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INSIGHTS FROM THE *ENVIRONMENTAL OUTLOOK 2018*

The evolution of the environmental indicators as reported by MIRA raises a number of questions: many favourable trends are beginning to slow down, the impact on people, nature and the economy remains significant, and some environmental indicators are even showing a negative trend. Moreover, our societal systems such as energy, mobility, and food are also under pressure from global megatrends such as demographic developments and climate change. These findings prompted MIRA to further study the transitions of, and the solutions for, these three societal systems, together with (practice) experts. In addition, we examined how this transition could be supported from a space perspective.

By looking at environmental problems from a system perspective, the *Environmental Outlook 2018* provided many new insights. In this chapter, we bundle our insights and findings across the three systems, looking for overarching levers that could enable system interventions for sustainability. These levers could be the basis for a new, system-oriented policy that devises integrated solutions for the purpose of evolving towards a sustainable Flanders by 2050.

6.1 The need for transition

The dominant regimes within each of the societal systems (energy, mobility and food) have proved to be quite efficient during the past few decades. This is true for both the conventional energy supply based on fossil and nuclear fuels, mobility based on fossil fuels, and the industrialised food production. These regimes, in their respective systems, ensure a supply that is permanently available, reliable and (for the majority of inhabitants) affordable. However, internal tensions and external societal developments place the systems under pressure to change. In other words, the systems are subjected to transition impulses.

The functioning of the three societal systems generates undesired effects on the environment, climate, health and quality of life. Growing public awareness of these issues leads to changing expectations for the three systems, thereby inducing them to change. In addition, megatrends such as demographic developments, scarcity of resources, and climate change, are accompanied by the necessity to adapt societal systems.

There are also internal tensions that put pressure on the systems. This internal pressure is particularly noticeable in the mobility system. One example is the congestion problem that is becoming more

acute every year. Within the food system, the internal tension is reflected, for example, in tight margins and income uncertainty for farmers. The energy system for its part depends to a large extent on imported resources.

The regime is also under pressure from new niches. They are emerging in each of the three systems, in various stages of development. They are often still experiments, but in some cases they have already witnessed a broader, albeit still very early, breakthrough. Niches in the energy system include PV systems (prosumers) and the growing share of wind energy. While still limited in absolute numbers, these renewable alternatives show clear growth. Niches in mobility such as the electric bike and car- and bikesharing systems challenge conventional thinking on individual mobility. Examples in the food system include organic food, reduced meat consumption and the rapidly increasing attention to avoidance of food waste. None of these niches is currently threatening the existing, dominant regimes. However, the great diversity is steadily resulting in a broad range of more sustainable alternatives within each of the above-described systems.

6.2 Systems in different phases of transition

The study of the behaviour of societal systems shows that transitions can go through a number of phases. An initial focus on the optimisation of regimes and first experiments in emerging niches can change into an acceleration phase and result in a tipping point being reached, and eventually lead to a phase-out of certain elements of regimes and the institutionalisation of certain new niches. This results in a new stable condition of the system, as the co-existence of transformed (parts of) existing regimes and new niche regimes.

As described earlier, each of the three societal systems is undergoing a certain transition impulse. There are, however, differences regarding the status of the transition. In the energy system, an irreversible process with a clear and supported final goal seems to have been initiated. A significant momentum has been reached. In the food system, by contrast, there does not appear to be any real sense of urgency for structural changes, despite the pressure exerted on the system by sustainability issues, societal developments and emerging niches. Unlike the energy system, there is hardly any sign of an institutionally driven transition. Also within the mobility system, no fundamental change is thus far visible, as witnessed by the ever-increasing number of car kilometres and the very limited modal shift. The point at which automobility will be thoroughly challenged, appears to be still a long way off. What we do see, however, is the beginning of some awareness of the societal cost of congestion and the emission of air pollutants, and of the increasingly scarce open space and the space usage within cities. The growing awareness in cities leads to a change in climate and mobility plans. Air quality also appears to be a major carrier for local advocacy and progressive policy instruments such as low-emission zones.

Differences are also noticeable in the extent to which the regime adapts. In the food system, adjustments are implemented mainly on a step-by-step basis, primarily via the technological improvement of the environmental performance. Existing organisations, structures and institutions are still the starting points, with growth and efficiency as dominant paradigms. For

mobility, too, there is a comparable focus on technology-driven optimisation of the regime based on motorised vehicles. This is reflected in particular attention to improved flow, infrastructural modifications and more efficient engines. Only in the energy system does the regime appear to be preparing itself for structural change, as illustrated by the search for fundamentally new business models.

