CLIMATE NEUTRAL CITY INITIATIVES: WISHFUL THINKING OR THOUGHTFUL WISH?

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**Climate neutral city initiatives: wishful thinking or thoughtful wish?** | iii
Abstract

Many cities, of which a representative group is organised in the C40 Cities Network, have recently developed plans for realising climate neutrality over the coming decades. At this moment, local climate initiatives indeed seem to be more promising for the much needed energy transition than their global counterparts. This tendency is, without any doubt, very encouraging. However, one must at the same time be aware of the dangers that a failure of realising these plans would bring on. Are the carbon roadmaps realistic, and if not, what could happen when the concerned actors realise the full bearings of their commitments? What about the technical and economical feasibility of measures in relation to the many uncertainties of long term planning? What about mechanisms of burden-shifting for realising the ambitious goals?

These challenges can however also be approached from a positive angle. Given the fact that local authorities and stakeholders have embarked on a carbon transition path, can they be convinced to make the exercise to the bottom of the matter? Considered from a transition governance perspective, what are then the stimulating factors, and what are the discouraging ones?

We briefly analyse these questions by means of three case studies in Flanders, Belgium. The first case investigates a recently elaborated plan to make the province of Limburg carbon neutral. The second and third case consider roadmaps which are in the making for the cities of Leuven and Ghent. In the case of Leuven and Ghent, much emphasis is put on combining a top-down and a bottom-up transition approach to guarantee effective results.

Key words: climate neutrality, transition management, local authority.
Introduction

In recent years, a growing discrepancy can be observed between stagnating climate policies at the global level, and emerging climate initiatives at the local level. Where the former processes seem to have almost arrived at a gridlock, many hopes are now being expressed about effective climate action taking place at the local scale levels of cities, regions and states (Tollefson, 2011; 2012; Schreurs, 2008). This is illustrated, for example, by the activities of networks like ICLEI - Local Governments for Sustainability, the World Mayors Council on Climate Change and the C40 Cities Climate Leadership Group. However, while there are sufficient indications that successful bottom-up action is indeed crucial for tackling climate change, the realisation of solid outcomes is still to be proven in many cases. One reason is that mitigation efforts require long term policies. A representative example of the time frames adopted by cities can be found in Figure 1.

Figure 1  C40 Member Cities and their greenhouse gas emission targets

Source: (KPMG, 2011: 24)
The present paper will investigate the state of affairs of three local climate initiatives in Flanders, the northern region of Belgium. These initiatives regard the province of Limburg and the cities of Ghent and Leuven. All three aim at climate neutrality, however with different calendars. The application of transition management is an important focus in each of the three cases.

As the author is the scientific coordinator of an ongoing project to create a roadmap for Leuven Climate Neutral 2030, the present analysis can be partly considered as action research. Hereby the process in Leuven (insiders’ view) is compared with that of Ghent and Limburg (outsiders’ view).

In what follows, the three cases will first be described in terms of their environmental goals, and in particular the reduction of greenhouse gas emissions. Subsequently, their process design will be explained. Thereafter a comparison and concise SWOT analysis will be formulated. For reasons of confidentiality, differentiation among the three projects may be omitted. Although most of the conclusions can be drawn from public documents such as reports and lecture presentations, some in-depth considerations were derived from expert interviews. Thereby we wish not to hamper ongoing efforts by rendering public sensitive information.

The conclusion will aim at an outlook for the future. Both the analysis and the outlook in this paper should be considered as an intermediary evaluation of work in progress.

1. **Overview of three case studies (1): targets and process**

In the three cases a holistic approach has been adopted from the outset. Environmental goals are framed within a sustainable development perspective, but with different nuances.

1.1 **The environmental perspective: greenhouse gas emissions**

Ghent (235 000 inhabitants) started its climate action process in 2007 and chose as reference years for the baseline emission inventory 1990 and 2007. Limburg (825 000 inhabitants) initiated its climate plans in 2008 and chose as a reference year 2008 as well; for Leuven (95 000 inhabitants) this is respectively 2011 and 2010 (Van Sande and Milieudienst Stad Gent, 2011; Arcadis, 2010; Provincie Limburg, 2012; Jones et al., 2012; Futureproofed, 2012). Ghent has no explicit target year for climate neutrality although 2050 is often mentioned; Limburg aims at reaching this status in 2020 and Leuven in 2030.

