

Frontiers in Sustainable Consumption Research

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ECOLOGICAL PERSPECTIVES FOR SCIENCE AND SOCIETY
ÖKOLOGISCHE PERSPEKTIVEN FÜR WISSENSCHAFT UND GESELLSCHAFT



-
- REALLABORE UND TRANSDISZIPLINÄRE FORSCHUNG
 - SUSTAINABLE CONSUMPTION RESEARCH
 - SUSTAINABLE URBAN FOOD POLICY
-

Frontiers in Sustainable Consumption Research

While the field of sustainable consumption research is relatively young, it has already attracted scholars from all corners of the social sciences. The time has come to identify a new research agenda as trends in sustainable consumption research seem to suggest the dawning of a new phase. Not only does research need to be guided, but sustainable consumption policymaking, too, involving best practices around the application of standard and more innovative instruments.

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Background and Aims

The Swedish Foundation for Strategic Environmental Research (Mistra) released in September 2016 a call for funding proposals in the research area of sustainable consumption.¹ Through this initiative, Sweden enters an exclusive, but growing group of countries that has earmarked significant resources for social science research on this challenging issue (Germany, Switzerland, and France are other examples). To get the most out of these efforts, the funded research obviously needs to be guided by a clear understanding of society's knowledge needs regarding sustainable consumption as well as the largest challenges that have to be addressed. The Board of Mistra commissioned us to draft a background report on society's knowledge needs and the most pressing issues regarding sustainable consumption (Reisch et al. 2016).

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Since most, if not all, of the major research questions regarding sustainable consumption are largely generic with respect to affluent nations rather than country-specific, it is the aim of the present paper, which is based on the Mistra report, to broaden the debate to an international audience.

Scope and State of the Art

The New Global Benchmark: Sustainable Development Goals
According to the United Nation's (UN) *Sustainable Development Goals (SDGs)*, "sustainable consumption and production aims at 'doing more and better with less', increasing net welfare gains from economic activities by reducing resource use, degradation and pollution along the whole lifecycle, while increasing quality of life".² Similarly, the 2015 *Paris Agreement* recognises "that sustainable lifestyles and sustainable patterns of consumption and production, with developed country Parties taking the lead, play an important role in addressing climate change" (UNFCCC 2015). Last but not least, based on the *SDGs*, the UN's new *Guidelines for Consumer Protection* list the promotion of sustainable consumption as one of the major objectives of global consumer policy (United Nations 2015).

Internationally, there are also visible political efforts to design more sustainable systems of production and consumption (Davies and Doyle 2015, Vittersø and Tangeland 2015). The focus of this work is mainly on making prevailing arrangements more efficient and reducing the negative effects of individual products and services, whereas the need to decrease aggregate consumption of scarce or polluting resources is generally not a visible item on the agenda. Both global and national policies continue to be disproportionately based on the expectation that it is possible to decou-

ple economic growth from its negative environmental and social impacts (Mattila 2012, Liobikiene and Dagiliute 2016).³

Global Policy

The UN's *SDGs* adopted in September 2015 place special emphasis on sustainable consumption: one of the 17 goals (#12) specifically focuses on this nexus of issues.⁴ It is emphasised that this objective requires a systemic approach and cooperation among numerous actors operating across supply chains, from raw material extraction to production to end-use consumption to final disposal (or reuse). Within this context, the intention is to enable consumers through awareness-raising and education on sustainable consumption and lifestyles, providing them with adequate information through standards and labels as well as engaging in sustainable public procurement. The aim of these interventions is also to involve a range of other stakeholders, including product manufacturers, retailers, policy makers, media, development agencies, and others. The first interim target under *SDG #12* is that all countries implement the UN's *10-Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP)* which is now approximately halfway through its slated duration, but remains less developed in terms of its implementation. The purpose of the *10YFP* is to speed up diffusion of sustainable consumption and production both politically and in the business sector, focusing especially on education and training for sustainable development.⁵ Aspects concerning sustainable consumption and production are also embedded in many of the other *SDGs*. As mentioned above, the most recent *Global Guidelines for Consumer Protection – formulated under the aegis of the UN Conference on Trade and Development (UNCTAD)* – also focuses on sustainable consumption as a major objective.

