Scenarios for lifestyles in a resource-light society[1]

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THE AIMS OF THE PAPER

Modern industrialized societies live far beyond sustainable levels with regard to their use of natural resources. Whereas there is almost unanimous agreement that environmental and climate protection is a necessity, the question remains, what a future society living on sustainable principles may look like. First of all, resource use and allocation is not just a technical issue but deeply rooted in culture and social practices. Therefore, a conversion towards a society with a lower consumption of natural resources can only be successful if accepted and promoted by the members of this society.

METHODOLOGY

In order to understand what kind of changes people are ready to support, a qualitative social research project was implemented. In a first step, five future scenarios were developed. These scenarios are distinct with respect to the underlying basic values and drivers, leading to diverse narratives which uncover different options for low-resource or "resource-light" societies. Then, the scenarios were discussed both with relevant stakeholders and citizens from all age groups, social milieus, and strata.

MOST IMPORTANT RESULTS

Altogether, the participants rarely doubted the concept of a low-resource society itself. However, they showed different levels of openness towards the individual scenarios and their constitutive elements. Moreover, the reflection of the scenarios pointed at significant desires and yearnings for change, not only motivated by ecological but, even stronger, by social considerations. Besides reducing the use of natural resources, a more considerate use of human and social assets is an issue.

RECOMMENDATIONS

As a recommendation, it appears necessary to promote a societal discourse about alternatives to the current state of unsustainable high resource consumption. The scenarios, visions and models presented here can contribute to it. In doing so, it is crucial to keep the space of solutions open by discussion alternative options, involving different views, and thus, allowing for learning processes.

Keywords: natural resources, qualitative research, scenarios, social change, sustainable lifestyles

BACKGROUND AND AIM OF RESEARCH

Resource scarcity, resource depletion, harmful effects on ecosystems and the services they provide, detrimental effects on health, all these observations and more have led to calls for a reduction of resource use and extraction (e.g. UNEP 2015). However, with a view to contemporary resource use, such a reduction demands consequent changes of processes, customs and habits. Resource use and allocation is not just a technical issue but deeply rooted in culture, social practices, institutions and routines. Low resource use can therefore only be realized in a "resource-light society" in which processes, institutions, organizations etc. support, foster and enable low resource use. It is obvious, that such a society will likely be much less dedicated to consumerism, material status symbols etc. but needs to develop new ways to satisfy individual, social and material needs.

Resource-focused research on sustainability has revealed insights into the techno-economic aspects of living and working. Approaches that develop concrete visions for societies that are ready, able and willing to live and strive on a low resource basis are much scarcer or very abstract. The social dimension of a resource-conserving future has received little attention so far and still is not fully understood. However, without such approaches resource-light practices are not likely to be established on a broader scheme. By the way, a society that has made resource-light living a central institution will not only cater for reduced resource use, it will also make it a positive, socially accepted and beneficial experience for its members. Creating solutions for this challenge is thus mandatory for successful long-term policies towards new, low-resource systems. The question however remains what such a future society may look like. To develop specific visions of a resource-light society and to reflect them in the perspective of everyday life was the goal of the project.
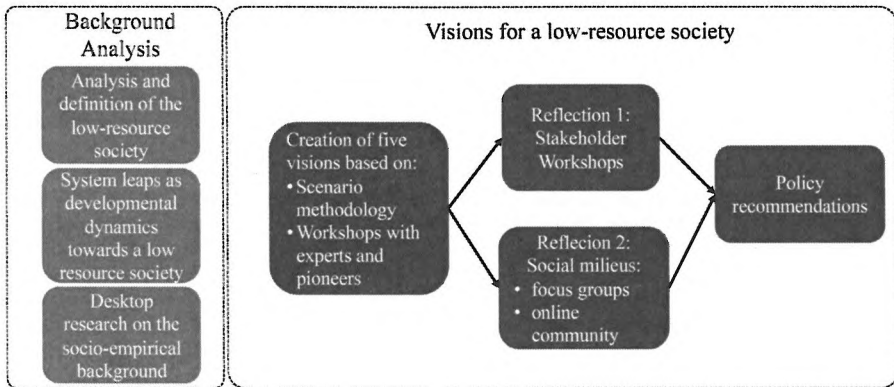
Methodology

Overview: Project Design

A predominantly qualitative approach was chosen. Social structures, political framework conditions, economic practices and lifestyles were carved out and described to create narratives of a resource-light society. On that basis, five different scenarios have been developed for societies that combine sustainable resource use with a satisfying quality of life. A quantitative guideline for all of these scenarios was the "Eight-Ton-Society"[2] – a society in which the consumption of natural resources moves within boundaries that are seen as sustainable (Lettenmeier et al. 2014).