6.3 Resistance to change

In each system we notice resistance to change. The dominant regime wants to restrict new niches. The underlying intention is to preserve the own institutions and to slow down emerging alternatives. Due to the resistance and inertia of the system, the need for structural system change is insufficiently recognised and the transition is therefore slow to take off.

World views, norms and values appear to be persistent components of the existing regimes that put up resistance to the internal and external pressure. In the food system, the emphasis is on efficient, export-oriented food production, convenience and abundance. In the energy system, there remains a big gap between energy awareness and behaviour, and there is the persistent belief in affordability and supply security based on non-renewable sources. In the mobility system, there is a deeply rooted car-centric culture, based on comfort, that has also become embedded in spatial planning and wage policy.

Infrastructure is another major source of inertia. Infrastructure comprises both energy and road networks and the facilities for food production and processing. In each of these cases, a comprehensive infrastructure has been built up over a longer period of time which can only be modified slowly and at significant cost. The infrastructure is also closely interwoven with the spatial aspect and is often considered as sunk costs: costs that were made in the past and that are only to a limited extent reflected in the usage costs.

Also the current regulations are largely based on the existing regimes, and therefore show inertia. In the energy system, the current regulations do not allow, for example, to organise energy communities with local energy sharing. In the mobility system, regulations often work to the advantage of cars. In the food system, regulation in, for example, the field of food safety can stand in the way of specific new sustainable alternatives.

6.4 Levers for a system reconfiguration towards sustainability

A number of niches explicitly focusing on sustainability have already developed. However, they appear not to have been developed sufficiently or broken through in the various systems in order to speak of a turnaround. Their presence and growth is undeniable, but their favourable impact on the environment remains rather limited for the time being. It is becoming clear that the classical approach, which focuses only on aspects or components of systems, is inadequate to initiate the desired turnaround (in time). A complete reconfiguration of our societal systems is necessary and must comprise both technology, infrastructure, knowledge and rules, practices and customs, thought patterns, values and world views.

From the foregoing it also appears that each societal system has its own specific identity, is in a different stage of the transition, and does not have an equally clearly defined ultimate goal. There are, however, a number of general levers to be found across the different societal systems. They are briefly summarised below, with reference to their significance for each of the three systems. Attention is paid to their similarities, but also to the differences to be taken into account by policy from a system perspective.

Space is an integrating lever to initiate and enable the transition of the three societal systems. A number of spatial strategies are of fundamental importance to maximise the environmental potential of solutions for the energy, mobility and food systems. At the basis lies a sustainable and polycentric public transport network. This allows compact cores (living and working) and economic poles (working) to be realised and connected with each other via sustainable mobility. As a result, remaining open space can be preserved and extended, which is necessary to support a transition towards a sustainable energy and food system.

To implement these spatial strategies without any shifting, there is need for a reconfiguration of the space and a turnaround in the dominant spatial discourse. Traditional thinking is now determined, among other things, by thinking in terms of scarcity (so many hectares necessary for living and companies) and a focus on individual right of ownership. This puts a brake on opportunities for economical and future-oriented land use and the societal and environmental benefits that can thus be achieved. A turnaround in this dominant discourse is necessary to implement spatial and environmental solutions in practice, from the highest to the lowest spatial level.

Develop and implement a long-term strategy

Throughout the three societal systems, we have seen that a broadly supported long-term vision with clear objectives could steer the transitions to more ecological sustainability. However, visions alone will not work. Their consistent implementation in regular policy is crucial for them to be effective. In practice, this must be reflected in the choices that are made, such as in the allocation of research fundings, in tax and subsidy mechanisms, in regulations, in communication and in educational programmes. Moreover, a long-term vision must allow for flexibility and devote attention to the avoidance of lock-ins. Systems theory in fact teaches us that it is impossible to accurately predict the behaviour of systems in transition. A robust societal system must be able to respond to unexpected developments and also learn from them. Vision development in the longer term is therefore not a strictly linear process. The sustainable finality should be clear, but the concrete transition path must allow for dynamic adjustment.

