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Power Essays

Power Essays

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Power Essays

The Rise of Regions

Europe is a continent of regions. Regions often have more ability to find common ground on community matters then nations. There are several reasons for this, among which the difference of scale that determines the nature of governance. Regions are closer to the citizen then the nation is. Moreover, competitive and sovereignty issues play a far less important role between, let us say, Cadiz and Noord Brabant then between the government of Spain and that of the Netherlands. Especially the trend of decision making closer to the base due to the rise of a mature, independent and worldwide connected citizen, a trend which is enabled by innovations like google, facebook and twitter, leads to new steering methods coming into fashion.

Governments of all kinds – national, regional and communal – feel the need to reshape and look for a different, more effective and constructive way of acting. The struggle on the path to innovative regional governance that suites our époque, fighting climate change and achieving social coherence while keeping the economy running, is the ribbon that connects the six essays of this publication.

These stories are written for and with the partners of the Dutch province Noord Brabant in the EU Interreg IVC programme titled Power that finished in September 2011. They speak of the concepts that underlie sustainable regional development in the broad sense of the word. We wrote these six essays to support thinking and sensing of what a region can be, can do, with whom and where the lessons of experience can be found. Five are in English, one story JES! is written in Dutch. They are lavished with literature and practice on

sustainable development. You've got it right: Planet, People & Profit at the same level.

The province of Noord Brabant thought it relevant to publish the essays for a wider public then the Power partners. Therefore we made this little publication. We hope you will enjoy what you find.

Have a nice day,

Hans Meulenbeld, Province Noord Brabant
Frank Van Empel, nonfiXe / Ecolutie
Caro Sicking, nonfiXe / Ecolutie

P.S. More in depth information and other documents – like Ground Control to Major Tom, Klem tussen de Wielen, Power Boxtel & Brussels – Boxtel Retour - on the Power Programme are available on the Power website or/and at the province of Noord Brabant, www.brabant.nl.

Contents

Colophon

The province of Noord Brabant partnered in
TIMBER: From Sweden: Stockholm County Council - Office of Regional Planning, Stockholm. From Spain: Provincial Energy Agency of Cádiz (APEC), Cádiz. From Poland: the Mineral and Energy Economy Research Institute of the Polish Academy Research Institute of Sciences (MEERI), Krakow. From the UK: Ngage Solutions in Saunderton. From the Netherlands: municipality of Boxtel.
ITACA & E-MOB: From Italy: the Region Emilia – Romagna, the province of Rimini, the city Ferrara. From Spain: Instituto Nacional de Técnica Aeroespacial (INTA) and the province Huelva. From Sweden: the city Lidingö, situated near Stockholm. From the Netherlands: the Brabantse Milieu-federatie (BMF).
SILCS: From Spain: the city of Seville, From the UK: knowledge centre, CURe University of Portsmouth and Kent County.
TrIsCo: From the UK: tEC, the Environment Centre, Southhampton. From Spain: the University of Seville. From Italy: ACER Reggio Emilia. From the Netherlands: Stichting Brabantse Milieufederatie (BMF). From Estonia: Viimsi Vallavalitsus, Viimsi Rural Municipality. From Sweden: Municipality of Gotland.

Essay I | Steering in a world of uncertainty, complexity and chaos

Frank van Empel
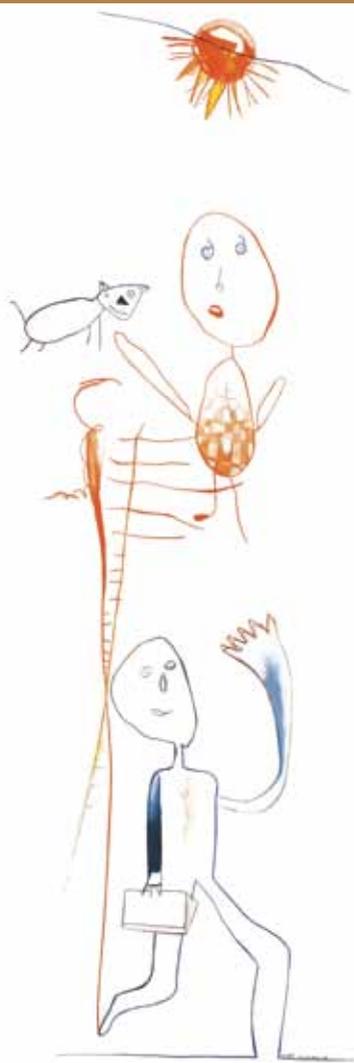
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I.   Provoking change

1.   Managing the process

Change is a process that goes on and on. It never stops. The drivers for change are countless and so are the people engaged and the interactions among these people. It's not easy to manage processes like that. The old directive way of control doesn't work anymore. New, fresh steering philosophies and actions are badly needed for further sustainable growth. In fact they are already there as butterflies-to-be, still in their cocoons.

Profound societal changes that will stimulate new ways of thinking, decision-making and doing are taking place. These will have severe consequences for the solution of complex problems like climate change and will find the answers to questions like: Do we have to hold our horses and kill economic growth, or do we change our behaviour and lean a bit more on God and the engineers to take care of innovation, technological progress and enlightenment?
Summing up of a few new insights, c.q. concepts that will change currently predominant ways of thinking, decision-making and actions.

2.   Personification

The role an individual plays in society is getting more important every day. People are more conscious about their knowledge and personal capabilities than they were some twenty years ago and they no longer accept directives from so-called authorities when these are based on mere hierarchy. Hierarchies are losing ground to individual persons, cities are loosing power to neighborhoods and regions are giving in to cities. We are talking here about one specific hierarchy, that of environmental planning. It looks like this:

Figure 1: system of nested systems

person
neighbourhood
city
region
country
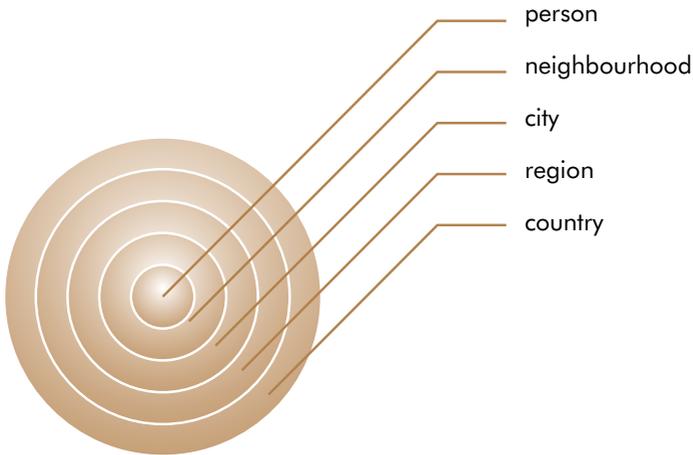
In this 'system of nested systems' the person is the smallest unit. 'So long as the smaller systems are enclosed within the larger, and so long as all are connected by complex patterns of interdependence,' the American writer Wendell Berry writes in Standing by Words, 'as we know they are, then whatever affects one system will affect the others.

'It seems that this system of systems is safe so long as each system is controlled by the next larger one. If at any point the hierarchy is reversed, and the smaller begins to control the larger, then the destruction of the entire system of systems begins.'[1] If a system of system collapses the result is chaos. This is exactly what is happening in today's world.

1 Wendell Berry, Standing by Words, Counterpoint, Berkeley 1983, p 46. Berry actually used the following hierarchy, from the person out: person, family, community, agriculture, nature.

3.   A defiant spirit

Uncertainty, complexity and chaos characterize the new age that started with the rise of the social networks: facebook, twitter, MSN, Skype, YouTube, texting... They transfer more power to the individual. One person armed with a laptop and connected with unlimited knowledge and contacts via the Internet can start a revolution. Or as the authors of Small Acts of Resistance conclude: 'A defiant spirit can make the invincible crack, the unchangeable change'. And Václav Havel (preface, same book): 'Today, millions around the world live in circumstances where it might seem that nothing will ever change. But they must remember that the rebellions that took place all across eastern Europe in 1989 were the result of a series of individual actions by ordinary people which together made change inevitable.'[2] A same kind of movement took North African dictators by surprise on the edge of 2010/2011. No position is set in stone.

The message is clear: every one of us has the potential and the power to overthrow governments. We just have to act at the right time and attract the attention of the media, traditional media (tv, radio, newspapers) and social networks (twitter, facebook).

Dominant worldviews are challenged by this shift in power. One of them is the more than two hundred years old Newtonian linear worldview on the relation between cause and effect. Other ones concern Western concepts about representative democracy and Adam Smith's 'invisible hand'. These three worldviews form the roadmaps for politicians, managers, policymakers and other decision-makers to navigate through the minefields of People, Planet and Profit. If the new approach is non-linear and characterized

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2 Steve Crawshaw & John Jackson, Small Acts of Resistance, How Courage, Tenacity, and Ingenuity Can Change the World, Union Square Press, 2010.

by uncertainty, complexity and chaos, what is left to steer for all those managers and policymakers sitting behind desks in tall skyscrapers from where they think they can oversee and control the world?

4. Letting go, letting come

The answer is to be found in different ways of steering and governing. Modern thinkers like Peter Senge, Hans Jeekel and Frank Geels wrote down new roadmaps for governance. Peter Senge and three other scientists with totally different backgrounds have made a journey from the present to an unknown future. They present a whole new holistic way of thinking, decision-making and doing, which is characterized by Senge c.s. goes like this: 'In a sense, there is no decision-making. What to do just becomes obvious. You can't rush it. Much of it depends on where you're coming from and who you are as a person. All you can do is position yourself according to your unfolding vision of what is coming. A totally different set of rules applies. You need to "feel out" what to do. You hang back, you observe. You're more like a surfer or a really good racecar driver. You don't act out of deduction, you act out of an inner feel, making sense as you go. You're not even thinking. You're at one with the situation.'[3]

The process entails three major stages:
Sensing → Presencing → Realizing
Sensing = observe, observe, observe – becoming one with the world.
Presencing = Retreat and Reflect – allow inner knowing to emerge.
Realizing = Act swiftly, with a natural flow.[4]

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3 Peter Senge c.s., Presence, Exploring profound change in people, organizations and society, Nicholas Brealy Publishing, London, 2005, pp. 84/85.
4 Presence, pp. 88.

Figure 2: Sensing
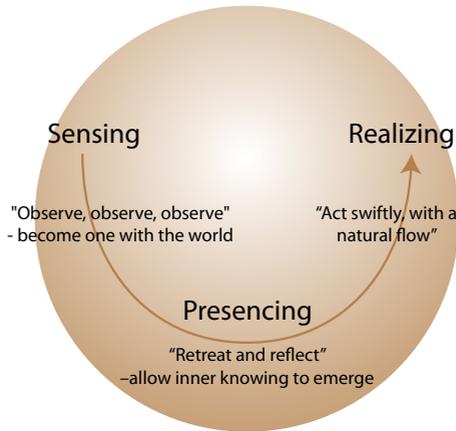
The simple U-graphic becomes a lot more complex later on,
but it contains two elementary notions: Letting come and
letting go. That is a good reason to show this one too.

Figure 3: Letting Go

Seven Capacities of the U movement
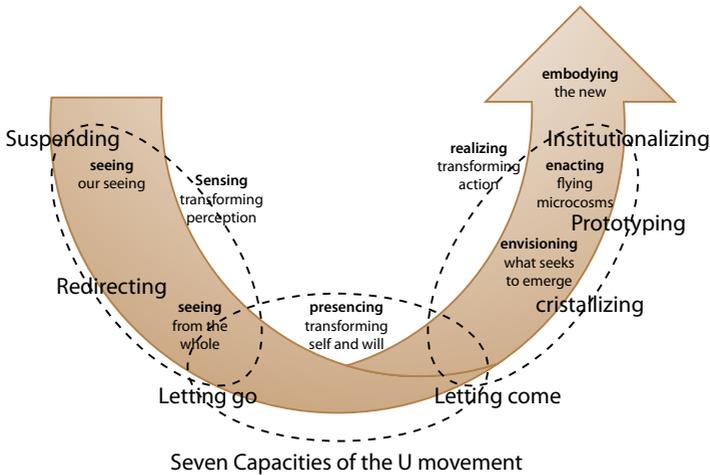
5.   The Matrix[5]

With above in mind, I add my contribution to the new approach, the Matrix. It can be perceived as a tool as well as a compass to make change happen. The Matrix helps to pinpoint where one stands, which direction is desirable and how to get there. Changing is never easy. Most people, organizations, governments and societies stick to their habits and are only up to something new if someone or something first disorganizes the old.

The Matrix for sustainable development is loaded with concepts like the sensing one above, that can be used by citizens, business men and governments alike, in order to stimulate or force a transition from one level in the development of People, Planet and Profit to another. It can be used in so called networksteering as well.

Each concept is characterized by three developmental stages that symbolize three major stages of development in general: destruction, deconstruction and construction. These notions are rooted in philosophy. The second dimension of the Matrix has to do with three types of instruments and attitudes that help people, companies, governments and other organizations to make developments sustain beyond the now living generations:

1.   Provoking Behavior Change
2.   Technological Progress
3.   Bottom Up Goal Setting & Decision Making

At the moment of writing, early July 2011, the economy still isn't out of the doldrums. Most concepts are stuck in the destruction mode. Just to let you taste the dimensions of Development (the less known twin sister of Sustainable) we

5 Notion from the thesis Allemaal Winnen (Only Winners) by Frank van Empel and Martin Bakker due to be published in April 2012

will show you around the lab. Try to feel the tension between
the different stages:

Instr.\phase	Destruction	Decon-struction	Construction
Behaviour	Resignation	Reframing	Selforganisation
Decision-making	Operational Excellence	Creative Destruction	Entrepreneurial Spirit
Behaviour	Improvement	Modernization	Development
Decision Making	50% + 1 (Majority)	Dutch Model (Consultation)	Mutual Gains (Only Winners)
Technology	Oil Based Economy	Regional Cooperation	Bio Based Economy
Behaviour	Suspending	Letting go	Letting come
TIMBER (Bio-mass)	Large scale Production	Close to the Consumer	Large, medium & small combi

Figure 4: the Only Winners Matrix
© Frank van Empel

II.   Moving target

6.   Paradise Reconstructed

'Science informs and performs,' philosopher of science Paul Feyerabend wrote in The Tyranny of Science. 'It not only does not deal with meanings, it intentionally removes everything that is only vaguely related to them. The result is that the more we know, the more pointless it seems.' The meaning is added by religion, discourses, ethics. Meaning is supplied by writers or thinkers, by artists of all kind, by independent spirits, [after science....] writers or thinkers, after science has done its work as a 'cold, unmoved and "objective" collector of facts' (quote Feyerabend). He then reveals the ideal of a 'religion that appeals to all people and all professions and that appeals to their love, not to their self-righteousness and their murderous instincts'.

A world with only winners - and no losers - is such an ideal world, some kind of Paradise on Earth. How do we human beings construct a thing like that? Technology will not give an answer to that question, neither will the collectors of facts. A United Sustainable Development Movement around the Globe has a chance. This essay, based on a thesis, is a try to unfold a roadmap that shows us the way to this earthly, manmade Paradise. A Paradise with Only Winners.

In order to find the path we use the Matrix as a dynamic navigation instrument. An application that tracks our present position and shows us the way ahead. To bridge the gap between theory and practice, we'll have to construct a model. The Only Winners Planning Model is proposed to help regional policymakers in the public domain to find the right concepts by using the Matrix along the path uphill, beyond

the dark woods, where Uncertainty, Complexity and Chaos rule a World on the edge of Destruction, in the direction of a light that shines for everyone who wants to see it, even for the blind.

7.   The backing of the crowd

To a large extent the motivation of people predetermines if a certain policy makes sense or not. Motivated, progressive people usually try harder and perform better than those who act in conformity. For sustainable big changes (transitions) however the backing of the crowd is a must. So, the avant garde has to convince the mainstream on what is right and what is wrong. When we are talking about technological solutions and the efficiency of processes the mainstream is easy to get on the side of change. A change in behaviour however is much harder to realize.

Human behaviour, psychology teaches us, is a complex phenomenon. People cause their own behaviour, although nobody really knows how it works. It is a product of factors both internal (attitudes, preferences, values, habits and personal norms) and external to the individual (fiscal and regulatory incentives, institutional constraints and social practices). We are waiting for science here. Until now almost nothing is known about the interdependencies between internal and external factors. But practice cannot wait. The show has to go on!

The behaviour of the mainstream and the motivation for change determine the possibility of steering. If there is consensus about which way to go, management by directives and tell & sell will work out nicely. If there is no consensus however and if the context is complex, the mainstream of citizens is uncertain and afraid and the whole process is one

big chaos, taking another steering perspective - one that focuses on what's attainable – is wise.

8.   Transition Management

We distinguish two different ways of steering in the direction of a goal like in this case, or moving target. Transition management is a steering approach focusing on a huge system change. 'On paper this approach looks impressive,' Hans Jeekel, who works for the Dutch central government in The Hague, writes in his thesis about the Cardependent Society, 'there are however not so many clear results and the starting points have been criticized.' 'Transition management,' Jeekel continues, 'is rooted in the tradition of systemthinking. It assumes that concerned intervention, focused on specific sustainability targets, is possible and can be effective.' At first sight transition management is more goal-orientated than for instance network-steering, but 'where are the organizations and institutions that prove to be capable to turn over the actual regime?' For under-standing the basics of transition management, three notions are crucial: regime, landscape and niche.

Figure 5: the basics of Transition Management
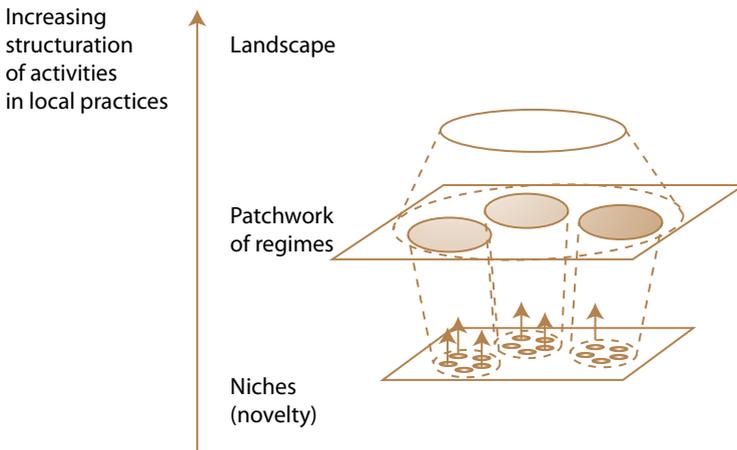
A regime is the overriding system of rules, agreements and institutions.