The scenarios were designed as future states of (the German) society, i.e. as already achieved conditions of resource-lightness in about twenty years into the future. The next task was to identify both factors of success and potential obstacles for the visions' realization and acceptance. Therefore, the scenarios were intensively discussed in workshops with stakeholders from various backgrounds and in an extensive empirical study involving about one hundred participants from all different social groups. Based on the findings, recommendations for actions were derived for politics and science. Potential paths to such conditions were investigated as well. The basis for these dynamics is the concept of system leaps. It concerns rapid and radical social change towards resource-light lifestyles. The overall project design is shown in Figure 1:

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[2] The „Eight-Ton-Society" was defined by the Wuppertal Institute. It presents a science-based threshold for sustainable resource use (Lettenmeier et al. 2014). The quantity of eight tons refers to the indicator Total Material Consumption (TMC) which measures the total primary material requirement associated with domestic consumption activities (https://stats.oecd.org/glossary/detail.asp?ID=6595, accessed May 28, 2017). It contains the amount of all materials directly and indirectly used in a given system. Included are abiotic und biotic material use, hidden material flows in mass flow units and erosion caused by earth handling in agriculture and forestry; air and water consumption are not incorporated (UBA 2012).

Figure 1: Overview Project Design

Background Analysis
- Analysis and definition of the low-resource society
- System leaps as developmental dynamics towards a low resource society
- Desktop research on the socio-empirical background

Visions for a low-resource society
- Creation of five visions based on:
  • Scenario methodology
  • Workshops with experts and pioneers
- Reflection 1: Stakeholder Workshops
- Reflecion 2: Social milieus:
  • focus groups
  • online community
- Policy recommendations

Source: Berg et al. 2017

Creating the Scenarios

In a first step, the conceptual basis for a definition of the resource-light society was created. The definition was based on an intricate analysis of the sustainability discourse on resource policy.[3] Then, starting from this definition, normative models were developed using the scenario method. First, forces driving social change were scrutinized by considering current social, technical, economic, environmental, and political trends – i.e. applying the so-called STEEP-approach (Steinmüller 1997, Albert et al. 2002). Based on their impact on resource-light living, relevant areas where identified, resulting in a list of 13 "key factors". Then for each factor alternative future developments, i.e. "projections" were developed. These projections were designed so that they contained only alternatives deemed to contribute to low-resource living. The 13 key factors together with the projections generated the scenario space which can be presented in a "morphological box" (Figure 2). The objective here was to create a space of possibilities for the resource-light future that comprises a broad range of plausible social constellations ("visions").

Figure 2: Morphological box with key factors (dark grey) and projections (grey)

Individuals / Consumers					Business				Politics				Science
Consumption patterns	Digital technology usage	Community building	Opinion making	Social security and health care	Innovation paradigm	Value creation patterns	Employment models	Entrepreneurial motivation	Resource politics	Political decision making	Prosperity and growth concepts	Commercial policy and innovation support	Education and knowledge building
Collaborative consumption	Offline society	New order of families	News & knowledge as commons	Citizens' insurance scheme	Cooperative innovation	Regional economy	Cooperative labor division	Policy based motivation	Broad non-fiscal support	Bottom-up & glocal	Green New Deal	Promotion of SMEs	Universal knowlegde
Sustainable hedonism	IT-induced low-resource living	Global community	NGOs dominate opinion making	Lean social security	High-tech-induced low-resource living	Knowledge-based economy	New work models	High idealism	Focus on sanctioning	Bottom-up & local	Quality of life comes first	Top-runner approach	Top-down education
Voluntary simplicity	Digital regimen	New communes	Politics dominate opinion making	Cooperative models	Low-tech society	Circular economy	Basic income	Demand-based motivation	Real prices create new markets	Provident experto-cracy	Commons and prosperity for all	Focus on tertiary sector	Bottom-up experience ad learning
Rationed consumption			Media liberalisation	Basic security and care	Demand-based production		Low-resource living by rationalisation		Low-resource planned economy	Renaissance of the parliament			

Source: Berg et al. 2017

The creation of these visions was carried out in workshops in cooperation with pioneers as well as experts of low resource living from all over Germany. This scenario exercise was to answer the following question: How can relevant players in society (individuals/consumers, business, politics, science) promote and achieve low-resource living in Germany by 2030?