For the transition to sustainability within the **energy system**, there are clear objectives and an end result: a low-carbon society. Long-term visions have been mapped out at supra-regional level. The Paris Agreement is an agreement to keep global temperature rise below 2°C (with regard to the pre-industrial period) and to even strive to limit it to 1.5°C. For the European Union, this means an 80 to 95 per cent greenhouse gas emissions reduction by 2050 as compared to 1990 levels. The objectives laid down by the EU with 2030 as horizon are a concrete translation of these targets. It constitutes a clear framework within which national and regional authorities must shape their policy.

The need for a more integrated long-term vision is felt for the **mobility system**. Visie 2050 (Vision 2050) of the Flemish Government is focused on the transition priority of a 'smoother, safer and more environmentally friendly transport system'. It sees the transition in the energy system and in housing policy as being closely connected with the mobility system, and provides for alignment with the Spatial Policy Plan Flanders. However, this integration remains to be defined in greater detail. Consistent and steering policy - including forms of deterrence - will be necessary to bring about the modal shift away from the dominance of car and truck. Various solutions can provide environmental improvements provided sufficient allowance is made for rebound effects that could cancel out the desired effects. Suitable attention to this aspect in policy measures will therefore also be crucial to effectively utilise the environmental potential of innovations.

For the **food system**, a concrete long-term strategy that can be translated into consistent policy is not yet in place. The vision developed by the The New Food Frontier – a network of fifty thinkers and doers on sustainable agriculture and food – could be a first step in this direction. Sufficient support among the various actors is of paramount importance, but should not prevent the government from making guiding choices and putting forward binding targets. The ambition of the conventional agri-food chain and of policy to continue to focus on growth and export, is a barrier to the development of transition paths that bring the system within the ecological capacity. Support of innovation and reconversion, and sustained focus on dialogue and cooperation are necessary to reduce opposition.

Just as the preceding policy plans, the BRV provides a sustainable long-term vision for the Flemish **space** by 2050. We see, however, that during the past decades a number of lower-level interventions were possible that run counter to the formal objectives. For example, space occupancy in the open space has increased and the delineation of agricultural land was unable to prevent that in some locations agricultural activity was replaced with other functions such as living, horsification and activity. Above all, there was primarily a detailed vision on urban space policy, whereas for smaller, more rural cores it was not sufficiently clear what the policy objectives were exactly. The inertia of space and the cumulative results of earlier policy choices and possible derogations put a brake on the opportunities for sustainability transitions in the three societal systems. For the energy and mobility system, visions have already been developed at levels smaller than the Flemish ones. Examples are the energy landscapes, the definition of transport regions, and the core maps. Whereas the spatial character of the energy system slowly enters the public debate, this is still only to a very limited extent the case for the mobility system. For the food system, a similar regional spatial approach remains to be developed and there is as yet no sign of a public debate on sustainable location policy for agriculture. It is still not clear how the vision of the BRV will be translated into an adapted set of instruments and allocation of resources.

Innovation: develop, exchange and transfer knowledge

Various forms of innovation – technological, but also social (behaviour) and economic (new business models) – will play a substantial role in the transition of societal systems.

For the current transitional phase in the **energy system**, innovation is of paramount importance. Further technological progress is expected in the field of renewable energy and energy storage, including battery technology. Also the further digitisation and availability of large amounts of data open up opportunities for further energy saving through behavioural change and better energy efficiency, as well as the necessary matching of energy demand and supply. All of this requires the training of a sufficient number of highly skilled personnel and the development of new business models for energy services.

For the **mobility system**, too, further research and innovation is necessary for the further development of solutions. For instance, synchromodality and an approach to logistics from the vision of a physical internet could play an important role in the area of (ecological) sustainability. For autonomous vehicles, however, it is not yet sufficiently clear what their effect on mobility demand and environmental impact will be; further research and experiments are needed. Considering the importance of mobility and logistics in Flanders, it is crucial to participate in international research and demonstration projects. Behavioural change, finally, benefits from the development of tools allowing for a more objective comparison between the costs of mobility alternatives, taking also into account the total cost of ownership.

More research into system innovations in the **food system** can help to break the path dependency of the system. Examples of system innovations are agro-ecology, multifunctional agriculture, new production systems with minimal land use, alternatives to animal production, and bio-refinery. Not only technical-scientific but also socio-economic (new distribution and business models) research is necessary, This should preferably be practice-oriented and be carried out in close collaboration with the actors involved. Low-regulation zones could create experimentation space to further develop new practices and technologies. A smooth transfer of results to the field is crucial.