All three involved authorities signed the Covenant of Mayors, for the province of Limburg this was done at once for all of its municipalities. The obligations of the Covenant can be seen as a step up towards climate neutrality.

Up to the present, only Limburg has completed development scenarios.
Steel and electricity production are marked up to explain the large differences.

Source: Graph based on (Futureproofed, 2012)

The results of the baseline emission inventories show substantive differences in per capita emissions. Both Limburg and Ghent have considerable industrial production and electricity power plants located on their territory; while this is not the case for Leuven. If electricity and steel production are filtered out from the results, a fairly constant emission per capita of nearly 10 tons of CO2-equivalent per year appears in all of the cases, see Figure 2. The emissions considered are the Greenhouse Gas Protocol’s scope 1 & 2 (GHG Protocol Initiative Team, 2004); Ghent has a slightly different methodology that concurs well however. The goal to reach is about 1 tonne of CO2-equivalent emissions per capita per year, scope 3 (indirect emissions) included.

The influence of particular industries is overwhelming. As such, steel manufacturer ArcelorMittal is alone responsible for 66% of Ghent’s emissions (Arcadis, 2010; update).

Table 1 shows a comparison of the shares of emissions divided by sector.
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Dominant point sources like power or steel plants have a vast impact. Omitting these, more similar patterns occur, however still with considerable local variations depending on the context. The sector agriculture and nature includes carbon sinks, in particular forests. Only in Limburg have the latter a significant influence, in this case a sink of about 5%.

Source: Table composed on the basis of (Gorissen and Vercaemst, 2011; Aracdis, 2010; Futureproofed, 2012); however for Ghent numbers from an unpublished update by Arcadis, including a reallocation of emissions, have been used instead.

Household and transport shares are fairly comparable among the three cases if one makes abstraction of tertiary and industrial fractions (including energy), which vary strongly depending on the nature of the local economy. Hereby Ghent is marked by its harbour industry while Leuven jumps out as a servicing and knowledge economy. Obviously, agriculture and nature play a more important role in a regional system than in an urban setting. Emissions from agriculture always overrule the sink provided by natural systems.

As mentioned higher, only the province of Limburg has completed development scenarios towards climate neutrality at this moment. Besides a reference scenario with business as usual (BAU) based on current policies, a ‘2020’ and ‘2050/visionary’ scenario have been formulated. In the current policy scenario (BAU), emissions reduce 5% by 2020. The ‘2020’ scenario envisions climate neutrality as a technically feasible target, however at a high cost. Only 3 to 5 of the 10 million ton CO2-equivalent of emissions can be eliminated at a net zero total life cycle cost, and the so-called ‘last measures’ appear to be very expensive. Moreover, the scenario heavily depends on imported biomass to reach its goals, in particular for converting an existing power plant from coal and gas to biomass fuelled. This option creates a specific dependency and should moreover be regarded as a carbon leak. Therefore improvements to the 2020 scenario were investigated. However, this implied that the time horizon was extended to 2050 so that alternative solutions could be developed in reasonable terms. In this case more emphasis was put on emerging techniques like geothermal energy, new wind and solar applications, microbial fuel cells, hydrogen technology and smart grids. This resulted in the
‘2050/visionary’ scenario. As a result, elements of the ‘2020’ and ‘2050’ scenarios are currently being combined for further implementation (Provincie Limburg, 2012).

In Ghent work on the building stones of scenarios is ongoing. Efforts focus on abatement cost curves, at first in a ‘light’ version. This version will serve as a preview to be subsequently discussed with all concerned stakeholders. The city also works on energy potential mapping (see e.g. van den Dobbelsteen et al., 2011), in particular to screen possibilities for renewable energy production, and further concentrates on feasible business cases, which is an obvious choice in a context of major industrial impacts. In a BAU scenario, total emissions in 2050 would rise some 20% compared to 2007 with a share over all sectors (Van Sande/Stad Gent, 2011), so here the challenges are clearly higher than for Limburg.

In Leuven, scenario building is equally under its way and should be finalised by the end of 2012. Some preliminary observations can however be made, based on the specific emission profile of the city. Building-related emissions (households and tertiary sector) amount to nearly 60% of the total. Together with the transport emissions, this makes up for more than 80% of all emissions. Therefore scenarios will have to focus on the renovation of the existing building stock, on greening its energy supply, and on switching to sustainable transport modes. Leuven’s emissions are also expected to rise in a BAU scenario due to both population growth and expansion of its knowledge and research based economy.