The next step was the creation of raw scenarios. Different projections had to be combined in a consistent manner. As a result, five different scenarios were identified following the principle that the set of all scenarios should represent a maximum variance and at the same time make use of each projection at least once. The resulting raw scenarios, which then consisted of a plausible combination of projections, now had to be brought to life by enriching them and casting them into consistent narratives. Here, the pioneers of low-resource living were involved again: In a creative two-day workshop setting, they discussed the following questions: Which steps / measures / events pave the way into this future? Who are the main players? What are the main challenges? What are the main differences to the present? What are the main differences to the other scenarios? Compared to today, where are opportunities for lower resource use? Finally, five distinct, consistent, future-oriented concepts that showcase a variety of possibilities and alternatives were the result of this process. However, none of these visions should be seen as a definite guideline or as a definite solution. The visions rather explore and develop a broad range of potentials. The visions are:

    Vision 1: Co-operative Regionalism
    Vision 2: Business-friendly Ecology
    Vision 3: Obligatory Moderation
    Vision 4: Voluntary Simplicity
    Vision 5: Dematerialized Globalism

Reflection of the Scenarios

Subsequent to the scenario generation, an important part of the project concerned empirically reflecting and evaluating the visions from different perspectives of today's social reality. This served two questions: whether and which ideas of a low resource society already exist in the present German society, and what level of acceptance the five visions would find. Moreover, the reflection helped to identify ways to communicate the models. This reflection proceeded in three sections: In a first step, the visions were discussed in workshops with decision-makers and experts from various fields. These fields were: Business and trade unions,

education and social services, infrastructure, architecture and health. In a second step, available empirical studies regarding sustainability-related lifestyle- and consumption-research were re-analysed. At the point of interest were identifiable proximities and barriers towards low resource living among diverse social groups. The third and last task in this line was to examine the visions against the background of everyday perceptions and attitudes. One hundred persons from all social milieus discussed resource consumption, low resource living and the visions in twelve focus groups and a three-week moderated research online community.

RESULTS

Definition of a Resource-light Society

As a definition, the resource-light society was outlined as a society that minimizes resource consumption, uses resources diligently, conserves ecosystem services, respects the environment, operates within the planetary boundaries, and is therefore dematerialized. Furthermore, it includes a fundamental aspect of justice within and between generations: equal chances for resource use for every human for his or her individual selffulfilment and social welfare. This definition implies the design of societal visions that combine resource conservation and dematerialization with a high quality of life for the society's members – for the individuals and the community alike.

Characteristics of the Visions / Scenarios

As a result of the scenario building process (outlined in the methodological section), five distinct visions of a resource-light society were identified. The relevant basic narratives are documented in the following:

1. Co-operative Regionalism

Cooperation, community orientation and fairness – the basic ideals of cooperatives – have developed into pillars of the economy and society. Production and consumption are strongly regionalized, stimulated by higher taxes on transport and mobility; in the case of economic decisions, the focus is on the common good and nature preservation. Products and services are mainly offered by small- or medium-sized enterprises, which are organized as cooperatives. Consumers often rely on "Collaborative Consumption". Citizens expect maximum inclusion in political decision making and communal design.

2. Business-friendly Ecology

The base of this society is a Green Economy concentrating on resource conservation, supported by a high technological dynamic of innovation. The "Energiewende"[4] is complemented by similar radical reform programs in raw material usage, transport and agriculture. On the consumer side, a lifestyle oriented at enjoyment and quality dominates and motivates producers to create long-lasting products of high quality. Circular economy has become reality. The legislature moderately acts as a controlling authority, with a strengthened parliament. Science and technology play a major role; they are continually exploring and implementing new possibilities to produce environmentally friendly, energy and material saving products.