European Policy

The European Union (EU) approved an action plan for sustainable consumption and production in 2008.⁶ One of its intentions has been to create uniform systems of consumer information regarding the environmental impacts of products. Another goal has been to promote the design of energy- and resource-efficient goods through legislation and public procurement. The EU has also devoted considerable resources to research, development, and innovation on new sustainable products and services, not least through its *Horizon 2020* funding programme.

While the EU has focused mostly on the environmental facets of sustainable consumption and production, it has correspondingly taken steps to address the societal dimensions, including a strategy for corporate social responsibility (CSR).⁷ Questions regarding sustainable consumption and production are also includ-

ed in the EU's waste strategy, where waste minimisation is one of the main goals and can be achieved only through the adoption of new consumption and production patterns.

Research on Sustainable Consumption

In a narrow sense, research on sustainable consumption sets out to understand – and promote – the types of consumption behaviour that are conducive for sustainable development. In a broader sense, sustainable consumption research also encompasses the dynamics of consumption and production systems with respect to power relationships, political dimensions, and governance (Fuchs and Lorek 2005, Vergragt et al. 2014, Fuchs et al. 2016, Maniates 2014). While deeply embedded in consumer research, environmental and ecological economics, and psychology, many other disciplines and research fields have contributed extensively to advancement of the field in recent years, including:

- environmental sociology (particularly its perspectives pertaining to the social embeddedness of individual behaviour and the role of social practices),
- behavioural economics (and its empirically based acknowledgment of consumers' biases, heuristics, and context dependencies),
- political science (and its view of the consumer as an active citizen-consumer),
- applied philosophy (particularly its theoretical insights regarding the ethical core of the concept),
- sustainability marketing (with respect to its expertise on how to effectively convey messages to consumers and on how to make sustainable consumption a more attractive proposition),
- innovation studies (in terms of its view of consumers as co-innovators and co-producers and the fact that provisioning arrangements are organized and reproduced by socio-technical systems),
- systems analysis (highlighting the inescapable complexities and interconnections among ecological, economic, and social subsystems in which consumption takes place), and
- historical studies (that remind us of the roots of sustainable consumption and its interdependencies with cultural and technological pathways).

Identifying and designing policy measures that promote sustainable consumption have been on the agenda for consumer studies since the mid-1990s (e. g., Cohen and Murphy 2001, Spaargaren 2003). Effective policymaking requires empirically robust evidence of actual consumer interests and needs, behavioural tendencies, >

1 www.mistra.org/en/mistra/application-calls/ongoing-application-calls/sustainable-consumption.html

2 www.un.org/sustainabledevelopment/sustainable-consumption-production

3 A recent report from the International Energy Agency (IEA) asserts that decoupling was underway (on the basis of two years of data): www.washingtonpost.com/news/energy-environment/wp/2016/03/16/

this-key-rule-of-economics-and-the-environment-just-failed-again. We doubt that two years of data are enough to make such a politically important statement.

4 www.un.org/sustainabledevelopment/sustainable-development-goals

5 www.unep.org/10yfp

6 <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0397:FIN:EN:PDF>

7 <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0681:FIN:EN:PDF>

and probable impacts of proposed measures, as well as an understanding of the theoretical models that best anticipate behaviour. The field of sustainable consumption research is still relatively young, but it is also a multi-faceted, multi-disciplinary, challenging, and thriving area of investigation that has attracted experienced scholars from all corners of the social sciences (Geels et al. 2015, O'Rourke and Lollo 2015, Reisch and Thøgersen 2015).

Five Focus Research Areas on Sustainable Consumption

In the report *Sustainable Consumption: Research Challenges* for the Swedish Mistra foundation, we identified five thematic foci based on a comprehensive survey and our assessment of currently unfolding developments (Reisch et al. 2016). The specific areas described below are centred on the following themes: sustainable macroeconomics; sustainable consumption, well-being and the "Good Life"; sustainability in global supply chains; alternative systems of provisioning for sustainable consumption; and policies fostering sustainable consumption.