1.2 The transition perspective: processes

As mentioned higher, in the three cases the strictly environmental perspective is transcended in favour of a holistic sustainable development strategy. Thereby not only the economic consequences and opportunities are being considered, but also important social issues such as: well-being and health, combating (energy) poverty, educational issues and public support. All three cases explicitly refer to transition management. However, the ways in which the corresponding transition processes are set up differ from case to case.

Limburg set out with study work that was first presented to a sounding board (feedback group). The members of this board were private and public companies and related professional confederations, advisory bodies, knowledge institutions, and cso’s/ngo’s, among which trade unions. Eventually this sounding board was turned into Limburg’s ‘Climate Parliament’. The latter is therefore not a citizen’s representation, in contrast to the way this is conceived in Leuven (see further). It is however emphasised that this body functions as a representative arena for the local society, i.e. for all of its economic and social stakeholders through their respective organisations. As such the parliament functions as a central and vital organ for the process. In addition to this, four specific tracks of action have been defined:

1. engaging enterprise: a cleantech platform has been set up to provide for consultation and interaction. It works through 11 ‘do tanks’ corresponding to specific themes like biomass, logistics or materials. Investing in support and research is ongoing, e.g. through setting up GreenVille (a service centre about cleantech) and EnergyVille (a research centre on energy and smart grids);

2. climate towns: all 44 local communities are engaged in setting up climate plans, in the first place to fulfil their obligations for the Covenant of Mayors. Efforts are coordinated and supported for achieving maximum efficiency and dissemination of expertise;
3. **climate ambassadors**: this action is based on a call to all of Limburg’s citizens to become a climate or cleantech ambassador, and thus focuses on engagement and support from the wider society;

4. **the exemplary role of the provincial authority**: the authority has engaged to set an example by creating its own organisational climate action plan, and allocating financial means for related investments.

In order to provide for extended financial means at the regional level, Limburg has set up a Climate Fund in which both citizens and organisations can invest. Participation is possible starting from 100 euro. The Fund aims at a dividend that is 1% higher than the return of a traditional saving account. Projects that aspire financial support from the Fund are screened for their contribution to climate and sustainable development goals. But there are also other financing channels available. An example is Duwolim, a non-profit organization that provides affordable loans for energy-related housing renovation, and that collaborates with the so-called ‘insulation teams’, a social economy initiative for the execution of insulation works in houses (Provincie Limburg, 2012; Limburgs Klimaatfonds, 2012). Another example is Nuhma, a public investment utility described as a ‘climate company’ that supports the 44 local authorities with their climate- and energy related investments, mainly in renewable energy production.

Limburg has invested strongly in communication, and therefore did not miss its appearance in the media, for example through ‘green’ issues of the major regional newspaper. The climate initiative has its own website, as have many of the related initiatives like the Climate Fund, Duwolim or EnergyVille. Two small books were published as a paper handout, in a few thousand exemplars.

The working principle for Ghent is ‘from talking to doing’: while analysing, studying and discussing climate action from a theoretical point of view, practical experiments are simultaneously set up and feedback loops between the two fields of action are actively prospected. The experiments are also intended to increase involvement and support from the different stakeholders.

The organisational structure is a Climate Union (‘Klimaatverbond’) and can be considered as a working structure facilitating synergies within a framework of overall guidelines. Policy supporting instruments make up the cornerstone for this framework. They include the baseline emission inventory and subsequent emission monitoring; the ‘renewable energy scan’ and energy potential mapping supported by GIS applications; climate mapping for adaptation strategies; and the derivation of cost abatement curves for building transition scenarios. The city authority of Ghent manages the Climate Union, and so acts as the responsible owner of the process. From a content point of view, the city’s environmental service (‘Milieudienst’) has the lead for coordination and planning. Existing as well as new initiatives are grouped under the flag of the Climate Union.

Within this context, a transition arena with 15 frontrunner personalities has been set up. The arena has till now performed a system analysis, conceived a Leitbild (guiding model) and transition paths, and activated climate working groups, which are meant to be the functional successor of the arena. These groups must, in particular, identify key players and business cases so that actions and experiments can take a start. Currently some 100 people participate in the climate groups. Themes vary from urban farming over energy efficiency for the enterprises to ‘Green Track’, an initiative for involving the culture & arts sector.
At this moment, all financing in Ghent is on the basis of existing channels like communal budgets, subsidies and EU funding.