Landscape can be defined as the aspects of the context – the environment outside us – that has more influence on the whole system than the regime-actors. Changes in the landscape work out as a pressure on the actual regime.
Niches are protected spaces that allow nurturing and experimentation.

Radical change may occur as a result of distinct selection criteria operating in a niche. Developments may start with one or a few projects, carried by local networks of actors, who are interested in innovations for idiosyncratic or local reasons. Local projects form test beds for diffuse ideas and spaces. Niches shape the micro-level from where radical novelties emerge. The socio-technical regime builds the meso-level, which accounts for the stability of existing large-scale systems (in transport, energy, etc). The macro-level is shaped by the

socio-actors (e.g. macro-economics, deep cultural patterns, macro-political developments). Changes on landscape level usually take place slowly, in the order of decades.[6]

III. Different layers, loyalties and endless sharing between numerous people

9. Networksteering

Networksteering is like turning the wheel in the sand during Paris-Dakar. This metaphor indicates a non-linear world, in which it is not easy to navigate. Networksteering is: following your senses. It is the art of [taking time"] taking time before choosing a direction, in order to feed the dialogue between countervailing insights, which has to lead to passable roads (practicable ways). Networksteering is about walking or driving down unfamiliar roads without prejudice.[7]

In this steering model nobody tries to mature people quickly into more or less defined change outlines. A big difference with the other steering perspectives is that the goal is not fixed in advance. It emerges during the process. In this perspective no one believes in top-down steering.
Living in a society that can be characterized as a global network commonalty with different layers, loyalties and endless streams of information shared by numerous people, the networksteering model seems to be the most adequate way

6   This paragraph leans on The Dynamics of Sustainable Innovation Journeys, edited by Frank W. Geels, Marko P. Hekkert and Staffan Jacobsson, Routledge, 2011, pp 17-35.
7   For the Networksteering perspective we leaned on and have lended from Hans Jeekel, De Auto-Afhankelijke Samenleving, Eburon, 2011, pp 256-265.

for decision-makers, politicians and managers to cope with reality and try to initiate change.

How: relevant is a neat hierarchy to a world characterized by complexity and chaos? Self-organization in business relies on intelligence that exists in every part of a complex adaptive system (in the mind of every employee) and makes it possible to tap this resource and release its formidable potential. That capacity, in turn, allows companies to seize opportunities and solve problems when they arise. Self-organization and emergence are the twin engines of adaptive work.

Another question that badly needs to be answered: To what extent can change be managed? The dominant Newtonian worldview underlies much of the thinking in this field: a common feature is an implied predictability – if management does this, then that will follow. Complexity theory offers a different insight: We can never direct a living system. We can only disturb it.

To a generation of managers brought up on 'making it happen', 'letting it happen' may prove to be an unsettling alternative.[8]

10.   The crucial role of the Change Agent

One person is missing, the one that binds all the parts together, makes them whole and operates as a catalyst, an accelerator, that makes things already in the making, happen faster. A change agent is someone who alters human capability or organizational systems to achieve higher degrees of output or self-actualization. The role of the change-agent is to make changes that stick. He or she enables people to do more or to find a new and better perspective. Anyway, anyhow the change agent completes the jigsaw puzzle.

8   Business Leadership Review, Vol 4 issue 3, July 2007.1

'How does it feel to be a change agent?' Someone on the Internet wants to know. Four characterizations follow:
1. A change agent lives in the future, not the present.
2. A change agent is fuelled by passion and inspires passion in others.
3. A change agent has a strong ability to self-motivate.
4, A change agent must understand people.

To support the change agent as well as decision-makers, managers, but also individuals who try to shape their environments into a sustainable developing world, the above-mentioned Matrix can be of assistance.
Take a profound look at the situation you are in or the issue that needs to be resolved. Feel it, try to make sense of it and sense it, like Peter Senge proposes. Color a spot on the Matrix as to in what phase the development is in each cluster: behavior, technology/process, decision-making. Maybe the behaviour is in the destructive phase, whereas the technology can be in a constructive stage. Then think of the concepts at your disposal – like People, Planet, Profit – or find new, inspiring concepts. The concepts you choose form a framework, a discours, from them you can derive the principles as to how to act. The matrix allows people to dance with systems, move in the desired direction and monitor. It is a holistic and dynamic approach.

IV.   Operate wisely

11.   A living machine: the EU

This method using the Matrix and different concepts fits the way the European Union operates. The EU is more than a federation of nation states or a steering of regions, it is a grass root movement where development from the bottom up is stimulated. Regions where the grass doesn't grow fast, get help. The European Union is one big money transfer body. A living machine. Regions that get money from abroad spend it for 70% inside the EU, for a considerable part as investment for sake of a better future.

The EU behaves like the parent of many children, trying to educate all of them as individuals and at the same time stimulate them on acting together. People – regions – who work together, know each other and feel interdependent and emphatic towards one another form an alliance. Friends don't fight. Quite on the contrary. They help each other to do better.

Europe wants/needs to be a team of cooperating (regional) governments and individuals in order to move into the sustainable development direction and to maintain peace on the continent. From the website: 'The EU actively promotes human rights and democracy and has the most ambitious emission reduction targets for fighting climate change in the world. Thanks to the abolition of border controls between EU countries, it is now possible for people to travel freely within most of the EU. It has also become much easier to live and work in another EU country.'

12.   The circle is completed

Last but not least: that change agent we talked about, can be you or me, he or she, but one thing is for sure: it is a person,

a wise person. 'Reacting to the world,' philosopher of science Paul Feyerabend wrote in The Tyranny of Science, 'is a personal (family, group) matter that cannot be replaced by even the most enchanting worldview.'[9] Reality is not systematically organized according to a worldview from someone up on the hill. A systematic worldview removes ideas from the ground that made them grow and arranges them in an artificial pattern. That is not authentic, neither true.
With that conclusion we are back at the beginning. The circle is completed. To quote Presence: 'As complexity increases, the need for wisdom grows, even if our wisdom atrophies.' According to Peter Senge c.s. we have two basic options. One is to somehow stop or limit the expansion of technology and its application through global economic growth. The other is to strengthen our fundamental response – to find ways that lead to increasing reliance on enhancing human development and wisdom.[10] The first option conflicts with human nature. People want to grow. And to grow they need more of this and more of that. If you put all the wishes and needs and expectations together, the conclusion is that option 1 is an illusion. Rests option number 2, to develop ourselves and operate wisely. As human beings we'll have to be less materialistic, less spoilt, more sensible and last but not least: more empathic.

9 Paul Feyerabend, The tyranny of science, Polity Press, Cambridge, England, 2011, p 12.
10 Presence p 209.

Essay II | Power for Wood
Five regional stories, one storyline

By Frank van Empel & Caro Sicking

Contents

'La terre est l'unique source des richesses'
François Quesnay
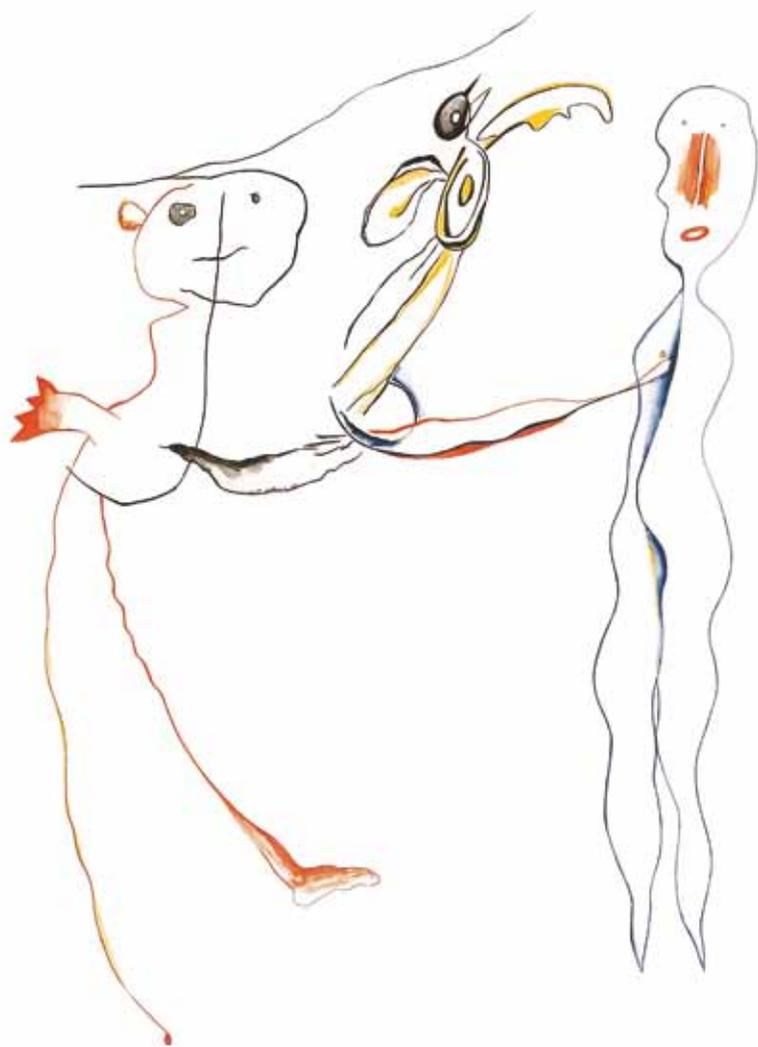
I. Five regional stories, one storyline

1. A classic example of EU diversity

Explorers from five European regions meet for a kick-off in the heart of Het Groene Woud (The Green Forest) on the 27th and 28th of May 2010. A kick off for a project that has to do with biomass and the transition from a carbon based economy into a bio-based economy. The name of the project: TIMBER, short for Tools for Integrated Management of Biomass Energy Resources. Conclusion after two days of talking and exchanging viewpoints: the five partners approach biomass as an energy source very different, their individual point of view, problem and scope differ greatly. But that is the European way: unity in diversity.

- From the North, powerplayer in biomass, the Stockholm County Council - Office of Regional Planning, Stockholm;
- From the South, pioneer in the bio-based economy, Provincial Energy Agency of Cádiz (APEC), Cádiz;
- From the East the brains & models of the Mineral and Energy Economy Research Institute of the Polish Academy Research Institute of Sciences (MEERI), Krakow;
- From the West, a not for profit company, Ngage Solutions in Saunderton, UK;
- And last but not least, from the middle, municipality of Boxtel, the Netherlands – small initiator and go-getter.

The Theme: the transition into a bio-based economy, which can be loosely defined as an economy consisting of those

sectors that derive a majority of their market value from biological processes and/or products from natural materials, as opposed to products and processes associated with non-renewable resources and/or purely chemical processes.

2.   Men of honor

Who would have thought, back in 1950 when Robert Schuman, Jean Monnet and Konrad Adenauer presented the Schumanplan, that in 2010 a Dutch municipality of 30.000 would work together with the capital of Sweden on sustainable energy? But they do, they analyze, exchange experience and share new insights online and during various meetings. The analysis focuses on the feasibility, on the impact of using biomass on biodiversity, on the opportunities and on the juridical obstructions.

3.   Independence

Biomass is the fast lane to a substantial independence of oil, natural gas and coal. Wind, Solar & Water power don't come close yet. Biomass, in some areas, does! Stockholm County for example is already largely independent of oil and coals. This has a lot to do with Swedish legislation, dating from 1991, when the central government decided to cut on carbon emissions by raising taxes on it. Stockholm has to import a lot of the biomass it uses for electricity and heat. Governmental organizations and private companies work together on the counties power supply and have since long entered the international biomass market and imports wood (chips, pellets et cetera) from far away countries like Canada and the Baltic states. Logistics to supply the populated county, which endures harsh and cold winters, with heat and electricity are of great importance to the area.

4.   Looking for improvement

The Swedish are still looking for improvement and aim to design a standard model for the regional development of sustainable and renewable energy based on biomass resources. Next to improvement of logistics, Stockholm searches for ways to fuel surrounding smaller dwellings with small de-central biomass plants. Notably the transport sector is stimulated to go bio too. The automotives use one third of the total energy consumption and emit 40% of the carbon while driving along. Large-scale biomass operations to warm and power the city and its' peering villages are risky business from sustainable point of view considering fuel - food competition and the pollution that transports often emit.

5.   The land

The landscape around Boxtel is symbolic for all other beautiful places, from Sweden's south-central east coast, where Lake Mälaren meets the Baltic Sea, to the most southern town of Europe, Tarifa, where the Atlantic Ocean meets the Mediterranean Sea. And every landscape in between. For those who have an eye for natural beauty every landscape is worth to be contained.
In the valleys of Het Groene Woud, one of the twenty Dutch national landscapes, the Dommel, the Beerze and Essche Stream flow swiftly along forests, meadows, moorlands, heaths and shifting sands. On clear & cloudy days they look like liquid steel connecting small, rural areas in which the tall standing and soft wooded poplar shields against the wind and demarcates country lines. Hundreds of poplars standing side-by-side guard the noisy A2 highway as well, indicating the area behind them is a Land of Nature, where cars are banned. The typical relationship between river valleys, ash, villages and meadows is quite evident. Especially along the natural

banks of the Beerze and at the spots where the Dommel meanders freely, surrounded by high altitude platforms, such as Liempde and St. Oedenrode.

Still, in many other areas this coherence vanished by deforestation, reclamation of the moors and the disappearance of ash fields and camps. Woods and bushes have taken nearly one fifth of the area by now. Heather fields cover a total of 450 hectares. Ash covers one third of the national landscape (seize: 35.000 ha, of which 7.500 ha core nature).

6.   Boxtel enters Europe

To broaden the perspective and take the road to Brussels was an initiative of the Streekraad (County Council). A new program called POWER, funded by Interreg IVC, gave small rural town Boxtel (30.000 inhabitants, surrounded by trees and meadows) and its partners the opportunity to penetrate deeper into Europe. Boxtel worked out a project proposal for the POWER Programme[1], which has been accepted.

7.   Biomass for sustainable development

At city hall Boxtel the administration together with the Regional Board of the National Landscape Het Groene Woud (De Streekraad) found the connection. Het Groene Woud produces lots of wood, lop, dead branches. To achieve the landscape targets, among which biodiversity, the lop needs to be removed. It can be used for energy production. The idea is to build a rather small (5 megawatt) biomass power plant, financed with a grant from Brussels and money from the local bank (pay back period 10 years). The organization works with supply contracts to obtain delivery security. Should the plant need even more biomass, then it buys wood chips at the global

1   POWER is what the name suggests, an energy program, meant to stimulate European regions and municipalities into renewable energy production and a more effective use of energy.

market. The global market price at the moment of writing (August 2011) is pretty high, €60 per metric ton, compared to a reasonable contractual delivery price of €45/ton in the Netherlands. This is yet another reason for long term, fixed price supply contracts.

If the energy business turns out to be profitable extra money can be invested in water storage for instance or for sustainable development of the agriculture area. The city council, officials, the Regional Council of Het Groene Woud and a few more stakeholders met to talk about the idea. Whilst talking the number of opportunities as well as the excitement grew.

8.   The road to Brussels

Boxtel took the road to Brussels in order to get a better exploitation of the surrounding landscape. Other regions took it for the same or totally different reasons. Crucial here is that the European Commission has created the opportunity and invites regions to join in for their own reasons. One reason however all participating regions have in common. They recognize that a change in the use and production of energy is inevitable. Global warming, one of the most pernicious consequences of the continuous and growing use of fossil fuels, underlines the urgency of a change in our energy supplies and policies. Also the reduced availability and possible exhaustion of stocks of fossil energy make it necessary not only to think about using other energy sources but also to make a step-change at short notice. The need for a change towards a more sustainable operating energy and economy system is generally accepted. In order to reduce carbon dioxide emissions and the dependency of 'traditional' fossil fuels as well, a number of alternative energy sources and related technologies to use these are being developed. However, there are still significant barriers to overcome and roadblocks to be removed before a

large-scale use of such energy sources can be realized. One of the most promising energy sources is biomass.

What is BIOMASS? Biomass refers to all parts of living plant material, like field crops and trees in the forest. All parts of the plant matter can have useful functions, including the stalks, the seeds and the residues, in making food, fuel and products. The cheapest and lowest-value usage of biomass is combustion—burning plant material for heat and energy. There are many more high-value uses for biomass, however. There are vast agricultural opportunities. In the Mississippi Delta for example, biobased products like biofuels, green chemicals, biobased materials like plastics and lubricants, and health and nutrition products are being produced and invented.

Among renewable sources, biomass stands out as the most flexible and reliable, as it can be used to generate energy (heat and electricity) and serve as a sustainable and adaptable feedstock for downstream processing to produce liquid transportation fuels, chemicals and materials.

The future holds a significant opportunity for economic development and growth built around a new biomass production and processing industry for regions that are rich in biomass, such as Stockholm (Sweden) and Malopolska (Poland).

Like other forces in nature this one has its' counterforce too. The increasing demand for biomass raises the price and as a side effect the price of food goes up as well. Therefore the participating regions in the TIMBER project decided on the principle that the biomass they use for power or heat

generation may under no circumstances be conflicting with food supply. Moreover the fuel for food competition is easier to handle on a regional level.

How to measure and monitor still is an unanswered question, though there are some guidelines in TIMBER.