Sustainable Macroeconomics

Sustainable consumption can only be conceptualised by adequate consideration of how contemporary society is economically and institutionally organised (Schor 2005, Cohen 2010). Scholars working from the perspectives of policy science, transition management, and social practice theories have identified the systemic aspects that shape, or at least heavily influence, individual consumer behaviour (e.g., Jaeger-Erben and Offenberger 2014, Røpke 2015). Acknowledgement of this situation implies that systemic change is required to enable adapted behaviour consistent with the objectives of sustainable consumption. It is unsurprising that incumbent actors will resist transformative change (Wells and Nieuwenhuis 2012). A key insight from research on socio-technical systems is that extant production-consumption chains are characterised by entrenched sources of rigidity and inertia and innovative practices face paralysing difficulties scaling up beyond an experimental level. These circumstances lead to the following questions: under what circumstances do windows of opportunity develop to enable system change supportive of more sustainable consumption? How can policy initiatives contribute to the opening and expanding of such fortuitous occasions?

Any effort to meaningfully engage with these questions must acknowledge that one of the most challenging problems in the contemporary economic system is what scholars of sustainable consumption have identified as the "treadmill of production (and consumption)" (Ayres 1998, Schor 1999, Jackson and Victor 2013, see also Schnaiberg 1980). This concept points to the fact that our current economic system becomes unstable without growth because producers intuitively seek efficiency improvements and, in the absence of proportionate increases in consumption, the outcome is a reduction in the size of the overall workforce. Loss of employment translates into less private income and lower taxes.

A decline in tax revenue means less government revenue, higher public debt, and fewer resources for maintaining social security. The conventional interpretation is that less growth leads inexorably to economic downturn and collapse (see, in particular, Victor 2008). The answer advanced from within the extant system is to devise ever more innovative novelties on the producer side of the economy and to deploy them on the consumer side. As currently organised, the economic system will always seek to grow, to expand consumption, and to put pressure on the planetary boundaries of the Earth (Harris 2013, Røpke 2013, Fontana and Sawyer 2016). This situation then leads to a further set of research questions: how might we conceive of a sustainable macroeconomic system? How is it designed and how does it work? What kinds of policy measures are necessary to transform the current economy into a more sustainable provisioning system?

Sustainable Consumption, Well-being, and the Good Life

One of the apparent paradoxes of our current system of consumption and production is that above a certain wealth level, subjective well-being ceases to increase. Such findings have been derived by numerous comparative studies contrasting per capita gross domestic product (GDP) with consumption-oriented resource use and investigations involving a diverse portfolio of well-being metrics (Layard 2005, Wilkinson and Pickett 2011, Pretty et al. 2016). That a high level of well-being may be realised at relatively modest income levels – and hence lower environmental footprints – has led to the suggestion that upper limits of material consumption can help to create a good life for all while staying within planetary boundaries (Di Giulio and Fuchs 2014, Steffen et al. 2015). This work has led to a number of policy initiatives, including the *Beyond GDP* programme of the EU.⁸ There still remains, however, a great deal of speculation about what causes this apparent "decoupling" of GDP growth and well-being. Factors such as income inequality, reduction of free time, decline of social cohesion, and level of access to schooling and healthcare have been identified as contributing to this phenomenon (Jackson 2005, Schor 2010, Speth 2012, Barton et al. 2015).

Economic research has to date unfortunately evinced limited interest in the societal "outcomes" of the prevailing system of economic organisation other than as expressed in terms of GDP – where increases in per capita capacity to consume is regarded as tantamount to the perception of a "Good Life" for the vast majority of humanity.

The key research questions here are: what are contemporary visions of the "Good Life"? What basic factors need to be fulfilled? What models of generating income and wealth relate to these conceptions? How do understandings vary by social class and other sociodemographic characteristics? What income and environmental footprint levels would such visions of "Good Life" require? How can visions of a good life and sustainable consumption be realised in concert?