Knowledge building is also necessary at the **spatial planning** level. The impact of spatial strategies on the environment is often insufficiently known. Also, more knowledge and expertise is necessary at the local level, including the way spatial instruments can be used as a reference framework for sustainability-oriented policy. This can ensure that interventions in the field are better aligned with generic long-term objectives at a higher (Flemish) level. Also pilot projects are essential for knowledge building and can be a lever to replace old concepts with new insights. Broad communication on such projects, also towards non-experts, is necessary.


Zone A
Zone A
2

Mobilising resources

The transition to sustainability requires a significant mobilisation of resources to allow the broader acceptance of alternatives.

The current state of the transition in the **energy system** provides a good opportunity to activate the savings of citizens. This is possible by stimulating investments with high return in energy saving and renewable energy applications such as PV systems. Cooperative initiatives can ensure that also a broader section of the population can benefit from the dividends from investments in renewable energy. Support and any forms of subsidisation can, limited in time, promote the upscaling and breakthrough of innovative concepts or technologies.

Public investments in appropriate infrastructure appear to be a key factor in the transition of the **mobility system**. Examples are cycling paths that are sufficiently adapted to new niches such as (fast) electric bikes, but also charging and fuelling facilities and parking infrastructure for sustainable alternatives such as shared systems and BiTiBi facilities (Bike-Train-Bike). Also the further expansion of the public transport network as backbone for future mobility services (Mobility as a Service) requires significant investments. It is an essential component of the sustainable mobility system of the future.

Affordable farmland is a prerequisite for making the **food system** more sustainable. It allows small-scale, less intensive and multifunctional forms of agriculture to find their place in the mix of production methods. But it also contributes to more viable margins in the agricultural sector as a whole. In addition, it is essential that support and subsidy systems focus more on system innovations for sustainability, both in the conventional regime and in emerging niches. Resources do not need to be provided by the government alone. Banks could, for example, take into consideration sustainability criteria when granting loans, and cooperation between producers could help to share costs.

From a **spatial** perspective, much is expected from the local level, also through participation in supra-local cooperation. The distribution of resources among (large) cities and rural areas is, however, not always sufficiently adapted to properly facilitate such cooperation. An equalisation mechanism, where the income of municipalities is based, for example, on a range of ecosystem services, could also be financially interesting for rural municipalities to preserve open space.

Guarantee socially correct prices and distribute costs

To speed up the desired transitions, pricing based on sustainability will be an important lever. External societal costs will then have to be reflected at least in part, in the prices.

The economic promotion of sustainable alternatives by making the use of fossil fuels more expensive ('tax shift geared towards sustainability') is considered an important step towards creating a greater market share for renewable forms of energy. For the **energy system**, much is expected from the proposal to introduce a CO_2 levy for the non-ETS sectors. The introduction of dynamic electricity tariffs is an important factor to arrive at a better matching of demand and supply. Such variable tariffs are an incentive for end users to use electricity at moments when it can be produced or supplied at low cost.

Also for ecologically sustainable solutions in the **mobility system**, pricing is considered essential. At present, the price of passenger and freight transport insufficiently reflects the societal costs, as a result of which the majority of efforts remain stuck in the non-sustainable regime of road transport. By pursuing correct prices driven by policy, a framework is created for the transition to more sustainable mobility. It encourages transport users to make sustainable choices about the number of journeys, logistics processes, mode of transport, and vehicle technology. A pricing policy that confronts individuals and companies with the social consequences of their individual transport choices could be introduced at urban, regional or federal level, with Europe playing a role in defining the outlines of such a policy.

In the **food system**, it is of great importance to distribute the costs of sustainability in a fair manner across the entire chain, including consumers. Correct food prices should also reflect (external) environmental and social costs. Retail and the hospitality sector can help increase the consumer's readiness to pay by improving the marketing of sustainable products. The range of short-chain selling can be extended by innovative logistic models. In addition, a correct compensation is needed for the other societal services provided by agriculture, such as biodiversity, water storage and care for the landscape. Such compensation can be integrated into the food price, but alternative financing models (such as landscape funds) and modification of support mechanism are also possible.

In the **spatial** area, the scarcity discourse persists, even though in many cases it is no longer based on actual conditions. Locally, there is sometimes an (unmarketable) oversupply. This scarcity thinking leads to unfair competition of building and densification opportunities outside cores and in open space, at the expense of sustainable densification within cores. The costs of living outside cores (including for the construction and maintenance of sewers and roads) are borne by society and/or the local government. There are also not enough incentives to interweave activity in cores, or to make economical use of space on industrial sites. A stronger focus on the early debate on societal implications and costs of the use of new open space could lead to a trend break and put an end to the classical discourse.