3. Obligatory Moderation

The growing desire for orientation in the sustainability "jungle" has led to the introduction of a Citizen Resource Budget (CRB), which obliges citizens to only use as much resources as is acceptable for the environment in the long term. As a result, an intensive competition of innovations on the side of manufacturers and service providers is created. These parties strive to minimize the resource consumption of their offers as citizens seek to save on their resource budget. Moreover, they expand their patterns of consumption by a variety of strategies to "stretch" their budget, e.g. exchanging, sharing and recycling. Participation in political processes is relatively low, instead people entrust decision-making to the political leaders.

4. Voluntary Simplicity

Large parts of society voluntarily and consciously reduce consumption. Moreover, resource consumption is more taxed, while human labour is supported. Additional revenues in the state budget will fund an unconditional basic income. Although the basic income is not sufficient for a life in prosperity, it is sufficient to maintain a healthy and secure lifestyle. As a result, people have more flexibility in the choice and design of their profession and more time for productive activities in their leisure time. Citizens, NGOs as well as entrepreneurs are intensively involved in political decision-making

processes as proactive shapers of a future-oriented, low resource society and economy.

5. Dematerialised Globalism

Firmly anchored in education and science, the insight that people must assume responsibility for the environment and for resource conservation to secure their own survival and the survival of the planet, leads to the dematerialization of essential parts of society and economy. The industrial base in Germany is reduced while the knowledge base Germany is upgraded. Fewer and fewer goods are produced in Germany. Imports are subject to stringent requirements regarding their environment and resource conservation qualities. Germany actively exchanges knowledge about beneficial procedures with other countries. Post-material consumption shifts demand to intelligent, resource- and environment-saving products. Status is based on meaningfulness and self-realisation. Informed citizens self-confidently shape political processes. There are more resources invested in education and science than ever before.

It becomes clear that resource-light living will require different degrees of change. Scenario 2 requires the lowest changes in day-to-day life as well as consumption patterns whereas the other four scenarios will involve more or less strong disruptions, depending on the perspective. They range from changes in individual lifestyles (esp. consumption) all the way to systemic changes like the introduction of annual resource budgets (scenario 3), the introduction of a basic income (scenario 4), or the massive reduction of the industrial base (scenario 5). Besides these "technical" measures, the nature of the social dynamics and the setup of players vary greatly. While scenarios 2 and 3 involve a strong top-down approach resulting in a rather passive civil society, the others are initiated by a broad base of active civic and NGO engagement. Other differentiating categories include the geographical distribution of economic and political processes, the degree of technology use, and the nature and role of innovations.

Thus, the scenarios are distinct on different dimensions. The basic dimensions which characterise the scenarios are shown in Figure 3:

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[4] "Energiewende" means the transition from non-sustainable use of fossil fuels as well as nuclear power to a sustainable energy supply using renewable energies. After the nuclear disaster of Fukushima, the German Bundestag decided (on June 30, 2011) the termination of nuclear energy use and a gradual shift towards an energy system based totally on renewable supplies, in the future.

Figure 3: Scenario dimensions, overview[5]
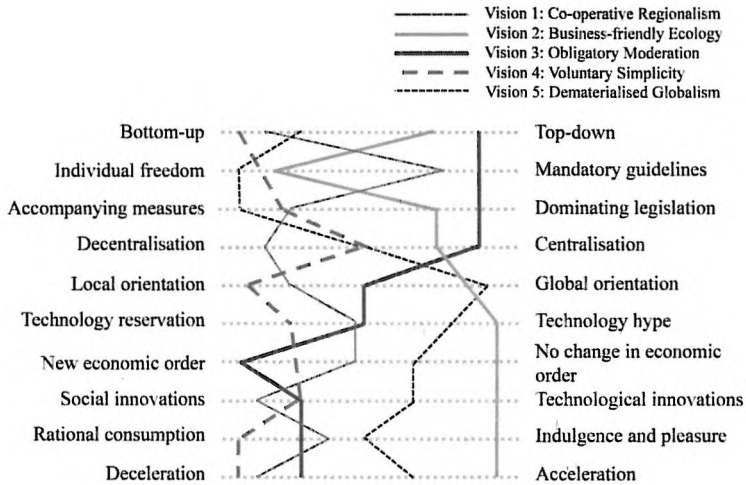
Source: Berg et al. 2017

The different characteristics of the scenarios will determine the focus and range of resource conservation effects. Some scenarios are limited to new production patterns and certain industries while hardly affecting consumption, whereas others involve completely new lifestyles and will therefore result in comprehensive changes in value chains and infrastructures and public provision. Whether and to which extent these greatly different low-resource pathways are attractive for different parts of society is part of future work which will involve the discussion of the scenarios with stakeholders and with representatives of different social milieus. Moreover, it will be the task of future research to analyse the scenarios, examine their individual measures and potential more closely, and to carve out additional chances to achieve a resource-light society.