⁸ http://ec.europa.eu/environment/beyond_gdp/index_en.html

Sustainability in Global Supply Chains

In most countries in today's globalised world, prevalent modes of consumption rely to a significant extent on production relationships and value chains that are to varying extents multinational in scale. Prevailing societal commitments increasingly seek to ensure that these arrangements operate in accordance with principles of responsibility, transparency, and sustainability. However, this is problematic because most existing systems of governance have no legal power – and only limited powers of suasion – that can be exercised on a global level (Clapp and Dauvergne 2011). Further, where international institutions like the World Trade Organization (WTO) allow national governments to set standards with regard to the safety or sustainability performance of products, these interventions become very complicated when imposed on production processes abroad. Nonetheless, there are notable cases where targeted approaches have achieved positive outcomes with respect to ensuring acceptable standards of responsibility, transparency, and sustainability. Relatively effective outcomes have been achieved in the cases of, for example, wood certification via the Forest Stewardship Council (FSC), fisheries protection through the Marine Stewardship Council (MSC), and other certification and producer-responsibility schemes (Auld 2014).

The relevant research questions are: what approaches might a country pursue to ensure that global supply chains meet acceptable standards of responsibility, transparency, and sustainability? What are the leverage points that progressively minded governments and nongovernmental organisations (NGOs) might use to drive change? How might successful examples of certification and consumer-focused labelling transfer the successful approaches mentioned above to other supply chains?

Alternative Systems of Provisioning for Sustainable Consumption

Previous research demonstrates that the consumption domains of food, housing, appliances, and transport contribute approximately 70 to 80 percent of the environmental impacts of final consumption (Tukker 2006, Tukker et al. 2010). Rather than just embarking on technical research analysing improvements that could be implemented in supply chains, more interesting and timely issues should be considered, including how novel systems of provisioning could expressly contribute to reductions in the adverse effects of production and consumption (Akenji et al. 2016, Cohen 2017). Numerous social experiments are currently underway with respect to peer-to-peer collaboration and open-source production

FIGURE 1: Reducing the environmental impact of food consumption: *Restlos glücklich* (“completely happy”) is a restaurant in Berlin that serves meals from food that would have been thrown away by supermarkets because of damaged packaging or its odd shape.



as well as implementation of alternative, more circular business models based on product reuse, refurbishment, and second-hand markets (figure 1). This work, though, remains very much in its infancy. Numerous research questions persist, such as: how effective are such alternative systems of provisioning in reducing environmental footprints? How easily can they be scaled and replicated? Why do many such alternative provisioning systems remain confined to niches?

The manifold organisational and political challenges of facilitating emergent social innovations suggest such initiatives may be most effectively pursued at the sub-national, or even municipal, level. It is arguably the case that city governments have significant resources in terms of technical expertise and institutional capability that have not to date been adequately leveraged in the design and implementation of joined-up policy programs for sustainable consumption (McLaren and Agyeman 2015). There is little question that cities – and their surrounding metropolitan regions – are sites of intensive consumption and production activities and the imposition of enabling regulatory interventions, the formulation of assistive land-use strategies (especially favouring high-density, mixed-use developments with excellent access to intermodal connections to public transport), and the establishment of favourable procurement arrangements could contribute to reductions in associated adverse impacts. Opportunities also exist to galvanise city planners, municipal managers, locally-oriented NGOs and others to embark on relevant pilot projects aimed at achieving absolute reductions in resource throughput at the urban (and regional) scale by activating novel collaborations and testing new business models that in aggregate could begin to reorient urban economies and cultures (Bocken and Short 2016).

Key questions pertaining to the design and implementation of alternative systems of provisioning for sustainable consumption centre on: how could local initiatives help to establish new planning paradigms that move beyond customary technologically-driven schemes intended merely to achieve more efficient use of energy and materials? How can municipal governments begin to nurture alternative systems of provisioning based on emergent understandings of prosperity and sustainable livability?