Ghent’s communication strategy is centred around the Climate Union. Preferential communication channels are the website, an e-zine and the social media.

While conceiving its process, Leuven has been able to profit from feedback gained from early adapters Limburg and Ghent. In this way, the project has been structured along an explicit, combined top-down & bottom-up approach. A new feature in this sense is the local ‘G20’, a transition arena with key decision makers from all components of the ‘quadruple helix’: knowledge institutions, enterprises, government and civil society. The structure of the approach is represented in Figure 3.

**Figure 3**  Project organisation in Leuven with bottom-up and top-down input

In all components, the quadruple helix is represented. The bottom-up process is supported by academic input from Leuven’s university, as is the project core.

A top-down and bottom-up pillar feed the work on the scenarios. The quadruple helix is represented in each component. The bottom-up process is methodologically supported by input from KU Leuven, which in addition has its own working group on climate neutrality in the framework of the university think tank Metaforum. The themes of the 6 thematic cells are: energy; built environment; mobility; agriculture and nature; consumption; and participation, public support and transition. The baseline emission inventory, scenarios and final reports are produced within the ‘cpu’, the scientific project core which equally serves as the central crossroads for communication between the pillars. At this moment, some 200 people are active in the different sections of the roadmap project, mostly on a voluntary basis or/as a representative of one of the stakeholders.
For the near future, Leuven aims at extending the project’s structure, have it managed by a cooperative society that works independently from the city authorities, and create a climate fund. A climate parliament, which is intended to start its activities towards the end of 2012, will provide an arena in which all citizens can participate. Communication strategies are currently under review and will be scaled up. In essence, many of these measures aim at shifting the gravity point of the process from centred around the city and the university (the initiators of the process) to an equal share between the former two parties, the enterprises and the civic society.

2. Overview of three case studies (2): Comparison

Because of their comparable starting positions and goals to be reached, the three cases have a lot in common. Obviously, ensuring the engagement of all stakeholders involved in the transition process towards climate neutrality is the foremost challenge to be taken up. Support must be gained from authorities, civil society organisations, institutions, companies, and the general public. Processes must be formalised, receive proper staff and obtain adequate financial support. Investment vehicles should be created and covenants with the industry agreed upon. In the first place, these efforts should focus on experiments, but a larger take-up should at the same time be envisioned. On the second plan, typical transition barriers such as vested interests or inappropriate legislation must be tackled as well. Big regime players like the operators of centralised power and steel plants represent a particular challenge, reaching considerably beyond the competences of local authorities.

Five aspects surface as essential parameters for establishing a transition project with reasonable chances for success: providing sound scientific support; securing the engagement from stakeholders and public support; guaranteeing a just transition through social redistribution measures; opening the way for practical implementation; and establishing appropriate financing mechanisms for facilitating the implementation. In all of the studied cases, a continuous struggle for securing these operational factors can be observed. Depending on the case, factors may be somehow underestimated or not taken care of properly so that subsequent corrections to the process become necessary. As a result, all three cases are found to be self-correcting on the basis of internal and external feedback.
The importance of acknowledging the contextual complexity of a given locality and its local power constellations should not be underestimated. This has been demonstrated in earlier research on strategic urban development projects in Flanders (Block & Steyers, 2011), and appears to be true as well for the transition processes studied here. In this context, it is highly relevant to consider the multiple aspects of power in transition, in particular while observing the interactions between regime and niche players (Avelino & Rotmans, 2009). Hereby we coincide on the view that transition management depends on empowerment and leadership. It is hard to assess this aspect into much detail for the three cases at present, but there is evidence that the territorial relations between regimes and niches are a factor defining much of the outcome of the processes under scrutiny. As indicated by Avelino and Rotmans, niche players are indeed found to operate on innovative and transformative power while regime players try to absorb the change factors and create a synergetic relationship with the niches, or even obstruct the transformation process. There is a crucial point where it must become clear if the resulting tendency is towards a lock-in or towards a real transition take-off. Observing the three cases, we suspect that experiments play a crucial role at this point, because in these experiments the new power configurations become visible through operational reality. Each of the cases is found to have arrived in this phase. A good example of this situation is the carbon-negative urban redevelopment project Tweewaters in Leuven where many aspects of both the struggle and the cooperation between regime and niches seem to be at work (for the project in case: see Ertzberg, 2012). A significant bottleneck is the deployment of a renewable energy based district heating network used both by the private investor of Tweewaters and the adjacent social housing trust. The success of this project will be an indicator of the transition constellations in Leuven: take-off or backlash. Experiments also seem to have yet another role: transcending the principal oppositions and conflicting discourses between actors through small-scale, real world projects on which all of these concerned actors can agree. This could be interpreted as arriving at shared power on a small scale, thus preparing the way for new power configurations at a larger scale. Some relevant examples of this situation can be found in Limburg and Leuven, where the agro-industrial sector confronts the niche players that stake on other uses of nature, and where a way out is searched by establishing commonly accepted goals and projects, e.g. concerning erosion and flood control.