9. Beauty Queens

Apart from Stockholm all regions plan and experiment with small-scale local biomass plants, which will be supplied with wood, perennials et cetera harvested in local forests. The wood is available and will be collected for the benefit of the forest, to enhance biodiversity and strengthen the natural beauty of the landscape. As a matter of fact Het Groene Woud in Brabant (NL) and Buckinghamshire (UK) both contain protected landscapes, so-called Area of Outstanding Natural Beauty. Noord-Brabant set up the goal of sustaining the landscape with the profits of biomass energy generation. This ambition, that surmounts the TIMBER project has been adopted by Cadiz (SP) and Buckinghamshire as well.

10. Piece of Cake

By 'enlarging the cake' i.e. connecting to forest-owners who mainly hold on to their property for conservation reasons – instead of production and profit - and appealing to the cultural and historical value of the regional landscape, TIMBER tries to broaden the acceptance of biomass energy generation. Moreover including the interests of stakeholders who are mainly driven by other motivations than turning wood into energy, makes the business model of local biomass production significant healthier and robust. Waste wood pays for conservation of the landscape and small life (biodiversity). New partnerships and alliances stand in the coulisses waiting for a governance model that engages all stakeholders,

suppliers and customers, a fashion of collective governance. Such a participative long lasting bond is necessary for supply and demand security. The TIMBER team explores the possibilities of strengthening regional cooperation; Setting up new initiatives like producers and consumers cooperatives, to create a local market for heat and/or electricity generated with biomass. This leads to a bid for a new project with the TIMBER partners, plus a new partner, the Philips University in Marburg (Germany), called Repco which is specialized in supply chain linkages between energy consumers and producers The first challenge is to get the idea accepted by landowners, environmental groups and consumers. Some are suspicious on supply security, others fear for yet another window dressing project. In order to shape a sound biomass infrastructure, opponents will have to be included in the decision-making, which can take place according to the Mutual Gains Approach as described by Larry Susskind.

The above shows the regions' capacity of learning from each other, of 'enlarging the cake' in order to find smart methods of financing sustainable development and to involve all regional stakeholders. Using methods of decision-making that take all interests into account, by the involved people and organizations themselves can prevent long, tiresome and costly objection procedures.

11.   Two faces

The word already fell: market. Biomass is a double-faced commodity. There is a large-scale global market where pellets, woodchips and woodlogs travel the world to the highest bidder. The sheer magnitude of this and the professional, profit driven ways of conduct are totally out of proportion to regional medium and small-scale trade. The Regions

in TIMBER, except for Stockholm, look like little Davids compared to the biomass Goliaths.

On the other hand provinces like Malopolska in Poland, Buckinghamshire and Noord-Brabant as well have areas with wood at locations that are not easy to access, scattered and small. Big behemoths aren't interested in harvesting these places. For sustainable, regional development though they seem to be quite important. Bio-energy may be a stimulating and economically interesting outlet for innovation and development of regionally based agriculture. Turning local wood harvests and agricultural 'waste' into local heat or energy supply, is the name of the game. A game that creates jobs for the community and does not need transportation. To support and stimulate the small forest- and landowners, join forces, lower costs and attract customers, several similar plans are studied in different regions. One can call it a Tree Station, A Biomassaplein – Dutch for biomass square – or as in the IE Programme Bavaria and Austria did: A Biomass Centre. This place, strategic located, offers opportunities to dry and process the raw material into the desired quality of biomass, which is determined by the type of plant or boiler that will burn it. Then the stock is stored and distributed to nearby furnaces, boilers and plants. One large question still hovers: who is going to invest in these Tree Stations?

12. Boilers

Especially Cadiz and Malopolska have been researching and building boilers in community houses like a municipal Kindergarten. They have been experiencing and learning by doing, calculating and comparing systems and type of preferred and available biomass. In Cadiz for example waste wood from grapevines and olive trees offers possibilities for biomass as renewable fuel. Therefore the Spanish region converted a

boiler in a winery too, annually saving 56 tonnes of carbondi-oxide with return on investment as quick as five years (subsidy not included, then it takes 3,6 years)

In short all TIMBER partners have been researching the habitat and culture of the own area and comparing studies – Malopolska suggests the method of Life Cycle Assessment to compare different situations and monitor outcomes, processes and technologies and experimenting on the feasibility of biomass energy an/or heat generation.

13.   Residual heat & fossil fuel free

On the economical feasibility of incinerating lop for energy; the first impression is that it is very well possible to keep a 5-megawatt bio plant busy without the absolute need for subsidy. The remaining question is where to leave the heat. Warmth is considered a low form of energy, but still can be used in an effective way, like in Den Bosch, just 20 kilometers from Boxtel, where the waste treatment plant Treurenburg started in April 2011. According to expectations Treurenburg will transport warmth to an adjacent industrial area for seven months a year, and reach an economic break even point by doing so. TIMBER showed that economically sound, small-scale development is possible. Stockholm may be a best practice that more or less can be followed by the others. It showed the TIMBER partners that under the right conditions (legislation, taxes), bio-energy could be a sustainable alter-native to fossil fuels.

14.   Challenges

Another challenge, apart from where to feed in residual heat, is the bio plant itself. Sometimes power plants in the neigh-borhood are available, but a lot of the times these are not adjusted to firing wood. The building of a whole new plant

needs to be carried by the local population. With regard to this, communication matters.

In short the roadblocks TIMBER sees ahead are: Where is the profit? How to collect biomass? Where is the demand for heat? How to secure power supply? What about the grid? How can local and regional initiatives be scaled and/or become interconnected, in a way that a sustainable biomass energy production and supply becomes reality?

Europe invites people to do their own thing but also asks to be open to and curious about others. The size of the network makes current steering instruments and hierarchy in organizations useless. Self-organization is the only realistic steering option here. Diversity leads to confrontation and out of this dialectical process synthesis can rise the natural way. So, let the old thesis go and let the new synthesis come. United in diversity. That is the way Europe works.

15.   The ways of Brussels

Europe describes ten conditions for local authorities to get the unions' support. These ten conditions are thus formulated that they compel communities to think in chances and opportunities, instead of risks and insecurities. Europe acts like a coach stimulating community spirit and cooperation.

The next ten conditions are formulated from the bottom up perspective of TIMBER.

II.   What is the context of TIMBER?

16.   And which steps have been taken?

1. *Nominate a Need:* a change in the use and production of energy is inevitable;
2. *Name a Solution:* one of the most promising energy sources is biomass;
3. *Institutionalize the Process:* late 2005, the EU adopted the Biomass Action Plan, in which a number of measures are outlined through which the usage of biomass energy has to be stimulated. TIMBER just has to tune in.
4. *Summing up Roadblocks:* numerous obstacles hinder the rise of large-scale firing of biomass. For example the use of raw material for input is still conceived to be a waste. This is a matter of attitude, ethics and culture. TIMBER as a community can work on that.
5. *Zooming In: what's the problem?* As there are no logistic structures for collecting and processing wood and other biomass, particularly in small (agricultural) landscapes, nature and forest areas, the logistical challenges to are enormous. The TIMBER project will not only strive to meet these challenges and overcome the barriers in the participating regions, but will also provide easy-to-use tools for other actors and regions.
6. *Mutual Gains.* Stress the necessity of cooperation and the use of (social) networks: The 'scale of economies' for biomass energy makes it necessary to enclose for instance both small and medium-sized producers of raw materials and to create a sustainable but cost efficient logistic system. Existing networks of waste collectors could be extended and new networks can be developed. Combinations with other biomass flows, such as waste flows in the food and feed industry and agricultural flows are possible.

7. *Distinguish different scale-levels.* The local (or small regional) level is the ideal level to approach the energy system in a more integral way (energy as an integral part of the local/regional economy) and to integrate energy production into the regional agricultural (waste) production. This creates both a more sustainable, low-carbon economy and a 'green' energy system.

8. *Broadening:* Energy, as a backbone, should be connected to and integrated with aspects such as biodiversity, nature, landscape, rural heritage, climate, social cohesion etc. and add value to these aspects. This is within reach at small-scales in close connection with and palpable to the people using and producing energy. In the TIMBER project, integrated sustainable biomass energy plans have been developed.

9. *Learning by Doing:* In the TIMBER regions municipalities, the Regional Board and other stakeholders work together in creating a bio energy plant, contributing to the enhancement of several regional sustainable goals and based on a sustainable cost-efficient logistics system. The aim is to create an economically profitable energy enterprise, from which financial benefits can be re-invested in the regional sustainable development. In most areas urban pressure threatens values like biodiversity, heritage and livability.

10. *Learning from Each Other:* The five regions cooperating in the TIMBER project, Noord-Brabant (sub region Het Groene Woud), Andalucía (Province of Cadiz), Malopolska, South East England (Buckinghamshire sub region) and the Stockholm region have significant biomass resources. All five regions, in which agricultural areas are mixed with cities, have many different, often small, landowners and a relative high share of woodland. Nevertheless, there are differences between the partici-

pating regions, not only with respect to their economic structure and population density but also in the field of bio-based energy. The potentials of exchanging information and learning from each other's experiences, is the main reason for the five regions to cooperate in the TIMBER project.[1]

17.   Setting up a bio-based economy

TIMBER is one of the POWER projects where rather small players like the Noord Brabant municipality of Boxtel (30.000+ inhabitants) or Ngage can become super heroes. The main lesson learned may be the know how to collect biomass as a natural capital. The capital can be used for the production of warmth and electricity in the short run. In the long run more opportunities will come. The sky is the limit in the bio-based economy and the organization of the resources in such an economy is the first and most important link in the bio-chain. Without biomass no bio-economy.

III.   Carved in Wood

Five European regions performed The TIMBER project on biomass energy. In the chapter Carved in Wood you can read about their experiences. It provides a theoretical background for activities in past and future. The subtitles can be read as a story.

18.   Mr Taxman makes the scene

The proportion of biofuels used in the Swedish energy system steadily increased. Since 1991, Sweden has had an economic growth of barely 50 per cent and at the same time the use of bio-energy has increased with 85 per cent and climate gas

emissions have been reduced by 9 per cent. This positive development has been possible due to early implementation of the carbon dioxide tax (1991) and an extensive structural change. The introduction of a carbon dioxide tax resulted in the replacement of fossil fuels by biofuels, especially in district heating plants but also in industry and in the domestic sector. An echo from 100 years ago, when biomass was the world's primary source of energy and nature still was a huge source of wealth.

19.   While entrepreneurs set the stage for...

Per Carstedt, a Ford dealer in northern Sweden has been spending several years in Brazil where he got used to ethanol cars. At that time, 1992, they were non-existent in Sweden. There were no filling stations. There was no market. In order to get a critical mass Per Carstedt and a colleague from the Swedish Ethanol Development Foundation formed a buyers' consortium of fifty municipalities, companies and individuals that committed to buy 3.000 ethanol cars. By the time Carstedt and his colleagues imported the first fifty Fords, Carstedt had managed to persuade one filling station in his home region and another one in Stockholm to install pumps with ethanol. By 2002 another 40 stations delivered ethanol. The number of fuel stations doubled in 2005, doubled again in 2006 and reached the 1.000 in August 2007, 25% of the Swedish fuel stations. Carstedt: 'We struggled to get the kind of critical mass that would drive the market forces'. Today Carstedt's company SEKAB is leading in the bio-ethanol producing sector. Among others they produce cellulosic ethanol from waste wood. Further on in this text you can read more on this and the opportunities it holds for a bio-based low-carbon region.

20.   A Low Carbon Economy

Fossil fuels still account for 87 percent of global energy. Poland (95%), The Netherlands (94%), Italy (90%), the UK (89%), Estonia (87%) and Spain (82%) are all still very dependent on fossil for their energy use. Of all EU-countries that have a region participating in the POWER Programme only Sweden scores in the low carbon league, with 37% of the energy use fossil and a pretty 26% renewables.

21.   Unfortunately demand runs faster than renewables can walk...

The global power production increased from 6000 TWh in 1973 to 17.000 TWh in 2004, and is expected to grow to 25.000-35.000 TWh in 2050.

22.   And politicians can talk

Policymakers, especially politicians, are always worried about their credibility with regard to societal problems such as sustainable development. In debates they need to express faith in at least one promising solution. Policymakers need to 'tell themselves forward'. They need to tell stories of hope and expectation and make promises about how they will solve problems. This credibility pressure creates willingness to accept certain promises from producers or opinions from environmentalists or pressure groups.

23.   Back home

Forget the bigger pictures for a while. They are too complex for individual citizens, businessmen and civil servants to handle personally. Representation by so called 'regime actors' (e.g. national farmer's organizations, the Ministry of Agriculture, national banks) may be the second best alternative. In fact these organizations don't represent individuals

but protect vested interests. They tend to choose for 'fit' options close to the existing regime. Besides that they make deals, which have to be carried out by other people. That doesn't always work out fine. Let us give it a try on another track. Let us focus on the things we can oversee. The region where we live, the people we love, the community that fits us like a second skin. From that sunny, warm spot that is our HOME we can build up our own Vision. Figure it out!

24.   Focus on technical solutions

You may not realize it yet, but we are on the way to a bio-based economy. One of the characteristics of such an economy is that it no longer relies on coal and oil to power its' machinery, but develops all kinds of alternative sources like bio fuels, biomass…green stuff. A jump back in time as a run-up to the future.

On one side of the spectrum we have low-tech solutions for trivial problems. In the late 1970s for instance a small network of farmers and agricultural researchers began to investigate small farm-scale manure digestion as a source of energy. Technical problems and (after 1986) decreasing oil prices lowered the expectations of this option. By the mid 1980s, visions shifted towards large centralized plants. The focus was less on the production of biogas and more on manure processing (transforming it into less environmentally damaging substances). Both solutions are marginalized now. But new low-tech opportunities will come out of the blue, because of down to earth creativity of everyday people.

At the other side of the spectrum there is a lot more spectacle. With nanotechnology for instance, it may be possible in the distant future to build-up all kinds of objects, just out of air, water and trace elements, molecule-by-molecule and atom-by-atom. Imagine a printer that prints three-dimensional objects

that are exact clones of the originals. In experiments it already has been realized. In the long run mankind may get complete control over food ingredients and genes. This much is for sure. So, goodbye salmonella bacteria and dioxin scandals.

The next signal that we move towards a bio-based economy: of all the renewable energy sources (solar, wind, geothermal), only biomass has the diversity to become an energy supply, a food source and a source of raw materials for products.

25. Beyond oil....

Fuel is just one of the uses for petrol. As barrels of oil are processed into gasoline and diesel, the remaining products are refined and sold for a myriad of uses. Plastics, medicines, textiles, synthetic rubber, lubricants, asphalt and solvents such as those used in paints, lacquers and inks are all examples of products made with petroleum. We should explore alternative, bio-based methods for manufacturing and producing these goods. A bio-based economy offers a new business model for the world, one based on cellulose and carbohydrate chemistry. Agricultural-based processing is better for the environment and lessens our dependence on oil. Just as importantly, it can be more cost-efficient. Biomass has the same origin as fossils do and is usable for the same products. The difference is that biomass is healthier for humans and the Earth. Why? It is living material existing in the lifecycle of the planet, while the fossils are stored away and by releasing e.g. the carbon stored in oil, extra carbon is poured out over Earth instead of the carbon that is already there in the living flora and fauna.

26.   We still got POWER

The bio-based economy has a lot to do with Earth. The remark of François Quesnay[2] that all wealth stems from ownership of land was current in the second half of the 18th century. François Quesnay (June 4, 1694 – December 16, 1774) was a celebrated French economist of the Physiocratic school who was known for publishing the 'Tableau économique' (Economic Table) in 1758, which provided the foundations of the ideas of the Physiocrats. This was perhaps the first attempt to describe the workings of the economy in an analytical way, and as such can be viewed as one of the first important contributions to economic thought. In those days people just put another log on the fire to get warm.
In the next two centuries the world economy changed as a result of the Industrial Revolution, which mechanized work. Now, in the 21st Century, we are back on the old track - be it on a different income and technology level - experiencing an Eco-Industrial Revolution whose magnitude to change the economic landscape surpasses the previous eras. The POWER-regions, a working-and-sharing together of 7 EU-regions in 2011, can have a pivotal and unique role to play because the regions house all the essential components – land, labor and logistics – to create jobs and reinvigorate both the rural and urban economies using natural resources and existing infrastructure.

27.   A Green Money Machine

The green economy is a major new industry driven by macro forces including: global climate change, population growth, concerns about drinking water and food shortages, pollution and waste remediation. The green economy refers to the

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2   Adam Smith and John Maynard Keynes are well known heroes of the economy as a science, but it started with François Quesnay. Adam Smith and Karl Marx both leaned on him.

development of clean, green products, energy efficiency technology.

The global green economy is currently estimated as a $140 billion industry, and countries around the world have committed more than $200 billion in recent stimulus spending to promote energy efficiency and use of renewable resources. The green economy invites a return to the roots of the European Mainland through strong agricultural, manufacturing and innovative economies, which have prospered for the past 400 years. The green economy in the POWER-regions is a return to the hardworking ethos of the European farmer and the urban industrial base, which supplies the country with food, fuel and products. Building a clean energy economy using renewable resources and strategies for energy efficiency is a thoughtful solution to Europe's economic and environmental concerns. The 7 POWER-regions have the building blocks (like TIMBER) for a thriving bio-based economy that will grow over the next two decades because of regional assets in diverse agriculture, transitional manufacturing potential, logistics and distribution capacity and workforce development in renewable energy technology to train thousands of workers.

Mankind can redesign the old green farming and manufacturing traditions according to sustainability principles.

One of the principles is: Greening the economy means being good stewards of the land and preserving its bounty for future generations without harming other parts of the world or the people living there plus securing training and employment for workers across a range of industries.

28.   Heard it through the grapevine

When we set the infrastructure right (with collective governance, a healthy market, Tree Stations for regional collection and distribution et cetera) and get biomass accepted as a valuable replacement of fossil fuels, involving the public in their own energy generation (behavior and attitude) meanwhile conserving the landscape, enhancing biodiversity, developing skills and innovating, we can leap forward. By 'We' we mean everybody who really wants to adopt the insight of TIMBER: biomass is not waste, but the crucial resource of the futuristic bio-based modern society.

Stockholm already has knowledge on and experience in turning waste into energy by anaerobic digestion. A technique that simplified comes down to microorganisms breaking down biodegradable material in the absence of oxygen and producing energy in the meanwhile. A glimpse of the future!