Policies Fostering Sustainable Consumption

During the years since the *United Nations Conference on Environment and Development (UNCED)* in Rio de Janeiro in 1992 and publication of *Agenda 21*, the promotion of more sustainable lifestyles has been a focus of political programmes and strategies aimed at fostering sustainable development. Policy instruments developed and implemented to date have centred on the provision of consumer information, advice, and education; the enhancement of clarity at key junctures in critical supply chains through signalling (mainly through labelling) and disclosure; the empowerment of consumer (citizen) organisations; the formulation of both “hard” and “soft” regulations; and the imposition of financial incentives and disincentives. Strategies organised around participatory co-design, end-user integration in the conception of sustainable products and services, and various kinds of experimental initiatives

(“labs”) have recently emerged as promising approaches to test and expand understanding of sustainable lifestyles. Looking to the future, attention could be devoted to policy frameworks that support notions of sufficiency as well as to regulatory frameworks and funding schemes that enable credible modes of co-production, collaboration, and sharing. In addition, interventions based on behavioural insights regarding both processes and policy tools (so-called nudges) have been developed to advance sustainable consumption “automatically” through choice architecture and behavioural stimuli (Lourenço et al. 2016, Reisch and Sunstein 2016). Transdisciplinary research and experimental pilot testing are needed to better understand when such approaches “work” and how behavioural insights can be employed to improve sustainable consumption policies. Moreover, potentials and limits of co-regulation with innovative sustainability frontrunners in industry and retail can be further explored. Finally, a perpetual issue of the sustainable consumption agenda since the 1992 Rio conference is the lack of truly strong policy measures that seek to achieve explicit reductions in energy and material throughputs rather than more superficial “greening” of consumer decision making (Fuchs and Lorek 2005).

Evidence and guidance on how standard and more innovative instruments can best be applied to sustainable consumption policymaking are needed. How can initiatives, programmes, and regulations be rigorously evaluated *ex ante*, *ex interim*, and *ex post* regarding their efficaciousness and efficiency as well as with respect to their unintended side effects (e.g., distributional impacts)? What are the most effective evaluative frameworks for assessing the costs and benefits of different strategies and tools to guide choices regarding optimal policy mix? What are the obstacles to identifying and testing policies that help to avoid or limit rebound effects and that stymie efforts to broach “difficult” topics such as sufficiency or consumption moderation?

Conclusions

Based on the challenges that the five research focus areas sketched above present, informed by experience with previous national research programmes on sustainable consumption, and shaped by our knowledge of the current state of play in academia, we suggest that future sustainable consumption research should

- be interdisciplinary or transdisciplinary in nature,
- strive to be transformative and systemic in impact,
- integrate target groups – citizens, consumers, users – into some role and at some stage of the research process,
- be organised as multi-actor approaches including practice partners such as industry and retail, government representatives and community members, as well as consumer and environmental organisations and NGOs,
- include a test and evaluation module.

On the political level, the development of a comprehensive and clear strategy for sustainable consumption policy and research is

preferable to ad hoc efforts. A notable example in this regard is Germany's *National Action Plan for Sustainable Consumption* which was issued in 2016 and outlines priorities for both policy and research.⁹ The drafting of such a plan using a multi-actor approach can be a valuable way to identify common goals, to agree on priorities, to earmark available resources, and to formulate timelines and work programmes.

While much of the above is not entirely novel and has been suggested before (notably in *GAIA*¹⁰), emergent trends in sustainable consumption research seem to suggest that we are entering a new phase. For example, and markedly, there has lately been a substantial increase in the amount of money targeted to research by social scientists working on sustainable consumption in some European countries (Germany, Sweden, Switzerland, and France among them), perhaps driven by the uptake of the *SDGs* in national political programmes and strategies. Another, potentially important development is that sustainable consumption has become part of the discourse on innovation and advanced technology, for instance, regarding the bioeconomy. A third example is the increased focus on systems thinking and “nexus” approaches overcoming disciplinary silos, including the debate on the (non)sustainability of modern obesogenic food systems and the social, economic, and psychological costs they inflict on societies worldwide. Finally, there appears to be growing recognition among climate scientists that reaching 80 to 90 percent reductions in greenhouse gas emissions in coming decades will require more than improvements in the technical dimensions of key provisioning practices but rather will additionally entail ambitious processes of societal reinvention of systems of consumption and production.