The identity of a transition process is another factor that should be taken serious. It is galvanised by its leaders, frontrunners and flagship projects, by the degree in which larger groups of participants become owner of the process so that they can identify themselves with it, and not least by a well-thought communication strategy. Here we can observe variations among the cases that hint at structural differences at the process level. From the beginning, Limburg has focused on leadership and communication strategies, and as such shows an inclination towards a top-down approach. Ghent works rather the other way around and attaches much importance to public involvement, absorption of existing initiatives and the negotiation of business cases, while being rather prudent with shiny PR-issues. In Leuven the communication aspect was felt to be underestimated at the outset. It is now checked if the G20 can become the ‘face’ of the process without neglecting the ‘body’ with its scientific core, thematic cells and climate parliament. Better communication reflecting a purified process structure should thus result in a balanced identity for a balanced process.

From a methodologically supporting point of view, there is considerable evidence that GIS systems can be very helpful in (literally) mapping challenges and opportunities. This is evident in the case of energy potential mapping as it is being applied in Ghent, but there is a generalised need for data on (1) the physical state of both the built and the natural environment and (2) the activities that are grafted onto this physic-spatial system. Considering (1) we derive that knowing the age, physical
state and insulation degree/energy consumption figure of buildings and infrastructures is a primary concern. The same holds for inventories of natural assets such as the surface of greenery and the number of trees, the absorption capacity for water, the geothermal properties of the soil, ... No precise estimations of climate action costs can be made without such data. This also implies that new indicator systems and monitoring procedures must be introduced.

3. A first SWOT analysis

Taking the previous analysis further, we formulate a concise, overall SWOT analysis. It serves as a summary of the lessons learned till now from the three cases, while at the same time transcending their particularities.

3.1 Strengths

Innovation power and discourses. Innovation can be a success factor in several domains, and does not only concern techno-economic innovation. An example is the use of the ‘Duurzaamheidsmeter Gent’, an urban sustainability assessment tool used by the city of Ghent for screening urban projects, which has gained interest from the commercial sector (the tool is inspired on BREEAM) as well as from other cities. In this way, a new standard of sustainable practice is introduced and picked up by a larger group of actors. A similar example is Leuven’s new G20 concept which is provoking high expectations. By bringing together captains of society that would otherwise not meet, a new dynamic is installed and trust relationships can be formed.

A distinct innovation aspect concerns discourse building. A consistent and appealing climate story is more easily assimilated by different actors. As such, the transition theme has started to appear in political programs in Ghent. In Limburg by contrast, a rather provocative discourse on urban and spatial planning was formulated in order to point at the many environmental drawbacks of Flanders’ present built environment, characterised by chaotic sprawl and disastrous energy consumption figures. Here, setting the discourse is a means to provoke a discussion that goes to the root causes of the unsustainability problem. Playing this card requires putting into evidence the comparative advantages of profound intervention. Climate action thus becomes a pretext to address system failures of the existing regime beyond the climate theme. In Leuven’s thematic cells a similar story line can be detected. Urban sprawl based on individual housing serviced by the car is criticised for its general unsustainability, and the environmental and social advantages of a transition towards a more compact and collective organisation of living and working are emphasised. Hereby back-casting from a Leitbild (guiding model) can be a revealing technique, provoking stakeholders to envision qualities that they would otherwise hardly think of. In certain cases however, this exercise is judged to be difficult. Therefore it is a good option to support Leitbild formation and back-casting exercises by expert input.