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Essay III | Beyond a mere mobility thing
'Travelling is not necessarily physically moving'

(Professor Dr. Wim Hafkamp)

text by Frank van Empel and Caro Sicking

Contents

I. Unfamiliar Roads

1. Start the engines to join the jam

Transportation is boring. Traffic is stuck. But cars are exciting. We want more and more of them. They symbolize freedom, as movement itself is an act of freedom ever since man can remember. On the meeting on sustainable mobility of VVM (Dutch Association of Environmental Professionals) in The Hague, June 17 2011, Jan Anne Annema from Delft University explained about two laws of mobility:

1. The law of budget
2. The law of travelling time

According to the first law, people use 11% of their income on travel expenses, which implies that the higher the income gets, the more man travels. Applying this law globally where large populated countries like Brazil, China and India are moving upward on the income-ladder, this leads to a frightening conclusion: more cars will start the engine every day and it will be unstoppable. The faster their cars can go, the more miles they will drive, obeying the second law of travelling time, that states people feel comfortable to travel for about 1,5 hours a day. The faster they go, the further.

Professor of Sustainable Development at Erasmus University, Wim Hafkamp warned in addition to this: 'Today we talk about congestion by cars. Watch out, tomorrow it will be airplanes we discuss.'

During the last twenty, thirty years the repertoire of policy-makers in the field of wheels and motion did not change. It's one big déjà vu of suggested solutions for problems like congestion and pollution that have no chance of being realized, ever, because almost nobody really wants to realize them; We all want to drive our cars.

However there is hope. It has to do with the rising popularity of the concept: 'feral transportation'. This pretty recent term in the lexicon of transportation professionals, comprises all those wild modes, especially used by youth, ranging from skateboards, dirt surfers, in-line skates, electric scooters and the like, to the Segway, the railbike and flashy shoes for experiencing a city that is built for walking. Older people have their own favourites: small electric buggies for instance, used for shopping[1].

The wild modes are in harsh contrast to the more settled modes: the family car (with applications like the caravan, ski-box, trailer, etc) and on the business side - truck and company car, plus the surrounding infrastructure of garages and gas stations to keep the rubber wheels going. Where the wild modes associate with feeling free, flexible, young, clean, open, receptive and adventurous, the more traditional modes breathe the spirit of bounded, fixed, unmovable, old, close-mouthed and destructive. By destructive we mean the congestion, pollution and the climate change they are supposed to bring about. Sketched in black and white and focused on culture, psychology, sociology and common sense instead of economics and traffic management, this can be the beginning of an answer to the catch-22 like issues in this world on wheels that transportation professionals cannot give us from the specific worldviews of their profession alone[2].

1 Preston Schiller, Eric C. Bruun and Jeffrey R. Kenworthy, An Introduction to Sustainable Transportation, Earthscan 2010, pp 259.
2 Catch-22 is a logical paradox arising from a situation in which an individual needs something that can only be acquired by not being in that very situation; therefore, the acquisition of this thing becomes logically impossible.

One big reason why almost all measures to diminish congestion in the World on Wheels are doomed to fail, is: we love our cars and the economy loves our trucks and containers. We simply cannot kill our darlings. We are our cars. And the only way out is the one that runs through our brains. The one with unconventional traffic signs, like: 'Be yourself, be a MagLev'. A MagLev is a public service vehicle that looks like a pretty casual bus, but is driven by magnetism. There are two technologies involved here: magnetic repulsion, where the vehicle is pushed away from the track, and magnetic attraction, where the vehicle is pulled towards it. In either case, there is no physical contact between track and vehicle except at very slow speed.

Traffic & Transport is an a-typical sector. It is as if everything works out differently from what originally was the intention. One logical solution for the traffic jam for instance, road expansion, actual creates more congestion than might have occurred otherwise. This well-documented phenomenon has to become known as 'generated traffic'.

People always act different from what planning schemes and models presume. Policymakers and hands-on managers find it difficult to cope with such unpredictability. They want it orderly, well-organized. They utterly dislike the chaos of the social network society and try to escape to a more linear world, that of technology. That's why there are so many technical solutions for fundamental psychological or sociological human problems.

2.   Asking for clues

On behalf of the EU/Interreg(ional) IVC program POWER, and more in particular project ITACA (Innovative Transport Approach in Cities and metropolitan Areas) the Brabantse

Milieufederatie (BMF) – a federation of environmental special interest organizations and communication partner for ITACA in Noord-Brabant – has organized 'open space' sessions with experts, citizens, politicians & managers. 'The original outline of the project changed due to growing insights and the information partners shared between them,' Michiel Visser of BMF states, 'we wanted to come up with useable policy advise for local and regional area's for the next twenty years. So we invited experts to give some clues for a more sustainable transportation and citizens to tell us what they want or need. In the end they determine how fast and how deep we may dig.' The main issue is 'the accommodation of the growth of automobility', the experts reflected. Suggested solutions were far from revolutionary. But reviewing the words on and in between the lines, we conclude that there is common ground with regard to at least four points:

1. The freedom to choose. Managers, used to a top down regime, are prepared to give people on a lower level in the organization more room for their own interpretation and self-governance[3]. Not in a fit of altruism, but because the knowledge, the contacts (social networks), the adaptation capacity, creativity and strength that can be found or developed there, in the frontline.
2. Engaging more people in decision-making, personally. Democracy as we know works on the principle of representation. The word governance derives from the Greek verb kubernáo which means to steer and was used for the first time in a metaphorical sense by Plato. It then passed on to Latin and further on to many other languages.

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3   For the Networksteering perspective we leaned on and have borrowed from Hans Jeekel, De Auto-Afhankelijke Samenleving, Eburon, 2011, pp 256-265.

Professional 'consultants' consult, negotiate and decide on behalf of people who don't feel committed themselves. The way out here seems to be decentralization of decision-making and de-layering hierarchy in such a way that the ones who decide also reap the fruit or sit on the blisters.

3. Technological solutions for diminishing the emission of greenhouse gasses and congestion. For instance: loading electric cars on the road, while driving, powered by brand new radiating technology. Cheap and clean engines (1 litre gasoline for another 40 km).

4. Access instead of ownership. A lot of cars don't cover 12.000 km a year and don't move for 80% of a working week. Louis van den Heuvel, one of the experts invited by the BMF, has started a company, 'Zoem', specialized in leasing a range of electric transportation modes - bicycles, scooters, Segways, cars, delivery vans - that can be shared by a group of people who know each other pretty well and live close by one another; neighbours for example. Zoem starts with backing of the province of Noord-Brabant in two neighbourhoods in 's-Hertogenbosch, the provincial capital. 'You know who the other drivers are,' Van den Heuvel says. 'That feels trustworthy.'

3.   How big is the change potential in society?

Are the four principles mentioned above strong enough to counter the trend? The trend is that we are going to use our cars even more in the future than we did in the first decennium of the 21st century. In 2030 83% (to 76,5% now) of kilometres in the Netherlands for example will be travelled by car. Two-third of all change-places will only be possible by car then[4].

4 Hans Jeekel, De Auto-Afhankelijke Samenleving, Eburon, Delft 2011, pp 239

Nobody talks about heavy investments in railroads. Trains are out of fashion. Boats are popular, for pleasure, and so are planes. Policymakers have to take all these factors into account. What about the possibilities to influence what is already happening? We are talking about steering perspectives here. Recent scientific literature – April 2011 – distinguishes four perspectives:

a. Following in a sensible way
b. Optimistic Switch
c. Transition
d. Creative Complexity

The first and the second perspective can be characterized as 'business as usual (bau)'. Perspective a. is somewhat ignorant. The purpose is twofold: to keep on driving ánd to save the world from climate change. The first goal of the second perspective is keep on driving. Climate change is 2nd class. In perspective c. bringing to a halt climate change is top priority. Big changes are necessary to save mankind. To guarantee success (oh irony) the changes are organized and performed top down. In d. nobody tries to mature people as fast as possible along more or less closely defined change lines. Starting point is the change potential of society. When society is ready for it some kind of 'self governance' will replace hierarchy. This will start in the most developed countries with the best educated people and Internet access.

4.   Navigating through a non-linear world

In the Network Society Network Steering is the best, but not the easiest, way to organize People, Planet and Profit. The Network Society is a non-linear world, in which it is not easy to navigate. Network Steering is all about following your senses. It is the art of taking time before choosing a direction,

in order to feed the dialogue between countervailing insights, which has to lead to passable roads (practicable ways). Network Steering is about walking or driving down unfamiliar roads without prejudice.

Managers who have experience with complex systems know that a more structural management of wicked problems is not possible. Smart interventions are the highest possible result. Each opportunity, every chance to dance with the systems has to be grasped at. Typical for this line of thinking, deciding and acting is the experimentation in several development rounds. After each round the results are monitored, evaluated and reviewed, in order to get at least learning results.

In this steering model nobody tries to mature people quickly into more or less defined change outlines. A big difference with the other steering perspectives is that the goal is not fixed in advance. It emerges during the process. In this perspective no one believes in top-down steering.

Living in a society that can be characterized more and more as a global network commonalty with different layers, loyalties and endless streams of information sharing between numerous people, the network steering model seems to be the most adequate way for decision-makers, politicians, and managers to cope with reality and to initiate change. Because: how relevant is a neat hierarchy to a world characterized by complexity and chaos? Self-organization in business relies on intelligence that exists in every part of a complex adaptive system (in the mind of every employee) and makes it possible to tap this resource and release its formidable potential. That capacity, in turn, allows companies to seize opportunities and solve problems when they arise. Self-organization and emergence are the twin engines of adaptive work.

Another question that badly needs an answer: To what extent can change be managed? The dominant Newtonian worldview underlies much of the thinking in this field: a common feature is an implied predictability – if management does this, then that will follow. Complexity theory offers a different insight: We can never direct a living system. We can only disturb it. What rests are societal structures, decision models, infrastructure and technologies that may tend towards 'small is beautiful' or 'close is fine', and de-materialize our increasingly hyper-materialistic societies where cars, tv's, iPhones, iPads, etc are standard. Feral transportation announces a new sustainable lifestyle, with freedom to choose, some kind of direct democracy, close to the people, a lot of technological innovation and access to all kinds of services instead of ownership of things.

II.   ITACA findings

5.   Cinderella's matching slipper

The European Commission aims for the EU to grow out of oil with a single European Transport system, as soon as possible, but ultimately by 2050. This ambition is stated in the Whitepaper 'Roadmap to a single EU Transport Area – towards a competitive and resource efficient transport system' dating from March 28, 2011. ITACA fits in like Cinderella's foot matches the slipper. 'Curbing mobility is not an option', according to the EC, but smartening up, making transport efficient – on energy and accessibility levels – safe and sustainable is desperately needed. Doing so a European standard needs to evolve, for Italy to be able to connect with Sweden, or Spain with the Netherlands, to name the countries where ITACA's partners originate from.

As we speak, the transport section of the EU depends for 96% on oil accumulating to a € 210 billion import bill in 2010, spreading Greenhouse gasses (GHG) all over the continent polluting air and water, while the Europeans breathing it are spending their time in traffic jams. Not a nice picture. We need to kick the habit, reduce GHG with 60% below the 1990 level by 2050, resolve congestion, stay tuned with one another and keep on moving for the economy to be able to grow and the population to be/stay healthy. That is the job. Some would call it decoupling; lesser or none environmental damage ipv environmental damage reduction.

Participants in the Power ITACA project are from Italy: the Region Emilia – Romagna, the province of Rimini, the city Ferrara. From Spain: Instituto Nacional de Técnica Aerospacial (INTA) and the province Huelva. From Sweden the city Lidingö, situated near Stockholm, joins and in the Netherlands the Brabantse Milieufederatie (BMF) is partner. Seemingly very different localities with a variety of transport issues gather under the ITACA flag. Huelva has the problem of safety, with trucks driving through border town Rosal de la Frontera on their way from Lisbon to Seville, emitting GHG as well. Apart from that the small town suffers from congestion and cars parking on pavements thus endangering and hindering pedestrians and cyclists. Not that there are so many, but this is what the Dutch call a matter of chicken or egg – which one was first?

6.   Curbing transport is not an option

In Rosal de Frontera (1880 inhabitants) they have opted for technological solutions – improving pedestrian and cycling infrastructure and for instance putting plants on the

sidewalk leaving no more room for cars to park. This way the pedestrians get more space and have a safer walk. A 7 km long Green path links the town centre to San Isidro Park where in the month May thousands of pilgrims go to visit the shrine. A by pass should keep trucks out of populated areas.

The village Almonaster, where 600 people live, is the centre of a group of 14 small dwellings. People go there to visit a doctor or the bank, especially elderly people. The younger generation travels for work and shopping, maybe school as well. The roads are dangerous and everybody who owns a private car prefers this to public transport. Should you go by bus, it will leave you appr. 1 km ahead of the village, making you walk the final leg. In this area a schoolbus, 4 zonal teletaxi and car sharing platforms are in order, just like improvement of the roads. These measures mainly improve the accessibility of the area, providing locals with transportation means that are safe and open the way. Like the EC writes: Curbing transport is not an option. For prosperity and cohesion people must be able to move.

7. I want to ride my bicycle

The province of Rimini in Italy is the youngest of the region Emilia Romagna. It was constituted in 1995. Recently, in 2009, some 7 municipalities from neighbouring Marecchia were added to Rimini. The province sides the Adriatic Sea. In summertime the population explodes from the constituent 321.000 inhabitants with 3 million visitors/tourists staying on average five days. How to cope with that in sustainable transportation terms? All these people come and go, drive the roads, visit sites, park along beaches and in centres of munici-palities. And then, all of a sudden – so it seems – they are gone, leaving 10% of their total behind.

The Italian ITACA partner aims at a new culture in mobility, turning it sustainable, under the title Aree Produttive Ecologi-camente Attrezzate (APEA, ecologically equipped production areas). Rimini town is one of the three APEA's. The province names the creating of cyclist paths in the period 2008 – 2010 as showcase: 'In particular, in the last three years a new path has been realized by the Via Marecchiese, a road connecting Rimini to Novafeltria, by separating the cars' roadway from the bicycle path. The same thing has been done on the Via Montescudo, between Rimini and Montescudo and Rimini and Coriano. The total length of the path is around 12 km. Furthermore, in development stage, is a new path, for bikes and pedestrians along the banks of the river Conca, a well known naturalistic area. Objective of the showcase: To increase bicycles mobility and to make it safer.'

8.   Who is taking the kids to school and how do they get there?

The second APEA is Raibano and the third is to be found in the newly adjusted area: Cattolica - San Giovanni Marignano. There a great number of workers, mainly women, drive on daily base to their jobs. Most of them live relatively close-by, only 30% has to commute further than 10 km.

They have children these women, children that need to be taken to and fro schools. All in all there is a lot of mobile activity, cars with employees driving on and off, managers in their subsequent cars and of course trucks delivering and distributing goods.

All stakeholders were surveyed; asking them what is needed to get them out of their (private) cars, looking for ways to reduce the number of vehicles while increasing the quality and sustainability of transportation.

The involvement of municipalities, companies and local communities was perceived essential to reach the goal. People do not get out of their cars, just because you ask them to. Sometimes it takes a small adjustment, for example in the bus' timetable to make the difference. The home – work mobility Plan resulted e.g. with car-pooling, improved public transport, safer and more convenient cycling paths and – apparently an important perk for change - improving the reconciliation of free time and work. The last shows the importance of involving others, in this case the employers, and of taking the issue as a whole, not merely as a 'mobility thing'.

9.   Mobility from door to door

Cycling – introduced in Spain and Italy as one of the sustainable solutions to mobility issues - is already a largely cultural accepted and much used manner of transport in the Netherlands. In the province of Noord Brabant, everybody owns a bike, and uses it for recreational purposes as well as for 'serious' transportation. Companies and governmental agencies offer state of the art bicycles to their employees instead of paying overtime or in some different sort of 'programme'. There are many cycle paths all over the country and in traffic the biker enjoys priority. As a matter of fact, large cities in the Netherlands, for example Utrecht, suffer from bicycle congestion and have bike parking problems. Sustainability is never served with 'big' and 'much'.
The Dutch partner of ITACA, BMF, invited the other parties to visit Houten, a town that built its entire infrastructure around bicycling. The urban planning was drawn on the concept of quiet and safe neighbourhoods. Cars can enter, but only on specific roads. If you want to cross Houten, better take a bike, you will be at your place of destination much more faster than by car. It is called bicycle town.

In Houten the Euregion colleagues were invited to ride a so-called OV-fiets (Public Transportation bicycle). The concept OV-fiets is based on the idea of multimodal transportation; in order for people who travel by train to get from door to door instead of stranding on a railway station far from home or work, or wherever the trip is taking them. Next to the conventional bicycle, there are electric bikes and electric scooters available at 225 service points close to stations. There are also many initiatives, trials and errors on subscriptions available in the Netherlands that allow one to change from train to tram, to bike, to rental car, bus or taxi. All meant to get people out of their private car, trying to make it comfortable, easy and affordable to check out of the one-man-one-vehicle-mode.

10.   Sprawl busters for city life

The Swedish city of Lidingö enters Power from the other end of the spectrum than Huelva and Rimini did. Sweden has a whole different heritage of city planning and energy management and Lidingö is a child of these. Situated on an island in the archipelago North East of central Stockholm, Lidingö has 44.000 inhabitants. Two members of the band ABBA originate from the city in Stockholm county, where the dependence on oil has already been reduced and fossil fuels have gradually been replaced by biomass and other renewables since 1991. (See the essay Power for Wood, Timber project on biomass in Stockholm county)

The area has its own issues one of which is sprawl, according to Karl-Olov Arnstberg of the Department of Ethnology from Stockholm University in a Research Report dating from June 2003.

Sprawl is defined as: poorly planned, low-density, auto-orientated development that spreads out from the centre of

communities and gradually leads to decline in community life and values, erosion of the economic base in villages and towns.' Some call it the doughnut-effect; building a traffic ring around the centre containing shopping malls and other 'attractions' thus pulling all life out of the hart of a town and leaving it empty and forlorn. One thing is for sure, not only the Swedish suffer from this, the US even has 'sprawl-busters' ready to take action wherever a case of sprawl pops up. And many a town in Western Europe can be diagnosed with sprawl as well.