Results of the Stakeholder Workshops

In the aforementioned empirical modules of the project, the scenarios – or visions – were reflected in the context of today's social reality from different perspectives. In a first step, the visions were discussed in workshops with decision-makers and experts from various fields. These fields covered economy and trade unions, education and social affairs as well as infrastructure, architecture and healthcare.[6] The workshops revealed the open-mindedness of the participants for issues of sustainability and resource conservation and a correspondingly high awareness. Accordingly, little doubt was expressed about the meaningfulness of a low resource society in general but rather about certain components of the respective models. It became clear that, depending on individual preferences, different combinations of model components were considered to form new individual models. As it came to ranking the visions, a common perception across all stakeholder groups was found: a clear preference for the visions "Business-friendly Ecology" and "Co-operative Regionalism" contrasted with the rejection of the vision "Obligatory Moderation" by most participants. At the same time, "Voluntary Simplicity" and "Dematerialized Globalism" were given little chances for realization.

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[5] Revisiting the resulting five scenarios, a number of common dimensions characterizing these scenarios could be identified. The markedness of each scenario with regard to these dimensions is shown in the figure.

[6] Participants of the stakeholder workshops were in the age between 20 and 68 years, held both leading and executive positions, and had between 1 and 45 years of experience in their field. All participants had an academic background and – with one exception – a generally positive attitude to the topic. Both genders were represented equally.

In the next module, a total of 43 available studies on sustainability-related lifestyle and consumption research were re-analyzed to identify existing affinities and barriers towards a resource-light society in different social groups.[7] This analysis showed that there is a high degree of awareness of environmental and climate issues across the population. However, there is hardly any consciousness about the problem of excessive use of natural resources in a wider sense, nor does this issue influence behavior. In contrast to this, the increasingly critical development of the global economic system and the loss of social cohesion play an important role in the general consciousness. However, willingness to change, or better: a diffuse "yearning for change" among the population has been recognized. The analysis also revealed an existing concern on how a good life can be ensured in the long term. These reflections are, however, associated with a wide range of questions, uncertainties as well as worries and fears. Therefore, meeting the environmental challenges is considered as necessary, but not sufficient. Expectations are rather concerned with answering basic questions of social coexistence in the course of a positive societal change. These issues cover the guarantee of a secure existence, the reliability of prevailing conditions for individual life planning, but also possibilities for self-fulfillment and meaningful activities. Aspects such as time-use, time-regimes and work-life balances are of particular importance, even if they are only latently present in everyday consciousness.

Moreover, different models of target groups were comparatively scrutinized from scientific literature[8] and condensed into a synoptic typology. On this basis, ten population segments (social milieus) relevant to the resource-light society could be identified and described. Later, these segments functioned as a sampling basis for the qualitative empirical study to ensure that participants from all relevant social groups in Germany were included. The ten relevant groups (social milieus) were:

- Passive Traditionals
- Upper Conservatives
- Modern Well-Establisheds
- Modern Mainstream
- Precarious
- Reflexive Criticals
- Privileged Young
- Young Pragmatic Adaptors
- Young Hedo-Materialists
- Idealistic Young

As the list shows, particular emphasis was given to the milieus in the youngest generation – as they are the most relevant in a future society. These groups can – according to the social-milieu-concept of sociodimensions (Schipperges 2010, BMUB and UBA 2017) – graphically be positioned in the social landscape by using social status as the vertical and generational imprint as the horizontal dimension, which is shown in Figure 4:

Figure 4: Ten groups (social milieus) relevant for resource-light living
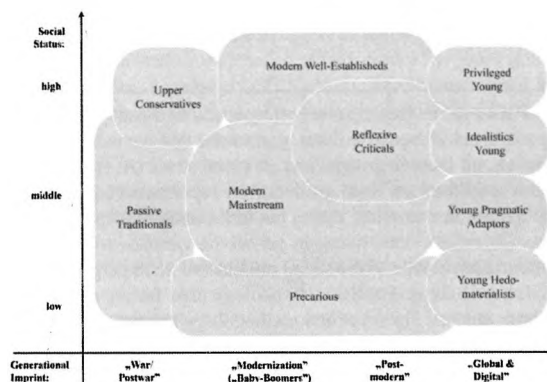
Source: Schipperges et al. 2017

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[7]   A comprehensive list of all 43 studies can be found in Schipperges et al. 2018, p. 121ff.
[8]   The same 43 studies were used for the identification of target groups (Schipperges et al. 2018).

Results of the Empirical Reflection from the Everyday Life Perspective

The aim of this research module was to examine the visions in a qualitative empirical way against the background of everyday perceptions and attitudes of the population. To achieve this, the topics of resource consumption, high quality of life and the developed models were discussed with a total of one hundred participants from all social milieus[9] in twelve focus groups and during a three-week moderated online community.[10] First, the concept and understanding of "resources" and "resource-lightness" were discussed in the focus groups. Then, the five scenarios (presented by short descriptions)

as well as a variety of other resource related topics were discussed in the online community. In particular, respondents reflected their own current behavior and evaluated ideas and proposal for change on the everyday life level. Moreover, respondents calculated their "ecological backback".[11]

It turned out that the necessity of a resource-conserving way of life is accepted throughout all milieus. At the same time participants are faced with different dilemmas due to this social norm: Current conditions and everyday demands that people need to cope with were often experienced as opposing resource conservation.

The following ranking resulted in terms of preference for the five scenarios:

Table 1: Ranking of the five scenarios by preference of the respondents

	Co-operative Regionalism	Business-friendly Ecology	Obligatory Moderation	Voluntary Simplicity	Dematerialized Globalism
Rank 1	34%	37%	1%	18%	9%
Rank 2	26%	35%	9%	16%	14%
Rank 3	15%	13%	11%	25%	36%
Rank 4	17%	10%	18%	28%	26%
Rank 5	8%	5%		12%	15%
Average rank	*2,4*	*2,1*	*4,3*	*3,0*	*3,3*
Total Rank No.	2.	1.	5.	3.	4.

Source: own construction

Similar to the results of the stakeholder-workshops, the second scenario ("Business-friendly Ecology") was most strongly preferred, closely followed by the first ("Co-operative Regionalism").

"Voluntary Simplicity" and "Dematerialized Globalism" were convincing only for minorities, whereas "Obligatory Moderation" appeared acceptable almost to nobody.

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[9] Demographic characteristics of the participants corresponded to those typical for the respective milieu. Thus, including participants from all social milieus guaranteed that the sample structure included all age groups, all educational levels, all income groups, and all social strata (A, B/C/D, E) and a large variety of different value orientations and lifestyles. Both genders were represented equally. Accordingly, the sample was "representative" though not in numerical shares but in its categorial spread for the universe (German speaking people between 18 and 75 years living in private households with access to the internet). For further details to the demographic profile of the social milieus see Schipperges 2010.

[10] To our knowledge, this particular qualitative methodology used for the evaluation of the scenarios has not yet been applied in prior studies. However, the methodology has proven to be fruitful and suitable in qualitative studies in which changes in attitudes and behavior are a topic. Due to the longer lasting research process, changes in respondents' attitudes and behavior can be observed in a kind of experimental setting by this methodology. Proven to be a powerful methodological approach, the methodology has been repeatedly adopted in later environment-related qualitative empirical studies (e.g. BMUB and UBA 2017).

[11] The „ecological backpack" was calculated using an online tool developed and provided by the Wuppertal Institute: www.ressourcen-rechner.de.