References

- Akenji, L., M. Bengtsson, R. Bleischwitz, A. Tukker, H. Schandl. 2016. Ossified materialism: Introduction to the special volume on absolute reductions in materials throughput and emissions. *Journal of Cleaner Production* 132: 1–12.
- Auld, G. 2014. *Constructing private governance: The rise and evolution of forest, coffee, and fisheries certification*. New Haven, CT: Yale University Press.
- Ayres, R. 1998. Viewpoint: Towards a zero emission economy. *Environmental Science and Technology* 32/15: 366A–367A.
- Barton, H., S. Thompson, S. Burgess, M. Grant (Eds.). 2015. *The Routledge handbook of planning for health and well-being: Shaping a sustainable and healthy future*. London: Routledge.
- Bocken N., S. Short. 2016. Towards a sufficiency-driven business model: Experiences and opportunities. *Environmental Innovation and Societal Transitions* 18: 41–61.
- Clapp, J., P. Dauvergne. 2011. *Paths to a green world: The political economy of the global environment*. 2nd Edition. Cambridge, MA: MIT Press.
- Cohen, M. 2010. The international political economy of (un)sustainable consumption and the global financial collapse. *Environmental Politics* 19/1: 107–126.
- Cohen, M. 2017. *The future of consumer society: Prospects for sustainability in the new economy*. Oxford, UK: Oxford University Press.
- Cohen, M., J. Murphy (Eds.). 2001. *Exploring sustainable consumption: Environmental policy and the social sciences*. New York: Elsevier.
- Davies, A., R. Doyle. 2015. Transforming household consumption: From backcasting to home labs experiments. *Annals of the Association of American Geographers* 105/2: 425–436.
- Di Giulio, A., D. Fuchs. 2014. Sustainable consumption corridors: Concept, objections, and responses. *GAIA* 23/S1: 184–192.
- Fontana, G., M. Sawyer. 2016. Towards post-Keynesian ecological macroeconomics. *Ecological Economics* 121: 186–195.
- Fuchs, D., S. Lorek. 2005. Sustainable consumption governance: A history of promises and failures. *Journal of Consumer Policy* 28/3: 261–288.
- Fuchs, D. et al. 2016. Power: What's missing in consumption and absolute reductions research and action? *Journal of Cleaner Production* 132: 298–307.
- Geels, F., A. McMeekin, J. Mylan, D. Southerton. 2015. A critical appraisal of sustainable consumption and production research: The reformist, revolutionary, and reconfiguration positions. *Global Environmental Change* 34: 1–12.
- Harris, J. 2013. The macroeconomics of development without throughput growth. In: *Innovations in sustainable consumption: Ecological macroeconomics, socio-technical transitions, and social practices*. Edited by M. Cohen, H. Brown, P. Vergragt. Cheltenham, UK: Edward Elgar. 31–47.
- Jackson, T. 2005. Live better by consuming less? Is there a “double dividend” in sustainable consumption? *Journal of Industrial Ecology* 9/1–2: 19–36.
- Jackson, T., P. Victor. 2013. *The Green Economy Macro-Model and Accounts (GEMMA) framework: A stock-flow consistent macro-economic model of the national economy under conditions of ecological constraint*. CES Working Paper. Guildford, UK: University of Surrey.
- Jaeger-Erben, M., U. Offenberger. 2014. A practice theory approach to sustainable consumption. *GAIA* 23/S1: 166–174.
- Layard, R. 2005. *Happiness: Lessons from a new science*. London: Allan Lang/Penguin Books.
- Liobikiene, G., R. Dagiliute. 2016. The relationship between economic and carbon footprint changes in EU: the achievements of the EU sustainable consumption and production policy implementation. *Environmental Science and Policy* 61/1: 204–211.
- Lourenço, J., E. Ciriolo, S. Almeida, X. Troussard. 2016. *Behavioural insights applied to policy*. Brussels: Joint Research Centre of the European Commission.
- Maniates, M. 2014. Sustainable consumption: Three paradoxes. *GAIA* 23/S1: 201–208.
- Mattila, T. 2012. Any sustainable decoupling in the Finnish economy? A comparison of the pathways and sensitivities of GDP and ecological footprint 2002 to 2005. *Ecological Indicators* 16: 128–134.
- McLaren, D., J. Agyeman. 2015. *Sharing cities: A case for truly smart and sustainable cities*. Cambridge, MA: MIT Press.
- O'Rourke, D., N. Lollo. 2015. Transforming consumption: from decoupling, to behaviour change, to system changes for sustainable consumption. *Annual Review of Environment and Resources* 40: 233–259.
- Pretty, J. et al. 2016. Improving health and well-being independently of GDP: Dividends of greener and prosocial economies. *International Journal of Environmental Health Research* 26/1: 11–36.
- Reisch, L., M. Cohen, J. Thøgersen, A. Tukker. 2016. *Sustainable consumption: Research challenges. Background paper*. Stockholm: Mistra. www.mistra.org/download/18.1b871821571aed5fd4122/1474388727171/Background+paper+Sustainable+Consumption.pdf (accessed October 24, 2016).
- Reisch, L., C. Sunstein. 2016. Do Europeans like nudges? *Journal of Judgment and Decision Making* 11/4: 310–332.
- Reisch, L., J. Thøgersen (Eds.). 2015. *Handbook of research on sustainable consumption*. Cheltenham, UK: Edward Elgar.
- Røpke, I. 2013. Ecological macroeconomics: Implications for the roles of citizen-consumers. In: *Innovations in sustainable consumption: Ecological macroeconomics, socio-technical transitions, and social practices*. Edited by M. Cohen, H. Brown, P. Vergragt. Cheltenham, UK: Edward Elgar. 48–64.
- Røpke, I. 2015. Sustainable consumption: Transitions, systems, and practices. In: *Handbook of ecological economics*. Edited by J. Martinez-Alier, R. Muradian. Cheltenham, UK: Edward Elgar. 332–359.
- Schnaiberg, A. 1980. *The environment: From surplus to scarcity*. Oxford, UK: Oxford University Press.
- Schor, J. 1999. *The overspent American: Why we want what we don't need*. New York: HarperCollins.

