consumption, and areas with large reduction potential are becoming clearer, but a key question remains: What are the political and social feasibilities of implementation? For instance, reducing global air travel may have a tremendous impact, but the feasibility and acceptability for changing norms around global connectivity may be too steep for certain actions or require too much political capital compared with the possible gains. Conversely, a sizable reduction in meat consumption in developed countries, while difficult, may require less political capital. In many regions, awareness of the negative health consequences of overconsumption of meat is growing, and the economic costs in terms of health care are clear. These two examples may not hold in every situation, but they help illustrate the contextual nuance required when approaching consumption.

This is also not to say that work around difficult areas of behavior change is not worthwhile, but expectations for the effectiveness of policy efforts must be considered. Just as empirical assessments of emissions reductions from changed behavior are essential, so are assessments of the pathways to changing behaviors through policy. Economist Tim Jackson summarizes some of the difficulty policymakers can confront when tackling notions of prosperity: "The area of lifestyle choice has often been regarded as too subjective, too ideological, too value laden, or simply too intractable to be amenable to policy intervention."17 But it is clear that consumption must be tackled in order to stay under 1.5°C, and further, opportunities for political action are now present. For instance, mainstream civil society had often refrained from recommending reductions in meat consumption for developed countries, but increasingly, it appears more willing to take this issue on. Whether it is a function of time, exogenous shifts in attitudes, or research and assessments that have offered new frames for taking action, it is clear that the iron is hot for striking in many areas.

It may be best to build on efforts already in progress, moments of social change, or areas where there are coincidental benefits, like health. Identifying where there is flexibility that can be built upon or where the focus of consumption on the political agenda is more welcomed will improve the chance of successful uptake. But while policymakers and decision makers should progress on consumption where there are opportunities, they must simultaneously approach how to reframe the idea of prosperity and happiness in society writ large. This is a heavy lift but essential to achieve the emissions reductions needed to stay on a 1.5°C pathway. That it is a heavy lift is all the more reason stakeholders must begin examining this now.

Political Landing Space

The topic of sustainable consumption has been taken up in a variety of forums, such as the UN Environment Programme's Marrakech Task Force on Sustainable Lifestyles. But the development of political will across a number of forums and variety of stakeholders is necessary to advance the agenda of sustainable consumption in a way that has real impact.

International institutions such as the UN Framework Convention on Climate Change (UNFCCC) must begin taking the issue seriously. Few countries have considered including consumption-based targets in their nationally determined contributions, for instance. Not only does this indicate that the issue will likely stay off national-level policy radars, it also likely means it will be avoided in the UNFCCC negotiation processes. An entry point for putting it on the agenda at this level, though, may be through the Marrakech Partnership for Global Climate Action. Subnational actors may raise the issue through this mechanism, or through the Talanoa Dialogue process, and put it on the agendas of UNFCCC negotiators.

Collaboration between international, national, and local policy and decision making is needed. It will be essential for ministers to put sustainable consumption in nationally determined contributions in order to pressure national-level policymakers, but they need to work with local implementers like cities to get movement going on the ground. Networks like C40, ICLEI, We Mean Business, and the Under2 Coalition are vital to catalyzing action at this level. Some cities have already begun to promote plant-based diets through the Milan Urban Food Policy Pact, for instance, or started implementation of zero-waste targets as a part of their climate action plans in the C40.

The Sustainable Development Goals and the UN Secretary-General's Summit in 2019 also present potential opportunities. The Sustainable Development Goals on equality and quality of life, for instance, emphasize the kind of paradigm shift away from business-oriented to more community-focused social models that are likely required if we are to curb consumption. These forums are an opportunity to hold the discussion around what prosperity means at an international policy level much broader than the UNFCCC.

The G-7 is another possible forum. The issue has been pushed to a certain extent with the Alliance for Resource Efficiency, for instance. The French presidency next year may be a prime opportunity to put resource efficiency and circular economy on the G-7 agenda. The French have pushed sustainable consumption nationally and worked on the issue within the European Union (EU). Within the EU, the Italian Task Force on Education for Sustainable Consumption and the Swedish Task Force on Sustainable Lifestyles and Education for Sustainable Consumption have also led the way.

Civil society must also continue to apply pressure on this issue. Campaigns targeting single-use plastics, like straws, and meat consumption have already helped to raise these

important issues. Now is the time to keep the pressure up and lend a hand to policymakers in taking action.

Acting Now

Work on the sustainable-consumption agenda must begin now. In order to reduce reliance on riskier negative emissions technologies in the future, the world must act to bend the emissions curve down as soon as possible. International efforts to peak emissions by 2020 provide an opportune moment to put sustainable consumption on the agenda and can demonstrate to the international community the impact policymakers can have in this area.

One useful tool to develop could be an alternative carbon tracker, which would highlight the embedded emissions of products, emphasizing the links between consumption and emissions, raising awareness of the impact consumption has. Development of connections between policy research and behavioral science are also needed so that policies can better attune to known behaviors, and behavioral research can more readily support the policy process. The philanthropic community might consider putting resources into both of these areas.

Many cities are willing to begin looking at the issue of sustainable consumption and are weighing in with policy on important issues like waste reduction. An area cities could look to at the moment would be green subsidies. A trend has recently emerged to offer large employers subsidies through reduced taxes in order to attract jobs to urban areas. If these kinds of subsidies were predicated instead on developing green infrastructure in the private sector, they may be a better use of resources.

Subnational actors and civil society will be key to continue pushing the issue of sustainable consumption in international policy. The Talanoa Dialogue and the Marrakech Partnership for Global Climate Action are two areas where they can raise the issue in the multilateral context. National-level policymakers in key countries—such as France, Sweden, and Italy—should continue to push these policies and highlight the benefits internationally. They must help to connect with local policymakers, such as mayors, to demonstrate where policies at both levels can be mutually reinforcing.

Sustainable consumption has often been relegated to the sidelines, either because it appeared politically infeasible or it was unclear how to take action. But the pressure of keeping global warming under 1.5°C and recent movement in many areas of sustainable consumption make the issue of prime importance now. International policymakers and stakeholders must begin pushing where there are opportunities for climate action and developing and testing new ideas and bolder concepts around what it means to live the good life.

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The Stanley Foundation

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