Enthusiasm and engagement. Sometimes the protagonists of the transition processes are surprised by the engagement and the enthusiasm they meet on their way, be it still from niche players or a convinced minority of the general public. This nevertheless raises hopes that a critical mass is being formed. What was not possible a few years ago, now has become possible: this was for example the
conclusion of setting up the climate process in Leuven. Rising consciousness among economic and social stakeholders and political support make up the basis for this societal shift.

A combined top-down and bottom-up process. In reality this aspect is present in different forms and gradations in the three cases, but everywhere the conviction lives that it is, or should become, a fundamental strength. The process corrections mentioned under paragraph 3 often aim at adjusting the balance between the two principles of bottom-up and top-down. In other words, if no one has yet found the perfect formula, the search for it appears in itself to be a strength for each of the studied processes.

3.2 Weaknesses

The cash problem. Many climate related measures deliver a profit on the medium or long term, but need capital to be invested at present. The current financial and economical crisis deepens this problem. Moreover, commercial companies cannot assure they will still exist in 5 or 10 years, let alone in 30 years. This has far reaching implications. As of an example, ESCO’s were found to work only on investments with a pay-back period of maximum 7 to 11 years, which does not accommodate for many structural interventions in the built environment, in energy infrastructures, or in yet other fields.

Alternative financing must be searched for. Because, as one protagonist put it boldly, ‘money opens the doors’. For this reason Limburg created its climate fund, while Leuven intends to do so. The success of a renewable energy cooperative like Ecopower (for the cooperative in case: see Ecopower, 2012) lets us to presume that investing in climate and energy related projects has a future, especially in the case where citizens become shareholder (and psychologically speaking, owner) of the project, and thereby also collect its financial fruits.

Furthermore, climate plans must estimate and express related employment opportunities since this issue is vital for convincing politicians, citizens and companies to invest in the green economy.

Structural handicaps. These are well known in transition studies and consist of unfit or counter-productive legislation, barriers at the higher policy levels, dominant regime players, lack of expertise and skills, ... For what concerns the top-down political and legislative issues, a way out of this situation could be to form a coalition of the willing among climate cities and provinces, in order to weigh on the Flemish and the federal policy level.

The dictate of short term agendas. This factor is most obviously present for political and economical actors, and systematically weakens their engagement towards structural change. But a similar syndrome can be identified at the social level, for example where citizens do not wish to change their behaviour or habits because on the short term, nothing impedes them from continuing to live as they have done so far – this is the famous boiling frog syndrome.
3.3 Opportunities & Threats: points of attention

We propose to combine the opportunities and threats into a single analysis of points of particular attention:

- **society-wide support, shared responsibilities and participation**: this aspect is shifting, and may become a strength in the future but often remains a point of struggle. In Leuven, experts pointed at the importance of shared ownership for the process so that this could be accommodated for from the very outset. Participatory processes are a must for building support and realising long-lasting success. The shared ownership must be well communicated to, and discussed with, the different stakeholders. Although Ghent set out with a rather centralised approach around the city authority, it has now realised as well that all concerned parties must be addressed for their share in responsibilities. Creating a common project is thus an imperative. Limburg emphasises this by aiming at a climate community, thereby counting on the ‘Limburg feeling’ which had already become a popular icon for the identity of the province long before the climate theme was launched. Addressing the industrial society appears to be a challenge apart. Ghent, for example, has trouble in lining up its 19 Emission Trading System (ETS) enterprises. Definitely strong political leadership is needed for making a difference, but on the other hand politicians need to beware of not chasing these companies. The latter is not only economically pernicious for the local community: if a company relocates to a place with less stringent environmental and social laws, carbon leaks and/or social burden shifting may occur, and by consequence the net result at the global level may be nil or even negative. Such factors come to stress fragile transition efforts;

- **lasting engagement**: keeping everyone on board. Economic actors in particular tend to ‘leave the ship’ when engagements reach too far according to their standards. More in general, taking care that the transition process does not bleed to death is a major concern. Transition arenas must be renewed in due time, turned into smaller working groups, or see at least a progression towards tangible results. If this is not the case, momentum tends to drop fast. In addition, the right people must do the right job. Therefore a transition arena with visionary thinkers may not necessarily be fit for realising experiments. These experiments indeed need ‘do-types’, so another management profile may be required;