9 www.bundesregierung.de/Content/DE/Artikel/2016/02/2016-02-24-nachhaltigen-konsum-staerken.html

10 See, for instance, the *GAIA* special issue on sustainable consumption published in 2014 (Volume 23, Supplement 1).

- Schor, J. 2005. Prices and quantities: unsustainable consumption and the global economy. *Ecological Economics* 55/3: 309–320.
- Schor, J. 2010. *Plenitude: The new economics of true wealth*. New York: Penguin.
- Spaargaren, G. 2003. Sustainable consumption: A theoretical and environmental policy perspective. *Society and Natural Resources* 16/8: 687–701.
- Speth, J. 2012. *America the possible: Manifesto for a new economy*. New Haven, CT: Yale University Press.
- Steffen, W. et al. 2015. Planetary boundaries: Guiding human development on a changing planet. *Science* 347/6223.
- Tukker, A. 2006. Identifying priorities for environmental product policy. *Journal of Industrial Ecology* 10/3: 1–4.
- Tukker, A., M. Cohen, K. Hubacek, O. Mont. 2010. The impacts of household consumption and options for change. *Journal of Industrial Ecology* 14/1: 13–30.
- UNFCCC (United Nations Framework Convention on Climate Change). 2015. *Adoption of the Paris Agreement*. Bonn: UNFCCC. <http://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf> (accessed November 16, 2016).
- United Nations. 2015. *Guidelines for consumer protection*. Draft resolution submitted by the Vice-Chair of the Committee, Purnomo Ahmad Chandra (Indonesia), November 2015, A/C.2/70/L.28. www.un.org/ga/search/view_doc.asp?symbol=A/C.2/70/L.28 (accessed October 24, 2016).
- Vergragt, P., L. Akerji, P. Dewick. 2014. Sustainable production, consumption, and livelihoods: Global and regional research perspectives. *Journal of Cleaner Production* 63: 1–12.
- Victor, P. 2008. *Managing without growth: Slower by design, not disaster*. Cheltenham, UK: Edward Elgar.
- Vittersø, G., T. Tangeland. 2015. The role of consumers in transitions towards sustainable food consumption: The case of organic food in Norway. *Journal of Cleaner Production* 92/1: 91–99.
- Wells, P., P. Nieuwenhuis. 2012. Transition failure: Understanding continuity in the automotive industry. *Technological Forecasting and Social Change* 79/9: 1681–1692.
- Wilkinson, R., K. Pickett. 2011. *The spirit level: Why greater equality makes societies stronger*. London: Bloomsbury.

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