Create sustained public support

To enable the transition to succeed, the adoption of sustainable alternatives by a sufficiently broad segment of the population is crucial. This requires sustained attention to creating and perpetuating sufficient public support.

In the **energy system**, this can be achieved via a sustained focus on the increasing positive recognition of 'ecological modernisation', such as advanced insulation and the use of low-energy and renewable technologies for electricity and heat supply in the built environment. This positive dynamic could provide an impulse to more sustainable energy use in the built environment. Also the promotion of participation in energy cooperatives or other forms of cooperation for energy production, energy storage and energy efficiency could create additional public support. It could also to some extent counter opposition against wind energy projects (nimby effect) by actively involving citizens early on through empowerment and financial participation.

Visible and inspiring (foreign) examples can contribute to behavioural change and change in attitude in the **mobility system**. City distribution trial projects are currently ongoing in

several European cities. Examples are Bristol, but also CityDepot in Hasselt. It is essential to sufficiently highlight the significant health effects of the modal shift to (electric) cycling, but also of the phase-out of conventional fossil-based mobility (particulate matter). Also a better awareness of the total cost of ownership and of the external societal costs of mobility choices could promote public support for more sustainable transport modes.

In the **food system**, public support for sustainable eating patterns can only be increased by changing the entire food environment. Numerous actors can help to turn sustainable food into the new normal. Examples are retail, hospitality, catering, civil society organisations and education, but also influencers such as famous cooks, athletes and media figures. In addition, the distance between producer and consumer can be shortened via short-chain selling, so that proximity and transparency can also alter perceptions of (the value of) food. The importance that consumers attach to convenience represents a separate challenge. Supporting new logistics models can make a difference in this context. To strengthen support among (future) farmers, transfer of knowledge and inspiring practice examples are of great importance. It is also essential to assess the success of the food system against sustainability and resilience, instead of evaluating it only in terms of efficiency.

Spatial intervention in a densely populated and diffuse built environment like Flanders is particularly sensitive to (lack of) public support. The societal debate about where individual and societal responsibility begins and ends, must be conducted in an open manner. Properly designed, full-fledged participation by citizens at various spatial levels can play an important role in this respect. Only when an adequate public debate has taken place, instruments for a better open space policy will have a real chance of succeeding.

Support cooperation and networking

Societal changes require cooperation among a large number of actors, both within and outside the various systems. Furthermore, due to the importance of new technology in the transition to more sustainability, facilitation by third parties is essential for the efficient adoption of innovations.

Within the **energy system**, a facilitating role is reserved for third parties in various areas. For example, potential is seen in the role of 'heat broker', who links sources to potential customers and brings the respective parties together to search for solutions that benefit all parties involved. Also third parties providing a comprehensive service could be entrusted with the coordination of energy-efficient renovation projects, thereby contributing to a higher (ecological) renovation rate. In matching energy demand and supply, a commercial role can be reserved for 'aggregators' capable of trading the flexibility of industrial, commercial or household electricity users on the energy market.

Integrators in the **mobility system** can ensure the provision of (sustainable) mobility solutions (Mobility as a Service) where different transport modes are integrated via digital interfaces in an efficient manner for the user. In logistics, too, third parties can play a facilitating role as broker in the optimal deployment of different transport modes based on a comparison of (real-time) information about supply, characteristics and concrete logistic requests.

For the **food system**, cooperation between a wide group of actors is required for the transition to more sustainable food production and processing. These are not just the stakeholders, both conventional and new, within the food chain itself but also, for example, sectors such as the chemical and pharmaceutical sectors, regional actors involved in multifunctional services provided by agriculture, and consumers. Targeted investments in networks, in matchmakers that bring the interested parties together, and in facilitation and mediation, could be helpful in this respect.

From a **spatial** perspective, none of the three societal systems is the most relevant at the highest or lowest level, more often than not they are situated at the intermediate level. For the implementation of spatial strategies, the supra-local level is crucial for vision development and cooperation at the level of concrete projects. It is as yet not clear how supra-local cooperation can be structurally organised and embedded.