In Sweden urban planners are aware of the history of urban planning, starting with a crisis in 1880, causing people to live in unhygienic circumstances in damp basements or under whatever roof they could find to cover their heads and bodies. The poverty and inequality led in 1930, under a social democrat government, to the idea that people are equal and deserve to be treated that way. This came to the point where government took over housing and the tradition of straight, functional and unnoticeable building began, governmentally institutionalized. At first the success was unequalled and Sweden entered a golden age. However, like in other Western European countries i.e. the Netherlands, we are equal was being confused with we are the same… And diversification of the society, through the entrance of immigrants and refugees, taught that being equal does not mean being the same. People ended up living separate lives midst of their own peer groups and not communicating to the others – like in so many Western European country – which, as we all know, was not beneficiary for society to become a coherent and empathic community where differences are put to dynamics.

By now some in Sweden yearn for compact cities, like in the South of Europe for example. Looking at the physics of Stockholm county, surrounded by water with harsh winters

and sunny summers, taking into account the existing infra-
structure, and contemplating the problems of compact cities,
this (Mediterranean) type of city building seems not to be the
right option.

Mobility, sustainable mobility, between communities,
inside communities, from home to work to school to shop
to recreation and cross over, is one of the fashions to get
dynamics in the street and the city centre. Stockholm county
too suffers from GHG emissions (transport in this region
accounts for 40% of the carbon emissions and devours
one third of the total energy consumption) and congestion.
Lidingö entered ITACA to look for methods. The munici-
pality started with a bicycle campaign, just like the partners,
to get its' inhabitants moving (which is healthy) without
fuming gasses polluting the street. The bicycle project fits into
another EU project Lidingö participates in: Building healthy
cities.

Overlapping another Power project, e-mob, in the natural
course of things, ITACA partners investigate different, more
sustainable fashions of fuelling transportation, therefore also
electric cars are part of the project. As by now is common
knowledge electrical transportation emits no greenhouse
gasses whatsoever while riding. The amount of carbon it
disperses depends on the energy source and is emitted at
the source. Electric cars are perceived to operate optimal
inside urban areas. Engineers have not yet found solutions
for the storage of fuel to enable the electric car to cross over
large distances. The best part for carlovers is: they can keep
on driving with clean hands, consciousness and air. Electric
vehicles are perfect to reduce noise pollution as well; they
whisper instead of growl.

11.   Electric – hybrid -hydrogen

The Spanish province Huelva lodges a department of INTA, where, apart from military and aeronautic / spatial development and research, a lot of knowledge and experience on sustainable methods of transport is bundled. INTA is involved in testing and certification of vehicles for road safety. The institute studies electrical, hybrid and hydrogen transportation and innovative techniques for sustainable low-carbon transport.

Some of the questions INTA tries to answer: Which means are the best available on short-mid term? What intelligent transportation systems can we think of? The research institute came up with comparisons of the different fuelled vehicle; well to tank And tank to wheel. Thus discriminating the energy source used as well. INTA monitors data about the conduct of the e-vehicles in the different regions – variety in climate, roads, mountains or flat land et cetera – in the framework of ITACA as well.

All partnering regions are experimenting with electric public transportation, tourcars, taxi's, lease-cars for companies, civil servants et cetera. More on this can be read in the E-mob story.

Although electric transport seems promising, especially in urban areas, there are some downsides to it. One of them is safety: you don't hear the cars coming. Plus, filling cities with electric cars will not solve the congestion issue or parking problems (even if a region generates enough clean and renewable energy to fuel the automotives as well as households and factories, has sufficient charging points et cetera – again, more on this in the E-mob story) The BMF arranged to consult transportation experts, civilians and governors/administrators in three different open space sessions; asking

people, professionals as well as laymen how they think sustainable transportation can be accomplished. And while doing so, creating a network of engaged partners in different layers of society.

Before the first meeting took place, Dutch environmental professionals gathered in Den Haag for the conference on sustainable mobility, organised by VVM that was mentioned before. In what can be called a 'thinking paper' recording that event for the province of Noord Brabant Frank van Empel describes the dilemma. The essay's title is: Stuck between the wheels (Klem tussen de wielen). The wheels representing two conflicting aspects of mobility: freedom and accessibility. In short, when everybody moves freely around in private cars, nobody will get far, because the roads are blocked. Drivers become each other's prisoner and the freedom of movement transforms into standing still in the traffic jam. Yet, people are so very attached to their private car that it is almost impossible to get them out of it. The car is perceived as an extended home on wheels where one contemplates and sometimes drinks a cup of morning coffee, shaves or puts on make-up before entering the working place, it is a symbol of status and illusion of freedom – 'I can drive to Paris any time if I like instead of going to the office' – So, although in a number of cases it is much more sensible, sustainable and free to travel with public transport (one can take the train to Paris as well) people stick to their vehicles as if it were a second skin. Politicians are afraid to touch their voters' tainted love and shy away from measurements to reduce the use of it through pricing or other unpopular regulations.

Whereas one expert calls for technology to bring solutions, another one claims that technology only leads to more use

i.e. more congestion (Generated traffic). Conclusion of the conference is that nothing new grows under the sun. Everything seems to be tried – broadening roads, which results in even more congestion than keeping them smaller sized; cleaner cars, but more of them pollute just as much, et cetera – but nothing works. It looks like the proverb predicts: what's been given attention grows.

12.   ITACA recommendates Noord Brabant

a. Transition from value-added chain to a value-added network.
b. Stimulate and promote E-biking for shorter distances and develop and promote sharing vehicles.
c. Make sustainable road transport an integrated part of city investment plans.
d. A market approach for mobility (supply and demand) combined with government's responsibility for market regulation.
e. Experience, convenience, comfort, and personal safety should become the first principles for development en innovation.

III.   Plugged: E-mob Findings

13.   Sibling projects

Since E-mobility is one of the fashions that can make transportation sustainable, especially in urban areas, this Power project is presented as a sibling of ITACA here. We already saw electric vehicles enter the story above. Underneath text is from the e-mob brochure, written by Wendy Persoon from BOM, Noord Brabant, lead partner in the project. The partners were located in Oxfordshire, UK, North Brabant, the

Netherlands, Malaga, Spain, Uppsala, Sweden and Krakow, Poland.

14.   **Building a business case**

The project E-mob has generated business cases to find out the liability of electric transportation on regional level. Unique circumstances in five different regions have defined five different business cases. All act on the level of expertise and the political mindset of the concerned region, yet they can inspire everyone working in the field of e-mobility. The business cases are explicitly not an end goal, but a starting point for further development of e-mobility in our region.

Six organisations in five regions acted as a linchpin to (further) develop a business case for their region. Using and building upon expertise available in these five regions, we invited local organisations and companies to debate and develop our ideas. We have now set the outlines of what could potentially accelerate the availability of e-mobility in Europe.

Transportation on electricity is still in its infancy and that it might take years for proper market introduction and acceptance. We therefore must constantly and actively steer and develop these business cases not only the technology for e-mobility and smart grids, but also on political and market level.

The next pages show the business cases for each region. The future is unsure and undefined, we therefore have no choice but to use a lot of maybies and probablies. This makes it both an exciting field but also very difficult to predict the speed and directions of the developments. But one thing is for sure: if we sit still, nothing will change… Will you team up with

us to accelerate e-mobility in our regions? Contact us at
wpersoon@bom.nl

Wendy Persoon
Lead partner E-mob project

15.   Overview E-mob

As part of the E-Mobility Accelerator project, each of the
project partners was asked to identify a business opportunity
in their region which could be used to accelerate the adoption
of a sustainable market for electric vehicles.
Although all were starting from different points on the road
to adoption of electric vehicles, several common themes were
identifiable. The cities represented in the project were all
picturesque historic cities, usually with road systems, which
were not designed to cope with modern vehicles. Congestion
was therefore often a problem with the associated pollution.
Unsurprisingly, finding solutions to these common problems is
what has led these cities to investigate the potential for electric
vehicles.

Noord Brabant, perhaps the furthest along in developing its
sustainable electric vehicle market, having already established
the Triple-Helix' framework (industry, government and
knowledge institutes), and already successfully backing several
trial projects, is seeking to introduce electric delivery and
passenger vehicles to one of its congested, historic city centres.
Oxfordshire, on a similar path, has recently established the
Oxfordshire EV Consortium as the partnership to promote an
EV market and has identified the Low Carbon Community as
its business opportunity.

Malaga has targeted the eco-tourist, proposing to establish an EV hire car fleet in partnership with local hotel chains. Visitors will be able to travel from beach to beach guilt free and hassle free with charging stations conveniently located at major hotels across Andalusia. Uppsala is looking to take advantage of an increasing number of businesses looking to test their sustainable products, including electric vehicles, by creating a cold climate test site with easy access to its two leading universities.

And finally, Krakow has identified that raising public awareness of the benefits of electric vehicles, whilst building the necessary technical expertise, is the main goal of its proposition. Therefore they have identified converting existing buses and taxis into electric vehicles, ensuring maximum access to the general public.

As you can see, the opportunities are huge and varied. The projects presented here range from regions with established interest and expertise in electric vehicles to those just started their journey.

Notably, among the E-mob partners there are three universities – Malaga, Oxford and Krakow – who have more in common than electric transportation alone and the lead-partner, BOM from Brabant, is experienced in international cooperation. BOM was able to bring the partners closer to each other, despite regional differences. These characteristics of the partnership made communication flow and led to plans of working together on different subjects as well, like exchange programs for students and/or lecturers. The plans are not implemented yet, but the seeds are sown and intentions have been spoken out.

16.   Recommendations by E-mob

The partnership defines 10 objectives and has listed 40 recommendations for policymakers to enhance the share of electric vehicles in the sustainable transportation mix. The recommendations are divided into global and specific actions. The complete list can be found in the brochure 'E-mob policy recommendations'.

17.   Recommendations of the E-mob partnership for Brabant

1. Stimulate demand for EV by supporting the development of new business models for public and private sector. Continued development of high quality public transport and facilities based on EV. (R-L)
2. Create a forum of industry and market (EU,N,R):
    • Coordinate and implement R&D and experimental programs;
    • Promote new training and curricula;
    • Encourage the use and development of new technologies and innovation about E-mobility & Smart grids.
3. Standardization at European level (EU,N):
    • The charging points;
    • A standard of emissions CO2 per km by 2015 and 2020;

Reduce/eliminate the various taxes and fees associated with EV in European countries.

18.   Together E-mob & ITACA state for Brabant

Develop, strengthen and promote sustainable intermodal and multimodal transport:

*   Develop and implement sustainable urban mobility plans and business travel plans, integrated with urban development plans;
*   Promote and facilitate practical projects and initiatives: awareness campaigns, car-sharing, infrastructure, incentives like parking facilities and use of public transport lanes (N,R-L);
*   Promote intermodal transport in the urban setting (R-L) through education, training, information and citizen participation; prioritize behaviour change through innovative social media channels;
*   Connect goals of different policy plans in the planning of new projects.

Cross cutting benefits/themes: Sustainable transport: ITACA
- Electric transport: E-mob -
Behaviour Change: TrisCo

IV.   Routing on the unfamiliar road

19.   Biomass for Bio-ethanol – 2 other projects entwining

Instead of building a biomass heat/energy generator close to a community, biomass can also be used as raw material for bio-ethanol, which is considered a healthy replacement of petrol in cars. Bio-ethanol does not emit CO_2. In Sweden SEKAB built a plant to experiment with woodchips from forest waste as a base for cellulosic ethanol. The company won the Sustainable Bio-ethanol Award for this initiative in 2009.

The advantage can be that, while people want supply security for heat and electricity, the production of bio-ethanol can probably be managed more flexible, i.e. when there is a surplus of waste wood, the factory goes full steam ahead and during times of shortage, production is lowered. Instead of demand driven, the local bio-ethanol plant will be supply driven by the local availability of biomass, thus reducing the risk of getting drawn into the destructive phase of fuel fighting food that awaits around the corner when scarcity enters the stage. This concept links to another Power project about Biomass (TIMBER) and is spoken of in the essay Power for Wood as well.

20. Frequently Asked Questions on the SEKAB website

#22What are the plans for future production of ethanol?
In the long term, sugar cane will be the predominant raw material in the tropical countries, and the temperate climate zones will increasingly be shifting to manufacture of ethanol from raw materials rich in cellulose.

#23Where will cellulose come from in future?
Forestry cellulose primarily comes from residual products such as branches and treetops, wood produced by thinning, etc. From cultivated agricultural areas we will collect cellulose from surplus material such as stalks and leaves and surplus agricultural areas, which will also be usable as energy-producing forest instead of becoming overgrown and thus destroying valuable land for future cultivation. Household waste contains large amounts of cellulose – a raw material for bioethanol that will be of increasing interest.

#26Does ethanol combustion also create carbon dioxide emissions?

With regard to the effect on the climate, the carbon dioxide's provenance is a crucial factor, i.e., whether it comes from 'dead' or 'living' carbon. Both of the latter are stored solar energy, but the 'dead' carbon (oil, coal, and natural gas) has been locked in (fossil-fixed) under the earth's crust for 200 million years. Its release into the atmosphere results in an imbalance that affects climate. We get biofuels such as ethanol and biogas from the 'living' carbon that comes from the plants surrounding us today and that forms part of the carbon cycle, i.e., nature's way of moving carbon around to facilitate life on earth.

Photosynthesis in plants breaks the carbon dioxide down into carbohydrates, which build up the plants, and oxygen, which is emitted into the air. When the plant dies or is burnt, the carbon returns into the air and is then absorbed by other plants.

The 'dead' carbon in the form of oil (petrol and diesel), carbon, or natural gas comes from plants that existed millions of years ago. The carbon they absorbed is now released when these fossil fuels are used. There are no extra plants that can absorb this carbon. This means a raised carbon dioxide content in the atmosphere and an increased greenhouse effect. Brazil – now the world's biggest ethanol producer – produces ethanol with a 90-95% net saving of fossil carbon dioxide. A report from Chalmers University of Technology (Magnus Blinge) shows that current ethanol production in Örnsköldsvik uses 2% fossil energy, which means a 98% net reduction in fossil carbon dioxide.

21.   Public transport with personal service – liberated bus routes

Network_LA Transit is a conceptual design response by Gensler Los Angeles to an open invitation by Sci-Arc, The Architect's Newspaper and LA Metro to shift people from their cars to public transit.

'Increasing the movement of people, not cars should be the goal of any public transit initiative. For this ambitious project, Gensler Los Angeles proposes an integrated set of ideas to adapt the current system to improve its performance at the various scales based on user needs. The belief is that a more responsive system and an improved user experience ultimately leads to the means to meet that challenge', it says on the Vimeo page where the Gensler animation is parked.

The whole thing is about creating a public transport that delivers personal service. The main themes are: increasing choice, deliberating bus routes, a user friendly interface and user influenced system. To increase choice and flexibility, the bus stops stay fixed, but the routes are liberated. Passengers use a GPS to influence the route and plan their trips with an application on their phone. The idea fits perfect in a network society, providing one is networked and connected. The concept is public transport offering personal service using communication technology and IT to make it happen. AND: to make public transport sexy and hip.

22.   Walkable cities

Urban planning has a lot of influence on the mobility needs of the inhabitants of the city. When the supermarket is right around the corner, one doesn't need to take the car to get groceries. On a US website *http://www.walkscore.com/* one can calculate the walkability of the neighbourhood. New York and

San Francisco lead the list scoring 85.3 and 84.9 on the scale 0 – 100. When there is a bookshop, cinema/theatre, super-market, restaurant, school, bank et cetera, the town scores high on walkability.

There is more to mobility then congestion and pollution; Treehugger, a Toronto blog, describes how a boy got killed when stepping with his mother out of the bus in a remote area. There were no sidewalks, no pedestrian crossings, no traffic lights and the boy crossed the road. A car hit him and killed him, it apparently was a drunk hit-and-run. His mother is convicted of vehicular homicide. The town where this happened scored a mere 20 on the walkscore.

Measuring the walkability of an urban area – preferably before building, renovating or changing it – can raise awareness and influence the infrastructure and traffic management turning urban mobility more sustainable. It can turn into a powerful instrument, allowing civilians to commu-nicate with planning professionals in a non-emotional, rational way on how to improve their livelihood.

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Essay III | Beyond a mere mobility thing

Essay IV | Magnitude and murder

By Caro Sicking

Contents

'Great cities are not like towns, only larger. They are not like suburbs, only denser. They differ from towns and suburbs in basic ways, and one of these is that cities are, by definition, full of strangers.'

Jane Jacobs, The death and life of great American cities

I.   Wired for change

1.   Flamenco and economics

In the SILCS project one of the three partners is Seville, city of extremes. It incorporates e.g. a historical centre visited by tourists, universities and students, a district called Poligono Sur where social exclusion is the name of the game, drugs and violence reign and 43% of the inhabitants is jobless and a prestigious business park Campus Palmas Altas that won the Greenbuilding platinum LEED Award. Seville has it all; the grandeur, the extreme heat, the poverty, the history, the culture and the music. It is known for fabulous Flamenco. The leadpartner is a knowledge centre, CURe University of Portsmouth, UK. The two other partners, Kent County and the province of Noord Brabant have less magnitude and less murder than the Spanish city; they search particularly for economically viable ways of sustainable building (and standards). Before viewing on lessons learned, points scored and missed goals, before diving into the relations, differences and comparisons between the partners, let's take a walk down urban planning with Seville in mind. Just to get a larger picture of what Strategies for Low Carbon Settlements (SILCS) can be about.