In the following, principal attractors and most relevant barriers for each of the scenarios will be described by qualitative terms:

Vision 1: Co-operative Regionalism

Principal attractors are the expectation of more social cohesion, more security, the promise of a culture of sharing and a generally more "harmonious" society. Respondents associated with this scenario a kind of relief from the consequences of globalization and a reduction of complexity with regard to current problems. Also, it became clear that nostalgic yearnings for an idyllic, problem-free world caused much of the attractiveness of this vision. Not surprisingly, in particular respondents belonging to the milieus of "Traditionally Passives" but also "Modern Mainstream" voted for this scenario. Relevant barriers turned out to be the impression of provincialism, narrow-mindedness and lack for innovativeness which other respondents. *("The world has become global, there's no way back")*[12] – particularly from the younger milieus – noted to be present.

Vision 2: Business-friendly Ecology

The most convincing aspect in this scenario was seen in an effective regulation of the economy. *("There should be higher taxes on environmentally harmful products and services")*. Moreover, the solution of environmental problems by technological innovation and progress seemed a promising perspective for many. *("That would be the ideal solution")*. By the way, various everyday life dilemmas, such as having to know which behavior is in actual fact beneficial for the environment and which is not, seem solved as the State and the Economy are in charge to deal with these questions. However, respondents saw quite a number of obstacles to the realization of this vision. First of all, a presumed "weakness" of the State vis-à-vis the Economy was addressed. *("There are powerful lobbies at work")*.According to this view, the State is unable or unwilling to enact the necessary regulation. Moreover, it was criticized that the question of (re-) distribution of wealth is not a concern in this vision. ("Social problems are not addressed"). By way of contrast, other respondents (mostly from the milieus of Modern Well-Establisheds and Privileged Young) pointed out that government

interventions via taxes and regulations may be harmful for economic development in general and technological innovation in particular.

Vision 3: Obligatory Moderation

This vision was almost unanimously rejected. The loss of individual freedom both as consumers and citizens seemed to be an unacceptable price for environmental protection. *("This would mean Eco-dictatorship")*. Respondents mentioned subversive bypass strategies which this scenario would almost unavoidably provoke. *("Black markets would skyrocket")*. Moreover, the fear of an abuse of the data collected by the digital system to enact the Citizens Resource Budget was expressed. *("The chip cards can be hacked")*. In addition, the non-transparent activity of the experts determining the allowed amount of resources was subject to criticism. Though, some arguments in favor of that vision were discussed, too: The undoubted effectiveness of the scenario, the fact that everybody seems to be treated equally, and the notion that capitalist enterprises will change from profit to environment orientation only if forded to. As a general impression, this vision could be imagined to be realized only after a massive natural catastrophe.

Vision 4: Voluntary Simplicity

Principal attractor of this scenario was a perceived new, comprehensively post-materialist understanding of wealth and quality of life. Respondents expected a deceleration of everyday life, a relief of competition and stress to perform, and more time for oneself, personal interests and being with others, in particular. *("I would enjoy life more" / "It would reduce my fears about the future considerably")*. The unconditional basic income promised basic existential security for all and "freedom from fear" even in the course of considerable social change. However, many doubts remained as to how this could be introduced in reality. *("A dream that never will come true")*. Moreover, harmful effects of the unconditional basic income were addressed. Most prominent was the fear that economic growth would stop and, therefore, the economy would crash. *("The German economy would no longer be competitive")*. Others pointed out that, to their view, income without effort would be unethical.

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[12] Here and in the following: Original quotes from respondents are in italics and in brackets. Individual respondents must remain anonymous for reason of personality protection.

Still others disliked the general atmosphere of austerity and sacrifice they felt to be dominating this scenario. In general, this vision provoked both the highest irritation *("crazy idea")* and the strongest fascination *("if this can be realized, many other things could change, too")* among all the scenarios.

Vision 5: Dematerialized Globalism

On the one hand, the understanding of (technical) know-how as the most relevant "resource" for the future and, therefore, the focus on its development seems convincing. Moreover, the idea to make a business out of ecological solutions appears promising. Germany as a forerunner and global champion in eco-technology is seen as an assuring strategy by some respondents. *("We in Germany are already on that way").* On the other hand, the notion of German supremacy looks "chauvinistic" in the eyes of some other participants. More generally, it is argued that the dependency on volatile, unmanageable global markets and trends inherent in the scenario implies a huge risk for the economy and the society. Particular skepticism was expressed vis-à-vis the concept on developing mainly (or exclusively) technical blue-prints – instead of "real" products: Not everybody may be qualified or inclined for these professions. Will the others be left behind? Moreover, many respondents express the fear that the increase of the tertiary sector implied by the "dematerialization" will lead to even more precarious jobs – as, so the argument, has been shown by the experience of actual "tertiarization" in the past. *("Once more, blue collars and less qualified employees will be the losers").*