Stimulate policy integration

The development of a long-term vision and its translation into consistent policy choices requires coordination and alignment of the various policy areas involved. Furthermore, sustainability transitions within the various societal systems are, sometimes strongly, connected with each other. The link between the mobility system and the energy system appears to be particularly intensive. Sustainable electric transport implies renewable electricity generation. Moreover, the growth of electric driving holds both challenges and opportunities for the matching of electricity demand and supply. Also the need for linking sustainable alternatives within the food system with the other systems is apparent from the attention to short-chain relations, more energy-efficient production methods in horticulture and the link between onshore wind turbines and (agriculture in) the open space. Sustainability within each individual system therefore seems inconceivable without the other systems co-evolving coherently in the same sustainable direction. A spatial vision geared towards sustainability will be an important integrating factor and also a crucial prerequisite.

Alignment between different policy areas, policy levels and the wide availability of data are of great importance for a sustainability transition of the **energy system**. Changes in the usage of space that benefit sustainability in the field of energy, such as densification of cores and change in land use, will have to be integrated at different decision levels.

For the **mobility system**, too, an integrated policy with a distinct spatial component is of crucial importance. Mobility is in fact closely connected with where we live, work, shop and relax. Also the connection with industrial policy is apparent from the importance of the spatial embedding of regional logistics hubs. In the area of mobility, in addition to an overarching vision at the Flemish level, local authorities play an important role as catalyst for, for example, the concrete introduction of systems for shared mobility, low-emission zones or city distribution systems.

To allow a supported, steering long-term strategy on a sustainable **food system** to be consistently integrated into the policy of the different policy levels and areas (such as agriculture, environment and nature, health, economy and education), cooperation and coordination are needed. This could be realised through an integrated food policy.

Spatially, there is twofold need for policy integration. Firstly, integration is needed at the various levels, with better integration between the Flemish level (sustainable spatial vision development) and the (supra-)local level at which this vision is implemented in practice. A better role assignment, but above all a better alignment and consistent implementation of the overarching vision, remains essential. Secondly, there is need for better integration and alignment of spatial policy and environmental policy. Sustainability goals are in essence shared goals that must also be considered and elaborated as such. The current integration based on advice during existing processes, such as licensing procedures, has proven inadequate. Environmental policy instruments, for example, appear to focus primarily on the effects of individual spatial projects without placing them in a broader systemic change. The 'newer' themes of energy, food and water offer additional opportunities for a stronger integration. The first two in particular still have difficulties in finding their place within spatial policy.

BACKGROUND DOCUMENTS

The *Environmental Outlook 2018* compiles information from the seven background documents on which it is based. VMM-MIRA wishes to explicitly thank the researchers and all the members of the expert panels for their valuable and enthusiastic contribution to this extensive study.

Wat milieu-indicatoren ons (niet) vertellen: een meta-analyse

- Bob Peeters, Hugo Van Hooste, Johan Brouwers, Sander Devriendt, Igor Struyf, Erika Vander Putten, Floor Vandevenne, Marleen Van Steertegem (MIRA, VMM)

Naar een diagnostiek van systeemverandering

- Pieter Valkering, Erik Laes (VITO/EnergyVille)
- Yves De Weerdt (VITO Transition Platform)
- Philippe Vandenbroeck (shiftN)
- Frank Nevens (UGent)

Horizonscanning

- Annick Gommers, Katelijne Verhaegen (KENTER)
- Merel Claes, Jo Goossens (shiftN)

Oplossingsrichtingen voor het energiesysteem

- Erik Laes, Pieter Lodewijks, Nele Renders, Marlies Vanhulsel, Pieter Vingerhoets (Sustainable Energy and Built environment (SEB), VITO/EnergyVille)
- Jo Goossens, Kris Ooms (shiftN)

Oplossingsrichtingen voor het mobiliteitssysteem

- Inge Mayeres, Bruno Van Zeebroeck, Sebastian Vanderlinden (Transport & Mobility Leuven)
- Kris Bachus, Luc Van Ootegem (HIVA, KU Leuven)

Oplossingsrichtingen voor het voedingssysteem

- Jonas Van Lancker, Marianne Hubeau, Fleur Marchand (Landbouw en Maatschappij, ILVO)

Ruimte als integrerend platform voor milieuoplossingen

- Miechel De Paep, Kristine Verachtert (BUUR cvba)
- Jo Goossens, Philippe Vandenbroeck (shiftN)

You can read and download the background documents (in Dutch, with English summary) via **en.milieurapport.be/publications**.