2.   Garden in disguise

Sustainable building is more than housing. It is placing a house in a context in such a manner that the inhabitants will be able to lead the life they prefer by natural course. Sustainable building also is changing the context in which people live. Again to enable them to lead a happy, healthy and productive life. Whether it is retrofitting, refurbishing or building anew, there is always a context and always an impact on people's lives. That, plus the effect settlements have on the environment and whether future generations profit from it are a few basics. Building for the future, according to Lord Norman Foster, Pritzker Architecture Price winner of 1999, is creating a building that is wired for change. The architect and urban designer needs to anticipate change. In this perspective Foster mentions the Willis Faber & Dumas Headquarters in Ipswich, UK, built 1971-1975. From the website of *Foster* & Partners: 'The country headquarters for insurance company Willis Faber & Dumas was a pioneering example of energy-conscious design that challenged accepted thinking about the office building. Offering a new social dimension with its swimming pool, roof-top garden and restaurant, it was conceived in the spirit of democratising the workplace and engendering a sense of community.' The building e.g. is covered by a garden in disguise – green roof -, a large green public space that connects it to nature.

Foster starts his speech 'Building on the green agenda' on TED emphasizing the nature of sustainability is not fashion, but is about survival. According to Foster building and associated transport – to and fro houses, work, shops et cetera – acquires 70% of the total energy consumption of a city.

3.   Sustainable cities

A few years ago Norman Foster picked up a green fingered gauntlet: designing a blueprint for a sustainable city. The proof is in the eating and the first settlement, called *Masdar City* (Source City) is being built in Abu Dhabi as we speak. Another inspiring masterplan of great allure is the plan for *Incheon*, South Korea: 'Taking agriculture as a central theme, the design utilises existing elements such as irrigation channels, green spaces and roads, while the arrangement of buildings within the masterplan follows the natural topology of the site, incorporating green roofs to further harmonise with the landscape. Like the veins of a leaf, the smaller roads and pedestrian avenues extend from the central transportation spine. The existing island is predominately agricultural so terraced farming, utilising the roofs of the industrial buildings, will replace any agriculture displaced by the development. There will be no structure above 50 metres, so the scheme will not extend into the foothills or mountain, thus preserving the rural landscape.'

4.   A family affair

'Cities are the physical framework of our society, the generator of civil values, the engine of our economy and the heart of our culture,' states Sir Richard Rogers, Florence born British architect and urban planner, former head of the UK Urban Task Force, multiple price winner on sustainable building and co-creator of the most visited building of Europe, Centre Pompidou in Paris. He is known for his intuitive under-standing of urban areas, using this to ameliorate the space where people live and work. He is e.g. responsible for the tent-like construction of the *Ashford designer retail outlets* in Kent, one of the SILCS partners. Rogers and Foster, two of the UK major architects that already acknowledged the importance

of eco-innovation in building early seventies, while designing breathtaking architecture, started their careers together. Both graduated from the university of Yale with a master degree in Architecture in 1962. On their way back to the UK the partnership Foster/Rogers took off. It was a family affair; the wives Wendy Cheeseman and Su Brumwell participated. In 1967 Rogers and Foster split up, but evaluating their respective careers and views on urban planning, the kinship is still alive.

5.   Far from SILCS?

What we can learn from these behemoths of modern architecture is that the amenity of an urban dwelling, the sheer pleasure it gives to people, combining green and renewable energy sources with meeting places, connecting people, using sun and shade, adds to the level in which a building is wired for change.

Yet, it doesn't feel right, does it? Foster and Rogers design for the rich and lucky, for professionals that work in high tech and successful sectors, for the fortunate that can afford to own a state of the art apartment in Masdar City. For travellers that use large airports as hubs to other continents, prestigious designs like the Kai Tak Cruise terminal in Hong Kong and Madrid Barajas Airport. Architects like Rogers and Foster build the cathedrals of our age.

This seems a long way from SILCS, where Kent County, the province of Noord-Brabant and the Public Housing Enterprise of Seville partner to create sustainable and affordable housing in their respective regions. This appears far away from the vision of Jane Jacobs, publicist and urban planning activist, who's quote heads this essay.

6.   Use the street and watch it!?

Jane Jacobs voiced her thoughts on urban planning in
The death and life of great American cities in 1961. In the
novelistic written book she describes how building and
infrastructure influence the social coherence, the behaviour
of people and thus the liveability of a neighbourhood.
'You can't force people to use a street, or to watch over it.'
Jacobs advocates the enabling of dwelling and wandering,
crisscrossing and encountering each other in public space.
She talks about the foremost important condition in urban
environments: safety. Sidewalks provide safety for pedestrians,
cycle paths for bikers. Then there is social safety as well;
can a girl walk the streets by herself at nightfall? A lot of the
social safety has to do with the coherence and watchfulness
of the people living, working and roaming a place. Diversity
of functions, having shops, playgrounds, schools, homes and
working places can do a great deal of the trick according to
Jacobs, and make people behave social responsible.

And though behaviour is the theme of yet another POWER
project, TrIsCo, we cannot ignore it when discussing SILCS,
or ITACA – on sustainable transportation - for that matter.
When a society chooses to take the road to sustainability, all
aspects have to be taken into account.

7.   Coffee table at the busstop

People entering a beautiful carefully designed and maintained
building, act accordingly and will not throw garbage on the
floor. Especially not if there are bins in sight where one can
leave the rubbish. The environment influences their behaviour
and enables them – by putting bins in sight – to conduct
according to how they feel. Influencing and enabling is what

city-planners do on large scale, especially in this age of accelerated urbanization[1].

June 2011, designer Jlie Kim wanted to battle the image she thinks the rest of the world holds on Los Angeles: nobody walks or uses public transport. She put her *Hammock coffee table* with a vase filled with fresh flowers at a bus stop in Korea town, then filmed with a spy-cam. The footage shows a guy rearranging the flowers in the vase, two girls acting as if in their family livingroom, attracting a boy's attention, then an older lady sits down next to the girls and starts to talk to them. It looks like all these people actually know each other. But like Jane Jacobs states: a city is by definition filled with strangers. *La Cuidad Viva* - website, facebook page and twitter account - is an open forum for participation, created by SILCS partner Empresa Publica de Suelo de Andalucia (EPSA), 45000 people visit the site on monthly base, they originate from 85 countries. EPSA put up the website as a Think Tank, hoping to learn from others how they feel and think on sustainable urban development. Here too are photo's to be found of mere plastic chairs and a table, put somewhere in public space and being used, changing a sidewalk into a meeting place.

8. Cathedrals and football champions

Entering the POWER project SILCS we need to hold both views into account. A society needs dreams and ambitions, it yearns for cathedrals and championing football clubs. At the same time there is the need for a different scale, human sized measures where we can live, shop, walk the dog and play. These two aren't necessary biting one another, on the contrary, they are complementary. Just look at the Centre Pompidou, situated in a lively Paris quarter, where its

1   Living in an urban world, Global megatrend 2, European Environment
    Agency, 2010

magnitude inspires people to play on the square in front of it, small shops attract the dweller from one site of the street to the other and kids linger around the fountain with colourful sculptures by Niki de Saint Phalle and Jean Tinguely. Urban planning can be big and small at the same time, as long as the design is cut out to unify and communicate.

II.   SILCS findings

9.   Social cohesion

Strategies for Low Carbon Settlements come as big and small as the settlements. SILCS aims to prove and illustrate the effectiveness of Low carbon building initiatives within the framework of a sustainable development. The project will address the following four questions:

1. Participation: how are stakeholders to be involved within experiments and what types of community participation activities are possible and viable depending upon the low carbon solution and design outcome required?
2. Financing: what kind of approaches are successfully enable change and have maximum impact on the way financial analyses are made and decisions taken, resulting in decisions not based on initial investments but on total live-cycle costs?
3. Organisation: how can the building process (planning, designing etc) deliver sustainable results?
4. Technologies: which (systems) technologies are most effective and successfully achieve innovative Low Carbon solutions.

The above is stated on the SILCS page of the POWER website. The partners exchange knowledge and experience during two to three day workshops and visit each other's best

practice examples. 'These projects are not just innovative construction solutions, but illustrate the potential for social cohesion integrated with innovative low carbon technologies, which can become best practice examples for future directions.'

10.   Different faces

Social cohesion integrated with innovative low carbon technologies, has a different face in each region. In the Netherlands, Noord Brabant struggles to create jobs and attract high educated talent in order for the region to be fit for the future as well as economical competitive with neighbouring provinces, being the Randstad, Ruhrgebied in Germany and Belgium. Cutting on fossil fuel dependency and emissions whilst enhancing biodiversity and the quality of rural as well as urban landscapes are an important part of the strategy. The ambition of the province connected to SILCS is to prove sustainable, holistic designed, energy or climate neutral and healthy housing can be affordable, comfortable and future proof for everybody, even in de social housing sector. It started with the ambitious project *Geerpark*, a new to construct neighbourhood in the town of Vlijmen. Social housing corporation Woonveste owns a large part of the area: 28 ha of a total of 46 ha. Woonveste builds and rents houses to people with a small wallet. In order for Woonveste to agree to co-create the most sustainable quarter of the Netherlands, which was the ambition of the alderman of the town, the housing corporation needed to be convinced of the affordability of the buildings. The province moved into the negotiations, taking knowledge of the Mutual Gains Approach[2] and experts on sustainable building along. The issue, building ecological

2   The Mutual Gains Approach is a method for participative decisionmaking by Lawrence Susskind, teacher, trainer, mediator and urban planner. The method is published in various books e.g. Breaking Robert's rules

and social responsible for the lowest incomes in economically viable ways, stirred the imagination of a multitude of municipalities and housing corporations. On request the regional government organised meetings and charettes between them and four experts on finance, sustainable building, participation and organisation to design a programme of demands according to which the ambition can be met. The result of this is called *Brabant Woning*. Houses that are build according to the list of demands will be certified with the title by service institute *VIBA Expo*. Part of the prescriptions are based on the use of daylight and solar power, re-using heat from air and water and natural ventilation through a rooftop window, applied in such a manner that the rain will stay out. The hood of the prototype is a mansard roof. The garret is build in sections that graduate different to optimize the inclination for solar panels or green roofs, suitably for natural ventilation, windows and roof tiles. The Brabant Woning is very well insulated, using natural materials. The house is designed to be comfortable with a healthy inner climate as well as affordable. Outerspace is considered equally important to the inside, allowing the inhabitants to be in contact with nature and trying to get them into participating in neighbourhood 'greencare', thus enhancing social cohesion at the same time. Brabant Woning raises the low carbon ambition one step further: a house like a living organism. This implies breathing (natural ventilation) as well as green walls and/or roofs, rooming up for biodiversity in build areas, energy generation and water as lifestream. There is one default, as remarked in one of the SILCS documents: 'Noticeable about Brabant Woning is that there is nothing noticeable about it'. This shortcoming in design is something Brabant can learn from the Spanish as well as the British partners. In Kent design quality is considered one of the conditions for sustainable building.

11.   Investing money

The excellence of Brabant Woning, according to the English partners is in the money basket. Kent County, south of London, too aspires to design a standards framework for the local builders. The way Noord Brabant thought out financing healthy, low-energy, low-emission and comfortable housing for the social market by pulling investments in front and dividing the yields between investor and renter may be a method for realising eco houses. It clarifies that though certain innovations cost extra to implement, the investment cuts budgets during the building's lifecycle. A Nota Zero building, meaning there is no energy bill due to generation of electricity and heat by the building itself, may be more expensive to build, yet can be cheaper when taking the whole life-cycle in account. Until today the Brabant Woning has not actually been realised. It is a list of demands that must lead to an affordable, healthy, green house as a living organism and which can be used by every architect and any building constructor. The municipalities and housing corporations involved in the process of conceptualizing of Brabant Woning plan to construct 80 to 100 of these houses, but they move slow due to conservatism in their backyards and reluctant equally conservative investors.

As to Geerpark, the project that started it all of, the realisation got in a deadlock. At the kick off there was an ambitious holistic approach, combining a green environment, water management and pleasure, biodiversity in the neighbourhood with bats and butterflies, energy or climate neutral buildings, green roofs and walls, all of it guarded by an independent group of engaged experts called The Conscience. Now, three years after signing a letter of intentions by involved parties, it still is difficult to actually realise a workingman's paradise.

Not in the least because the province, due to changed political government, withdrew, because the alderman who started the project also belonged to one of the losing political parties and had to leave the scene, because of conventionalism in the building and housing sector and financial crises still roaming around, making people careful before trying something new.

12.   Reducing on carbon

The ambitions of the North Western partners seem aligned. Kent County too, like Brabant, uses sustainable building to revitalize the area, create jobs, reduce fossil fuel dependence and the emissions that come along with it, while trying to create an interesting stimulating environment for the inhabitants and visitors. The national government strives towards lowering carbon emission in housing construction with 80% and decrease home energy use with 100%. The individual British inhabitant will have to reduce carbon emissions from 11,87 tonnes to 2,37 tonnes.

According to Ed Metcalfe, director of Research and Business Development Institute for Sustainability, UK buildings emit 43% of the total emissions. 90% of the British challenge is in the existing stock of buildings, he argues. The task leads up to retrofitting or refurbishing 600.000 houses a year the coming four decennia.

Regions and municipalities have to create the right conditions for their citizens to be able to keep up with these ambitions. In Ashford, Kent County, there is a need for 31000 new homes to be build between 2001 and 2031. The church has to be renovated to provide enhanced performance space, cutting down on the use of resources, running costs and maintenance requirements. The local library is up for redevelopment to provide integrated services for the growing community by

lowering the carbon footprint, increasing energy efficiency
and creating facilities for a multiple agencies.
Mike Bodkin, head of Urban Generation Kent County
emphases on building homes and communities and not estates.
Localism, aspiration and choice are the key words to Kent's
sustainable ambitions, whilst aiming to raise design quality.

From the presentation by Mr Ed Metcalfe, 01.26.2011
UK environmental market: £ 106 billion
880.000 employees
4% growth per annum
400.000 extra jobs the coming 8 years
UK retrofit ambition: £ 400 billion

13.   Las Tres Mil Viviendas

One could say Seville has the advantage of the dialectics of
progress. The need for urgent action is felt at the headquarters
of the Empresa Publica de Suelo de Andalucía (Public
Enterprise for Social Housing) that cooperates with the
Junta de Andalucía and Seville's University and other educa-
tional and knowledge institutes on making change happen
in Las Tres Mil, the common name for Poligono Sur. The
district is home to 55000 people of whom 43% is jobless.
Impervious roads, railroads and building blocks isolate Las
Tres Mil Viviendas from the rest of the city. The streets are
dangerous, drugs and crime rule. Empty buildings, illegal
housing, aids and kids staying home from school. Las Tres Mil
is synonymous for social exclusion and party spoiler for the
beautiful historic centre of the town.
Still, there is hope. The city has been working since 2003
according to the Plan Integral de Poligono Sur. The goals are:
retrofitting and refurbishing the houses/apartments, work and
development for the inhabitants, education, equality and social

welfare, and improving the health of the people living in the area. SILCS is part of this bigger picture.

The same year, 2003, Dominique Abel, dancer and film director, was subsidized by the Administración de la Junta de Andalucía to make a documentary on the lost district. She set out in search of the roots of Flamenco, the proud Spanish traditional dance. What she found and recorded was a vivid culture amidst a depressing décor. The sensitivity in the filming and the focus on the talents of the people filmed was one way to empower. But, of course making a film is not enough to solve stringent social and economical conditions. Seville has joined the POWER programme on more projects in order to accomplish the Hercules job of turning the coin for the whole district.

14.   Safety first

The situation in Poligono Sur gives an insight on the (pre) conditions of sustainable building. The first and foremost is safety. There is no sustainability in unsafe streets, or in places where people feel unsafe. Safety comes with social coherence, people watching over each other. This has to do with local culture, behaviour (see the essay on TrIsCo), with economics (ability to work, go to school, entertain) as well as with what has been written in stone. Mono functional areas appear to be unsustainable, whether it concerns shopping malls, industrial areas or living space. The walkability of a town – schools, jobs, shops, entertainment, parks, sports and playgrounds on short distance – determines for a large part the sustainability. About walkability you can read more in the essay 'Beyond a mere mobility thing' discussing the POWER projects ITACA and E-mob.

Diversity is another principle that leads to developing a place where we like to live. Richard Florida, following Jane Jacobs' footsteps, argues that economic and social thriving cities are the places where minorities populate the streets. Mothers with children, gay people, artists, managers and construction workers, black, white, Asian and South American, all walking the same pavements blow good vibrations and dynamics through a city.

15.   Do it together

Another trick from the book is applied in Seville; the locals help to renovate their own homes and neighbourhood, thus acquiring skills, getting to know one another and regaining contact with the own environment. Pride is another human characteristic that gets polished this way. Once proud of your neighbourhood, you take care of it in every sense of the word. So does participation. Apart from trying to get inhabitants to participate in the rehabilitation of their surroundings, new organisation structures concerning e.g. health have been implemented.

Another unifying project is the construction of Plaza Sur, the planners call it 'reto para el futuro' in a pdf for their SILCS partners. The words mean 'challenge for the future'. According to the blog Urbanity 2, it will be designed by Pedro Garcia del Barrio. Urbanity 2: [Plaza Sur] will be placed in a non built plot of 46000 m2 for commercial, sport use. Business, social and educational projects will be also developed there. The exterior covering will be a garden zone, and the building will combine glass and stone.

Other project will be the new Park of The Guadaíra, that will be defined along the "Su Eminencia" road, and it will be finished at the end of this year, with an investment of 16,8 M€ paid from the European Help for Development

(FEDER), Guadalquivir River Management Department and the municipality of Seville. This new green park will join "Poligono Sur" with "The Beremejales" district, with a new free space of 63,5 hectares,' according to Urbanity 2.

16.   High trees

Grand design fits the region of magnitude and murder. In the same city, the aforementioned British architect Richard Rogers designed, together with Luis Vidal and Asociados Arquitectos the business park Campus Palmas Altas where the headquarters of Abengoa group is located. The aim was to maximize communication and encourage crossfertilization between various divisions of the international technology company that thrives for sustainable development in the areas infrastructure, environment and energy. The business park is designed in a compact urban character and suited to withstand the extreme summer conditions of Spain. The central space consists of different patios and the colours used are derived from the traditional Andalucían tile shades.