- **windows of opportunity**: power and expertise constellations, momentum and other particular, context-related circumstances must be actively prospected for windows of opportunity. In other analyses, these are also marked as policy windows (e.g. Block & Steyvers, 2011);

- **leadership**: successful projects benefit from, or even rely on the charismatic leadership of individuals in key positions of the quadruple helix. They pull their project and put personal networks into action for supporting it. They often combine this with a convincing public discourse, and act when windows of opportunity emerge;

- **the mindset problem**: human psychology counts. Why is citizen X convinced of climate action while citizen Y, having the same level of education and welfare, is not? What is the role of group behaviour with its related codes and norms? Would Y change his or her opinion if the majority thinks and acts like X? Is 20% of the X-type enough critical mass to change the system dominated by Y-types?

A structural research of these psychological factors is out of the scope of the present analysis, but knowledge about what convinces people is felt to be an important asset and should therefore be aspired to;

- **when ecology, economy and society go together**: economic arguments are convincing; therefore they must actively be searched for in transition processes. A similar conclusion holds for social aspects like health and well-being, quality of life, education, and combating poverty and exclusion.
Stakeholders are preferentially convinced by constructive arguments and good examples showing the comparative advantages of structural change. This point is related to the mindset problem, as indeed stakeholder’s frames of reference define how the balance between environment, economy and society is prioritised;
- communication: a professional communication strategy is essential. Limburg immediately played this card, but in Ghent and Leuven its importance was initially underestimated, and therefore the PR strategies of these cities require adjustments.

4. Conclusions

In the present paper we have set out to analyse ongoing transition efforts from a practical, action research oriented perspective. This is done on the basis of three case studies in Flanders, Belgium, where a province and two cities have decided to develop pathways towards carbon neutrality. Coming back to the questions formulated in the abstract, we observe a constant tension between ‘wishful thinking’ and ‘thoughtful wish’: on the one hand, the distance between the status of climate neutrality and the current modus operandi of our society is very big and equally hard to bridge; on the other hand we find that many actors at the local or regional community scale are now determined to ‘think and do’, as the motto in Ghent sounds. Thereby the encountered enthusiasm sometimes exceeds the expectations of the transition protagonists. High expectations emerge, and the chances of inglorious failure correspondingly grow. It is in the hottest of the battle that the three studied cases are now arriving: lines of action must be implemented and experiments successfully carried out before the transition effort bleeds to a premature death. We opinion that several constitutive elements for success can be identified: providing sound methodological support; securing engagement and public support; guaranteeing a just transition; facilitating practical implementation; and establishing appropriate financing mechanisms.

Roadmaps become unrealistic when ‘magician’s rabbits’ are brought in to solve the toughest problems. As we learn from practical cases, this implies that realistic calendars must be adopted, multiple transition paths explored, and cocktails of measures envisioned. Possibilities to adjust a transition path while proceeding on it are necessary because contextual parameters (cf. the landscape in transition terminology) change continuously.

Taking a SWOT analysis as a basis, we conclude that strengths like innovation capacity, shared enthusiasm, tangible engagement, and a good balance between bottom-up and top-down action are promising conditions for the future of the studied cases. Important weaknesses that challenge this optimism are a lack of financial input, built-in structural barriers at the level of the existing regime, and the dictate of short term agendas when actors have to make a choice here and now.

Points of attention (concerning both threats and opportunities) have further been identified. They can be resumed as: securing public support and obtaining a sense of shared responsibility in the long term; identifying windows of opportunity to accelerate the transition take-off; fostering leadership; acting on socio-cultural barriers; and connecting everyone and everything by means of appropriate communication and participation strategies.

Reconsidering our initial questions, what is the sense and nonsense of ambitious climate plans? From an environmental point of view, it is simply necessary to be very ambitious. Limiting the global tem-
perature rise to 2°C requires us to do so (e.g. Tollefson, 2011). From a human behavioural point of view however, these ambitions are very hard to realise. Within this field of tension, cities and regions have decided to operate. How we respond to one of the major challenges ever met in history, is thus a matter of human normative behaviour. And therefore, it appears that ‘possible’ or ‘impossible’, ‘realistic’ or ‘unrealistic’ are normative choices.
Bibliography

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