To summarise, the perception of the five scenarios shall be phrased in five theses, conveying the (intuitive) appearance of each vision to the participants in a nutshell:

Co-operative Regionalism:	*"Small is beautiful"*
Business-friendly Ecology:	*"Green New Deal"*
Obligatory Moderation:	*"Post-Apocalypse"*
Voluntary Simplicity:	*"Imagine a different world"*
Dematerialized Globalism:	*"Globalization continues with winners and losers"*

The preference for the individual scenarios by the different social milieus (emphases) is graphically represented in Figure 5:

Figure 5: Emphasis of acceptance of the scenarios in the social milieus
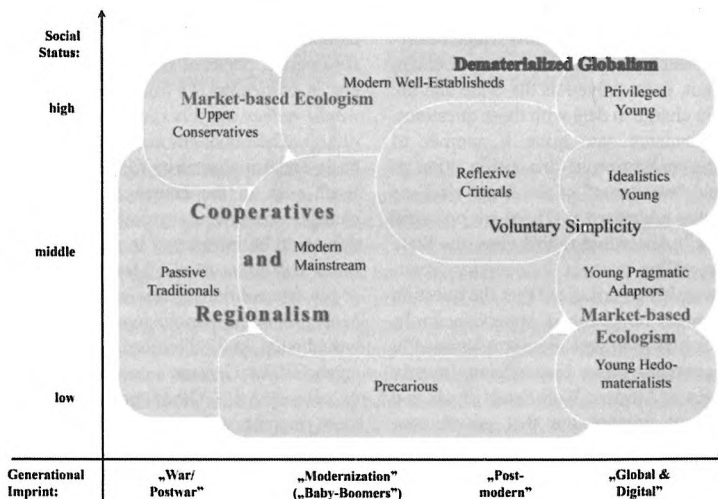
Source: Schipperges et al. 2018.

By this empirical reflection, it turned out that the necessity of a resource-conserving way of life was generally accepted. At the same time, it became clear that this social norm confronted the parties with various dilemmas, because the current framework conditions and the prevailing demands on everyday life were seen as diametrically opposing practices of resource conservation. The evaluation of the visions by the participants showed that social and environmental aspects were seen as equally important. Aside from the conservation of limited natural resources there was a desire for preserving the "human resources" which were perceived as being overstrained as well.

SUMMARY AND RECOMMEN-DATIONS

The project has shown that a resource-light society which operates within the limits of sustainable resource use and grants a high quality of life to its members can be conceived and arrived at in different ways. A broad space of possibilities was opened and developed providing room for designing and creating the low resource society. Furthermore, the evaluation of the visions demonstrated that the ecological aspects and the societal / humane perspective of such a society are equally important. The conservation of limited natural resources therefore needs the accompanying protection of human resources. Quite often, society-related aspects of the future visions were far more involving than the environment-related. Not rarely, the necessity to safe natural resources is perceived as opposed to requirements of living one's life today (e.g. safe time and money) and make the economy run (i.e. grow in order to avoid a fatal crash). Thus, one can speak about a normative dissonance, or a value-gap being present in the population. The most attractive components of the reflected visions were those which implicate a potential to bridge this gap.

When evaluating the visions, it became clear that a wide space of possibilities in terms of configuration and on-going development is required so that various ways towards a low resource society can be proposed to the public, and should still be open for discussion. As different milieus have their own approach, criteria and preferences with regard to a low resource society, the first step is to present various options for low resource consumption in order to launch and promote a societal discourse about possible alternatives to remaining at the current state of high resource intensity. "Resources" should to be addressed both as natural materials and as human efforts resp. assets in that discourse. Social issues such as fairness and justice, urban and rural development, and civic life, but also health, self-realization and self-efficacy, temporal regimes and work-life balances – i.e. post-material goals in a comprehensive understanding – should play a central role in such narratives.

In that process, it is crucial to keep the space of imaginable solutions open – the here presented different scenarios can serve as examples. Only by presenting different options and involving different views, the discussion about a resource-light society can reach for broader audiences and lead to further learning processes.

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