From the website of *Arup*, company of designers, planners, engineers, consultants and technical specialists that was involved in the construction of Palmas Altas:
Concept design studies indicating carbon footprint reduction and economic payback have been carried out for all the proposed passive and active sustainability solutions. Passive low energy consumption solutions include orientation, compactness, green roofs, and facades.

Active solutions to optimise energy efficiency include:
- Trigeneration, which creates electricity, heating and cooling from a single energy source.
- The installation of photovoltaic panels on the roofs.
- Lighting dimming systems sensitive to levels of daylight.

Active solutions to reduce water consumption include:
- Absorption chillers on the roofs which will provide cold water.
- Dry toilets.
- Storage facilities for rainwater so that it can be recycled and used for irrigation.

The result is expected to bring exceptional green credentials to Palmas Altas. On completion, the carbon footprint of the development will be about 30% lower than typical Spanish offices.

The development is also expected to receive platinum accreditation from the Leadership in Energy and Environmental Design (LEED®) Green Building rating system, which is the highest accreditation available.

The development promises to be economically viable as well as sustainable – it is expected to keep to a tight budget of € 850 per m².

The platinum LEED accreditation was indeed awarded to Campus Palmas Altas, as well as other prices.[3]

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3   LEED, Leadership in Energy and Environmental Design. US Greenbuilding Council

From the website of Rogers, Stirk, Harbour & Partners:
Campus Palmas Altas, the new headquarters for Abengoa
in Seville, has been awarded first prize in the 2010 Prime
Property Awards as the best sustainable real estate project in
Europe.
Competing against 142 entries from 19 European countries,
the judges commented that the scheme is "a prime example
of sustainable architecture and technology."
The business park was completed in late 2009 and has
been certified LEED Platinum – the first project in Europe
to receive the highest LEED rating. Jury member Garrie
Renucci, partner at Gardiner & Theobald, said: "Deploying
renewable energy sources and innovative technologies in
Seville has led to an unusual yet exemplary building concept
in terms of energy efficiency that sets benchmarks and has
already inspired others."

17.   Are you connected?

The allure of a business dwelling like Campus Palmas Altas
is in sharp contrast with the unnoticeable characteristics of
the Brabant Woning, thus mentioned in one of the SILCS
documents. The holistic lifting of a disintegrated neigh-
bourhood sounds more heroic then retrofitting a church, a
single house or library.
But, whether one builds one house or a whole district, whether
refurbishing or retrofitting, the same principles go when it
comes to the major themes of SILCS: participation, financing,
organization and technologies. Besides that; in architecture
context and design are of major importance.
SILCS partners learned from each other through workshops
sometimes by presentations that spoke of the situation in a

country, the European continent or global, before zooming into the regional matters. Students were involved in the SILCS project in Noord Brabant as well as in Portsmouth. Lead partner CURe University made a cross-over with the POWER project TraCit and sent its students to Tallinn with the commission to participate in a design charette concerning local transport and urban development together with the Estonian.

Neither of the projects spoken of has come to an end yet, which is quite understandable considering the time urban development costs and the still unconventional goal to build according to ecological principles with regard to and in contact with the social impact a building or neighbourhood has on its inhabitants and arbitrary dwellers or purposeful tourists; Do they feel safe? Sound? Healthy? Is their environment stimulating and inspiring them to lead a happy and productive life connected to other people and to nature? In other words, the question is: Are you connected?

III.   Wired for the future

18.   Cooperation in competition

Seville is not the only Spanish city facing poor (in every sense of the word) dwellings at a magnificent town's corner. Malaga, Cadiz and Almeria suffer the same disease. Universities and technical schools in the region Andalucía teamed up as Solar Kit Andalucía team. Students work together to design and build a self-sufficient house, powered only by solar and with technologies implemented that will result in efficient use of resources. The house will join the competition Solar Decathlon to be held in Madrid next year. It will have to battle the ReVolt house of Delft University from the Nether-

lands among others. After the exhibition the Delft ReVolt house will be located in Rotterdam, city of trade and water.

19.   Are you networked?

We are at the point where the virtual world finally connects with the analogue world on multiple levels and creats opportunities that go way beyond imitation of reality. Already architects use ICT programmes that show a building's behaviour before the first stone marks the building lot. Already social media connect individuals that are geographically miles apart. But new applications are on the way; the Future Internet or the Internet of Things.

May 2011, The UK based *Future Internet Strategy Group*, issued a report on the impact Internet is going to have on our lives and environments and the business opportunities is sees for the UK. 'The report identifies between £ 50 billion and £ 100 billion annual benefit to the UK,' it states on Page iv. The Future Internet is defined as: 'An evolving convergent Internet of things and services that is available anywhere, anytime as part of an all-pervasive omnipresent socio-economic fabric, made up of converged services, shared data and an advanced wireless and fixed infrastructure linking people and machines to provide advanced services to business and citizens.' This Future Internet will change human behaviour, as in transport, service and decisionmaking. It will change the city and any built environment, due to different needs and habits of the people living there. It will grow efficiency. Increased contact between citizens, business and government is predicted. Public (mass) services will become available on personal (individual) demand. Imagine; data surfing the ether generated by machines as well as by persons. The fridge of the woman next door is talking to my washing machine and together they decide the most convenient (energy efficient, cheap)

time for doing the laundry… The report writes about 'access anywhere, anytime, creating an omnipresent fabric linking people and machine-to-machine communications'. It states: 'Many of these opportunities are embodied in the Smart City with its infrastructure of sensors and smart buildings that offer 24/7 access to services supported by shared data clouds, interacting with citizens and businesses in a concentrated environment. Barcelona, New Songdo City, Incheon and San Francisco lead the way in demonstrating how the Future Internet can be implemented today, providing the value case has been made and there is executive leadership to drive the new thinking and implementation.' Smart, sustainable cities enabling networked citizens to live, work, travel, shop, sport and play, connected to each other and their environment. Changed behaviour caused by changed opportunities due to new technologies and smart applications that combine the needs and interests of many.

The challenge will be: access for Everybody to prevent social exclusion of the not networked and create new Poligono Surs on the way.

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Essay V | Power To The People

Say you want a revolution
We better get on right away
Well you get on your feet
And out on the street

Singing power to the people
Power to the people
Power to the people
Power to the people, right on

(John Lennon)

Text: Frank van Empel

Contents

I.   State of Mind

Cognitive State of Mind	Affective State of Mind	Neuro-scientific State of Mind

1.   Revolutions in our minds

Revolutions do not only take place on the streets of unstable
countries in South America or Africa. They happen in the
minds of ordinary people too. From the Sixties until halfway
the Eighties of last century a so-called Cognitive Revolution
happened in the psychological perception of the human mind.
The human mind is a kind of computer, scientists stated those
days. A cold data processor, a machine without feelings.

At the end of the century emotions, feelings and intuitions
entered the mind, during a silent 'Affective Revolution'. They
blew up the image of our ordered minds that are supposed to
weigh the pros and cons of whatever against each other. This
was merely a passage to a third revolution in half a century.
Now it was the turn of the neuroscientists to hold the red flag.
They use super sensitive machines to scan our minds in order
to measure brain activity. As a result we have to deal with
controversial conclusions like: Man has no free will. The idea
that we control our behaviour with our thoughts is an illusion.
Our minds don't steer our bodies consciously. More than we
realize our behaviour is determined by factors beyond our
control.

Can they prove it? 'Well…yes'. For instance with this famous
experiment by Benjamin Libet (1985): the neuroscientist asks
a person to raise a finger at a self chosen moment and watch
a clock to time exactly when he or she notices the consciously
taken decision to move the finger. In the meantime the
researcher measures the brain activity. Conclusion: a half of

a second before someone reports the decision brain-activity already reached its peak.

Our behaviour is being reigned by fear and lust, by all kinds of impulsive feelings, intuitions, expectations, frustrations. You name it! We decide on the hoof, not behind a desk. Whenever we are confronted with a choice we immediately have a feeling about it, positive or negative. Go for it, because what really happens after this split second decision is that we start to reason towards a conclusion that has already been drawn. Motivated reasoning. If we follow neuro-scientology, we cannot but conclude that it doesn't make sense to just tell people what to do. There is a big chance they will not act upon it.

2. Juxtapositions[1]

Jane Jacobs, an American-Canadian writer and activist with primary interest in communities and urban planning, already stated in 1961: 'You can't make people use streets they have no reason to use. You can't make people watch streets they do not want to watch.' Jacobs' plea was a strong argument written in monologue about how to secure streets where the public space is unequivocally public and badly in need of eyes to secure safety. A government, any government that tries to convince or enforce people to fill up empty streets for the sake of security of the ones that live there or the strangers who don't know better, is doomed to fail. Jacobs: 'The safety of the street works best, most casually, and with least frequent taint of hostility or suspicion precisely where people are using and most enjoying the city streets voluntarily and are least conscious, normally, that they are policing.'[2]

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1 Juxtaposition is the placement of two things (usually abstract concepts, though it can refer to physical objects) near each other.
2 Jane Jacobs, The Death and Life of Great American Cities, Vintage Books Edition, December, 1992, p.36.

The basic requisite for such surveillance is a substantial quantity of stores, bars, restaurants and other public spaces sprinkled along the sidewalks. Moreover, there should be many different kinds of enterprises, to give people reasons for crisscrossing paths. There's more to say about this, but the message is clear: people don't want to be pushed around by policymakers and authorities to make them change their behaviour. They want freedom of choice. Public servants that want them to change habits and routines will have to be more clever.

The making of reality never is a linear process from a to z. As Herbert Butterfield, a British historian and philosopher of history, says (1965): 'History is full of accidents and conjunctures and curious juxtapositions of events and it demonstrates to us the complexity of human change and the unpredictable character of the ultimate consequences of any given act or decision of men.'[3] So, even if the government is smart and chooses for the subtle tactics of obliquity[4], the government cannot be sure of people's real behaviour. The only thing one can do is: trying to influence the context in which decisions are made. Try to influence the mood of people with inspiring fine arts, qualitative outstanding architecture, flowers and colours such as yellow and orange.

3 Herbert Butterfield, The Whig Interpretation of History, New York, 1965 p.p. 21/66.
4 Obliquity is the notion that complex goals are often best achieved indirect. For example, happiness is the product of fullfillment in work and private life, not the repetition of pleasurable actions, so happiness is not achieved by pursuing it. The most profitable companies are not the most dedicated to profit.

3.   Swamp

Now let us jump to the issue of human behaviour in relation to the use of energy. In order to improve policy interventions aimed at influencing the consumers' behaviour, the European Commission, under the Intelligent Energy for Europe program, at the end of 2006 decided to cofound the project BEHAVE at the end of 2006. The aim of this project was to draw lessons from an evaluation of 41 energy behaviour change programs from all over Europe, combine them with theoretical insights, provide an overview of best practices, and create guidelines to develop and implement successful policy interventions aimed at consumers. A quote from the final BEHAVE report, one year later, underlines what fifty years ago already had been noticed: 'Theory demonstrates that behaviour is a complex phenomenon. It is a product of factors both internal (attitudes, values, habits and personal norms) and external to the individual (fiscal and regulatory incentives, institutional constraints and social practices).'[5]

Sounds promising, you may think. But essential links are missing. Quote from one of the BEHAVE Work Packages: 'Literature does not explore the relationships between internal factors and external constraints in any depth'. In other words, there is no way to predict on how people will react to incentives. If we pull all of this together, we have to conclude that behaviour change is a very tricky subject. It feels like a swamp, devouring the policymaker when he least expects it. Recently public interest in global warming has been growing, making it relevant to use the momentum to act. Now is the time to bring CO_2-emissions down. And though the context

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5   BEHAVE, Evaluation of Energy Behavioral Change Programmes
    Intelligent Energy – Europe (IEE), Work Package 3, Evaluation of Projects
    and Best Practices, Final Draft Report, 13 December 2007, Summary, p.2.

seems to provide the right circumstances for change, it still won't be easy. There is no foundation in theory.

This is the point where POWER-project TrIsCo comes in. TrIsCo aims to:
- Enable different 'islands'[6] of communities (households, businesses and public bodies) to reduce their Carbon Dioxide (CO_2) emissions by changing their behaviour towards their use of resources;
- Embed sustainability (social, economic and environmental) into behaviour change drivers;
- Overcome barriers to implement low carbon communities.

II. TrIsCo-Findings

4. Picking Best Practices
One step beyond the BEHAVE project, the Transition Islands Communities project (TrIsCo) focuses on the exchange of good practice, training seminars, experience and expertise by multi-disciplinary teams across and cross border regions, in order to create 'Empowering CO2 Reduction' catalogues of instruments, initiatives or local authority action plans with quantifiable measuring tools for public bodies, commerce and the public to take action themselves and to be able to assess their own success. These catalogues can then be applied across Europe to achieve sustainable carbon reduction through behaviour change.

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6   The term 'island' refers to communities with distinct characteristics at different stages of engagement in the climate change agenda.

That sounds pretty instrumental, but it is up to the POWER Rangers to bridge the gap between policy and ordinary European energy consumers, taking into account new insights and the smell of new theories about behaviour change that come along. The POWER-Rangers from the Brabantse Milieufederatie – a federation of environmental pressure groups in the province of Noord-Brabant, the Netherlands – didn't spend too much time on literature, instead the BMF started to inform a multitude of ignorant people about six best practices selected with a little help from the Province:

1. The (national) climate street party competition (CSP) is all about energy saving. Inhabitants of different streets or neighbourhoods work together and compete with other streets on reducing the use of fossil fuels. The success depends on the activity and creativity of the people that participate. The aim of the CSP is to help neighbours to save as much energy as they can. The overarching goal is to make the multitude more conscious about energy saving in relation to CO_2-emissions and to stimulate people to take real action. If the Dutch POWER-Rangers would have studied literature they had found proof of how well chosen this best practice is. The influence of social norms on individual choices is incredibly large, though many will deny this. Literature tells us that people often don't know the real causes of their behaviour. Research by Nolan c.s. on energy consumption behaviour shows how oblivious people are of the true reasons of their own actions. Participants declare they save energy because of environmental reasons, costs and moral motives. What others do, how they behave is not of great influence, people state. Analyses of consumption patterns however show that the use of energy in the surrounding neighbourhood is the best indicator for individual

consumption. At some stage researchers tried to convince people of the benefits of energy efficiency, and what happened? The most effective argument for saving turned out to be information on energy consumption by neighbours.[7]

2. The 'Energy Café' concept is part of the Climate Street Party (CSP) competition 2009/2010. A concept that could work just as well as a stand-alone project. Energy Cafés offer people a chance to meet with a professional energy advisor to exchange knowledge on energy reduction and energy saving techniques, as well as find answers to questions they might have about energy issues.

3. The 'Farmer meets Neighbour' initiative enables farmers to cover the roofs of their stables with solar panels, paid by consumers who receive green vegetables, milk and fruit as a return on investment.

4. Like the Energy Café the 'Golden Star Municipalities' concept is part of the Climate Street Party competition 2009/2010. It provides local authorities with knowledge and tools to promote interaction between municipalities and citizens with respect to CO_2 reduction and saving energy.

5. The Night of the Night is the highlight of a campaign to raise awareness for the importance of darkness for the natural environment and for (un)necessary energy use.

6. Because of language and/or cultural barriers immigrants in the Netherlands are a difficult target group to reach by educational programs, communication and/or activities by government, or municipalities. The KlimaTeam project is an initiative of the Brabantse Milieufederatie (BMF) that reaches out to immigrants using a train-

7 Nolan, J.M., P.W. Schultz, R.B. Cialdini, N.J. Goldstein en V. Griskevicius (2008) 'Normative social influence is underdetected', Personality and social psychology bulletin 34, 7: 913-923.

the-trainer set up with trainers from within migrant communities. People with different cultural backgrounds are educated on energy efficiency issues. Then they are supposed to disseminate this knowledge to their own network and community.

The bottom up approach that is applied here fits the way the Environment Centre (tEC) in Southampton operates like a glove. tEC hosts a range of Community based activities like community and business road shows, training sessions for local authority staff, schools visits, environmental audits for businesses and a free phone consultant number. The road shows travel to supermarkets, shopping centres and all kinds of events covering insulation, energy saving measures, grants, smarter driving and renewable energy (http://www.environmentcentre.com/). It is all about raising awareness, building on the assumption that people can change their behaviour if they choose to, out of free will - voluntarily. People cannot be changed by others, or because other people think they have to. So, people have to be convinced of the value and benefit of behaviour change, or they have to be influenced in more sophisticated ways. In times of trouble and crisis people prefer style, not sloppiness, adventure, not conformity.

'WATCH!' the banner on tEC's website commands. 'Beautiful video about sustainable living on the Swedish island of Gotland, a product of tEC's TrIsCo project '. Like tEC and Noord-Brabant Gotland is a partner in the TrIsCo Project funded under POWER. Gotland is Sweden's biggest island. The inhabitants of this island are special. They have decided to become an ecologically sustainable society within the course of a generation. The message of this extremely slow movie is a message of a closed community where people

recycle everything and grow their own fruit, vegetables and kids. No imports. A wrong one in 2011, we need an open, dynamic society instead, where people don't spend their whole life at the same place, where authorities don't prescribe peoples' do's and don'ts.

All regions have at least one authority on their back; the Central Government. Some are small and powerless, others are just screaming, shouting, claiming and pretending. The UK government for instance recently stated that success in changing behaviour was based on strong enforcement of existing or new laws. 'To make it an effective intervention,' the regional correspondent of South East England puts top-down and bottom-up dynamics into perspective, 'the behaviour required by the legislation should be unambiguous, easy to be monitored, policed and enforced, be within the competence of the individual to comply, have a clear rationale understood by the public, have a severe and multi-faceted penalty for non-compliance; and have an associated high probability that non-compliance will be detected.' Conclusion: the UK-government is still living in the past. It is reliving the Cognitive Revolution.

Energy policy in Italy is a blend of top-down and bottom-up measures, the correspondent of Reggio Emilia reports. The main issues of the national energy policies are the high demand for energy and the dependence of the fossil fuels international market. To meet these challenges important strategies have been directed - before the Fukushima disaster!!! - towards the liberalization and the promotion of nuclear energy infrastructure. These strategies have been put in standby mode after the nuclear disaster in Japan. Within this national framework, there is enough room for regional initiatives. In the Emilia-Romagna Region a network of public

and private organizations called INFEA stimulates behaviour change through Environmental Education. On top of that 69 Centres for Environment & Sustainability Education (CEA) act as network nodes for the regional system. A new Regional Law (Regional Law N. 27 of 29/12/2009) supports the CEA actions and the INFEA network system launching projects and generating new Eco-Laboratory schools and training courses in order to build up new skills. Financial resources, expertise and facilities are provided in various ways to the INFEA actors by specific projects.

Moreover several development campaigns are launched during the last years which are recorded by and still living on specific web portals that are constantly updated: LIBERIAMO L'ARIA (Get Air to be free), ACQUA RISPARMIO VITALE (Water, a vital saving), In FORMA e FELICE con BIKE & GO (Fit & Happy with Bike & Go), CONSUMABILE - impariamo a stare al mondo (Able to consume –learn to live in the world).

The interactive mode of communication with citizens has been and will be increased with the adoption of the newest Web-technology for the ER Region portal. The potential of this tool has been enlarged by digital infrastructure in the ER Region. A higher goal is to improve institutions and citizens' attitude towards self-responsibility with respect to collective learning through the spreading and the sharing of information.

The roadmap has much more to offer, in Estonia and in Andalucia. However we refrain from another summing up of bottom-up initiatives, fitting into a larger picture. Such would kill curiosity, enthusiasm, motivation and creativity in the minds of bystanders to come up with some bright ideas and

analyses themselves. To draw the circle round, we finish where we started: in Noord-Brabant, the region that skipped theory and gave the floor to practice. Some of the lessons learned bring coherence in the storyline. A modern network society is not served by bottom up processes alone. There has to be some coordination at a higher level.

5.   Lessons Learned

Behaviour change starts with participation from below, at the community level where people communicate with each other. Being 'on speaking terms' is an important prerequisite for people to take responsibility and initiate common actions to improve their own living conditions (the concept of 'do-democracy' has been identified in this respect and is presently explored and further developed by the Tilburg School of Politics and Public Administration).

Schools that offer inspiration are able to nourish behaviour change. Being at school and learning should be fun, because this is where young people start to formulate their ambitions for life. Schools and teachers help them to generate the passion and to grow attitudes that are needed to achieve sustainable ambitions.

Behaviour change requires a new type of government. Public administration should learn to do less and achieve more by bringing different groups of people together. Its' specific role can be identified as directing more effective social interactions that are needed to establish a more sustainable society. The new type of government is based on a governance model in which the 'public cause' has become the 'common cause' of citizens, communities, local entrepreneurs, and government institutions alike.

That is why behaviour change needs to be learned by example and 'good practices'. There is a need for better understanding the mechanisms underlying productive interaction patterns that are needed to trigger behaviour change.

Behaviour change also requires us to learn to communicate together in a better way. Learning to speak a common language can be regarded as the fundament for 'the art of living together'.

6.   Preliminary Conclusions by BMF

BMF: 'The dominant view among policymakers still is that by nature people make rational decisions. It is expected that the right decisions will be made, once there is an equal playing field, a market mechanism in place, and sufficient information available. Policy efforts often aim at providing the 'calculating citizen' with enough transparency, information, and publicity, as well as exposing him or her to a fair amount of competition.'

Comment: some people either have been sleeping for 25 years, or don't like to admit at being wrong.

'More and more evidence points towards the direction that human choices are far from rational,' the BMF acknowledges. 'Emotions and social relations play an important part.' However, the BMF does not adopt the storyline of this essay. 'In spite of this,' the BMF continues, 'behaviour remains predictable to a certain extend and can be influenced, directed, or manipulated, even without the classical government ingredients of financial incentives or the regulatory framework of do's and don'ts. The desired behaviour might be triggered by slightly altering the context and by supporting social innovations (based on the explorative study "The human decision maker" by the WRR – Dutch

Scientific Council for Government Policy, report nr 22, 2009, http://www.wrr.nl/content.jsp?objectid=4794).'

Human nature is diverse. It is also mutable, for better or worse. And it is influenced not just by one-to-one interactions, but by the multitudinous society in which each of us is embedded.[8] (…) 'A push and a pull; a tension between conflicting desires. This is all it takes to tip our social behaviour into complex and often unpredictable patterns, dictated by influences beyond our immediate experience or our ability to control.'[9] We can try to detect patterns in complex structures like human behaviour and react on that, or we can learn to trust our feelings, our intuition and our mind's eye and make our own choice impulsively.

III.   The Mind's Eye

7.   Narratives spiced with images

Psychologist Ian Robertson advocates using imagery and not words to get what we need and want. 'Western societies,' Robertson argues, 'have largely lost the ability to think in images rather than words.' With that ability we've lost important clues about why we are doing what we are doing. The right half of our brain has a limited capacity to deal with words, research reveals. It can 'know' things, but it is unable to 'say' them. The famous scientist Albert Einstein was a lucky guy. He went to a school that taught children to think visual, in images. At the age of sixteen he used imagery to carry out a breakthrough 'thought-experiment' that laid the ground for the splitting of the atom. He famously declared: 'Words or

8 Philip Ball, critical mass, how one thing leads to another, Arrow books, 2004, p. 537.
9 Idem p 588.

language...do not seem to play any role in my mechanism of thought...my elements of thought are images.' Words however are not useless. They bind images together. Robertson: 'Our memories are stories studded with images that illustrate the narrative. Without the words we are left with isolated visions – often emotional, colourful and vivid, but nevertheless as fragmented and confusing as dreams if they are starved of the narrative power of language.'[10]

We don't remember much of our early childhood because toddlers don't know how to use words and create stories for themselves. One who can create stories for oneself, can construct them for others too. And the ones that know how to spice these narratives effectively with images can even manipulate people. That is what Al Gore did in 'An Inconvenient Truth' and in 'Our Choice'. This is true as well for populists who gain votes on dissatisfaction or insecurity in society.

10 Ian Robertson, the mind's eye, Bantam Books, 2003, p 12-37.

Essay VI | JES !!!
Naar een Joint Effort Society

Frank van Empel

Inhoud

'Do not worry if you have built your castles in the air. They are where they should be. Now put the foundations under them.
(Henry David Thoreau)

Meer dan een eeuw was de overheid een soort EHBO-post voor collectieve vraagstukken. Of het nou ging om zure regen of ongelijke inkomensverdeling, het was niet óns maar hún probleem. Dit is rap aan het veranderen. Top-down hiërarchieën verliezen aan kracht en de samenleving is in transitie. Nieuwe sturingsmodellen verbreiden zich als wortelstokken. Het zijn varianten van lokaal samen issues oplossen met en door degenen die ermee in aanraking komen. We noemen dit een Joint Effort Society, waarin gelijke partners samen beslissingen nemen en deze uitvoeren.

1.   Guerilla Government

Eén van de meest ingrijpende veranderingen in de vorige eeuw was de snelle groei van de publieke sector. Roomde de overheid in 1900 nog maar 8% van het gezamenlijk verdiende inkomen van alle Nederlanders (het nationale inkomen) af in de vorm van belastingen en sociale premies, in 1977 was dat aandeel al opgelopen tot 52%.[1] In de daarop volgende decennia groeide de collectieve sector onverminderd door, zij het in een iets rustiger tempo: dat van de economie als geheel.[2] Elders in Europa deed zich dezelfde ontwikkeling voor. De delen van de economie die niet door de overheid worden gerund, maar door huishoudens, bedrijven, of non profit organisaties, namen relatief in omvang af. Menig particulier initiatief smoort in regels, voorschriften, procedures en een

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1   J. van den Doel, De economische théorie van la démocratie, Lezing Universiteitsdag, Universiteit van Amsterdam, 22 oktober 1977.
2   In 2009 bedroegen de totale collectieve uitgaven in procenten van het bruto binnenlands product 51,1%, 4,8%-punt meer dan het jaar daarvoor, als gevolg van de economische crisis.

berg formuleren. In Rotterdam denken bestuurders daar iets op gevonden te hebben: Guerrilla Government. Kleine, alerte, relatief zelfstandige eenheden die 'licht en snel' kunnen reizen, die een duidelijk omschreven taak en doel hebben, met een direct mandaat van de verantwoordelijke bestuurder, wat het mogelijk maakt om in 'het veld' tamelijk vrij te opereren.

2.   We betalen niet voor niets belasting

Hoewel overheden en kleine groepen in toenemende mate experimenteren met nieuwe sturingsvormen, zoals bovengenoemd Guerilla Government, is participatie over de grenzen van de traditionele rolverdeling heen nog niet aan allen besteed. Deze traditionelen laten alles gelaten over zich heen komen. Als een zure appel waar je even doorheen moet bijten. Ze zijn naar de overheid gaan staan. Zodra zich een vraagstuk of probleem voordoet dat meerdere mensen of organisaties raakt en geld kost, wordt naar de diverse overheden gewezen. 'Dat is jullie zaak. Wij betalen immers niet voor niets belasting en sociale premies.' Met als gevolg dat de overheid opgescheept zit met allerlei vraagstukken en problemen die zij onmogelijk in haar eentje kan oplossen. Klimaatverandering bijvoorbeeld. Nederland heeft zichzelf opgelegd om in de 'Kyoto-periode' van 2008 tot en met 2012 gemiddeld maximaal 200 Mton CO_2-equivalenten per jaar uit te stoten. Dat doel wordt, dankzij de economische crisis, waarschijnlijk gehaald. In sommige situaties heeft de overheid echter extra emissierechten nodig. Dit is het geval als de economie zich sneller herstelt dan verwacht of als de opbrengsten van aangekochte buitenlandse emissierechten tegenvallen.

3.   De oude weg van boven naar beneden

De wijze waarop het Kyoto-Protocol tot stand kwam en de uitvoering zijn nog van de oude stempel. Deskundigen berekenen met hoeveel de uitstoot van CO_2 wereldwijd moet worden gereduceerd om de klimaatverandering te voorkomen, of in elk geval te temperen. Die taakstelling wordt vervolgens versleuteld over landen. Dat gebeurt in diverse onderhandelingsrondes. Als een land akkoord gaat met een norm, dan is het vervolgens aan de regering van dat land om een effectief instrumentarium te kiezen en desnoods wettelijk op te leggen. Welke weg ook gekozen wordt, hij loopt van boven naar beneden. Top-down.

4.   Top en bodem komen razendsnel dichter bij elkaar

But the times, they are changing. De afgelopen paar jaren is de samenleving veel complexer geworden. Technologische vooruitgang, met name op het vlak van informatie en communicatie, alsmede de vorming van sociale netwerken (facebook, twitter, LinkedIn) en economische netwerken (clusters), plus de verspreiding van kennis, kunde, ervaring, inzicht en ideeën via deze netwerken, hebben de slagkracht van de mensen op de werkvloer vergroot en het vermogen van de top om op eigen kracht te varen, drastisch verkleind. Top en bodem komen razendsnel dichter bij elkaar. De verticale hiërarchie boet in aan kracht en horizontale samenwerkingsverbanden (partnerships) zijn in opkomst.

5.   Centrale commandoposten imploderen

Een bekend feit. Naarmate een samenleving complexer wordt en moeilijker vanuit één centrale commandopost aan te sturen is, sneuvelen de systemen die hierop zijn gebaseerd spontaan. Ze exploderen niet. Ze imploderen. Ze storten in onder druk

van de naar méér en béter strevende massa van vrijheidslie-
vende, goed opgeleide en geïnformeerde burgers die, eenmaal
in beweging, niet meer te stoppen is. Voorbeelden: de Franse
Revolutie (14 juli 1789), de val van de Muur (9 november
1989), de Tunesische Revolutie (14 januari 2011), Egypte,
Libië… In het bedrijfsleven vonden soortgelijke revoluties
plaats als reactie op boekhoudschandalen en zelfverrijking
door topmanagers.

6.   De menigte is hard op weg om het initiatief terug te pakken

Het vertrouwen in top-down hiërarchieën is dus flink aan
erosie onderhevig. Mensen en organisaties rekenen er minder
en minder op dat het allemaal wel in orde komt als ze een
overheid of topmensen uit het bedrijfsleven opzadelen met
een vraagstuk of probleem. De menigte is hard op weg om
het initiatief terug te pakken. Daarmee is het niet meer het
vraagstuk en het probleem van de overheid, maar wordt het
ons vraagstuk en ons probleem, waarbij 'ons' staat voor de
mensen aan de basis van de democratie. Een democratie die
anders ingekleurd wordt dan de afgelopen 200 jaar, sinds de
Franse Revolutie, het geval is geweest. Democratie is niet meer
zozeer een systeem of een manier om besluiten te nemen. Het
is A Way of Life, een manier van leven die volledig tegenge-
steld is aan de Way of Life die tirannen en dictators voor hun
'onderdanen' in petto hebben.

7.   De grenzen van de macht

Verzet tegen de bemoeizucht van de rijksoverheid steekt van
tijd tot tijd de kop op, als onweer na een zwoele zomerdag. Er
zijn ook denkers die zich principieel verzetten. John Stuart
Mill bijvoorbeeld. Die begint zijn filosofische meesterwerk On
Liberty in 1859 met 'een vraag die zelden wordt gesteld en

in algemene termen nauwelijks wordt bediscussieerd' (aldus Mill): 'Waar liggen de grenzen van de macht die legitiem door de samenleving mag worden uitgeoefend over het individu?' Hij geeft zelf het antwoord: 'De enige reden waarom men, tegen zijn zin, rechtmatig macht kan uitoefenen over enig lid van een beschaafde samenleving, is de zorg dat anderen geen schade wordt toegebracht. Iemands eigen welzijn, hetzij fysiek, hetzij moreel, is geen voldoende rechtsgrond.'[3]

8. Een serie individuele acties door gewone mensen

In 1978 verspreidde de Tsjechische schrijver Václav Havel een essay over wat gewone mensen kunnen bereiken als ze massaal in opstand komen tegen de leugens van een repressieve regering. 'Power of the powerless' noemde hij die onvermoede kracht. Elf jaar later, in november 1989, was hij zelf de grote gangmaker van de Fluwelen Revolutie. Met zijn woorden, op schrift en in de lucht, toonde Havel aan dat ook hij de Kracht van de Machtlozen in zich had en wist te gebruiken. Het 'bastion van leugens' stortte in, het IJzeren Gordijn ging open. 'Vandaag de dag,' schrijft Havel in het voorwoord van Small Acts of Resistance, 'leven over de hele wereld miljoenen mensen in omstandigheden waar je niet van vermoedt dat er ooit iets in zal veranderen. Maar die mensen moeten eens terugdenken aan de opstanden die in 1989 in heel Oost-Europa plaatsvonden en die het resultaat waren van een serie individuele acties door gewone mensen die, bij elkaar opgeteld, verandering onvermijdelijk maakte.'

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3   J.S. Mill, On Liberty,1859, Introductory, blz. 45.

9. Samenwerking tussen EU regio's

De Europese Unie is – onder andere - een voorbeeld van
een overheid die zich gedraagt als facilitator en stimulator.
Daarnaast worden beslissingen veelal met consent genomen.
Dat houdt zoveel in als: de Europese Commissie neemt
een besluit en als niemand zich roert wordt het uitgevoerd.
Simpelweg omdat de Unie te groot is om over alles te
vergaderen en te stemmen.
Verder kiest de EU ervoor om ontwikkelingen van onder
af en samenwerking tussen regio's te stimuleren. Daarvoor
zijn diverse programma's. POWER, met als doel een low
carbon economy was een dergelijk programma dat onlangs is
afgesloten.

In het kader van POWER vond de afgelopen drie jaren
(september 2008 – december 2011) een negental experimenten
plaats. Noord Brabant ging op ontdekkingstocht samen met
zes andere Europese regio's, gefinancierd door INTERREG
IVC. Het doel: delen van ervaringen met betrekking tot het
realiseren van een low carbon economy, een economie met
per saldo weinig verbruik van fossiele brandstoffen en relatief
weinig CO_2-uitstoot. Noord-Brabant deed mee aan vijf van
de negen projecten: TIMBER (thema: hernieuwbare energie),
ITACA (duurzaam transport), E-MOB (elektrisch vervoer),
SILCS (eco-innovatie en milieutechnologie) en TRISCO
(gedragsverandering). Elke regio heeft als onderdeel van de
evaluatie een roadmap gemaakt met de route die men neemt
naar het eindpunt: de low carbon economy. De genoemde
projecten komen aan de orde in een viertal essays – Power
for Wood, Beyond mere Mobility, Power to the People
en Magnitude & Murder. Een vijfde essay – Steering in a
World of Uncertainty - gaat over het sturen in een wereld vol

onzekerheid, complexiteit en chaos. Dit zesde essay verbindt POWER met de Agenda voor Brabant.

10.   Keuzevrijheid en Governance

Achteraf bezien ging het POWER Programme over de vaak verwaarloosde P van People. Om precies te zijn over het vermogen tot zelforganisatie en zelfsturing. Mensen die zich niet meer laten vertegenwoordigen door de eerste de beste schreeuwlelijk. Ze willen zelf meebeslissen. Uit deze onderbuikgevoelens rijst een nieuw sturingsmodel op, dat is te typeren als een mix van keuzevrijheid en governance. Governance in de betekenis van: het vermogen van stakeholders (direct betrokkenen) om te zoeken naar gezamenlijk geaccepteerde oplossingen voor problemen of vraagstukken en tevens het commitment om er ook samen voor te zorgen dat de oplossingen worden uitgevoerd. In dat licht moeten ook de regionale, Brabantse experimenten met sturing van de afgelopen jaren worden bezien: als pogingen om vraagstukken en problemen die lange tijd naar de overheid werden geschoven, met alle stakeholders samen op te lossen. Naar bevind van zaken, gebruik makend van bestaande concepten of nieuwe bedenkend, hoe dan ook. Maar wel samen, want het is óns probleem. Onze zaak. Mensen gebruiken het woord 'ons' voor een vertrouwde groep mensen: familie, streekgenoten, Brabanders. Uiteindelijk moet het iets persoonlijks worden. 'Mijn probleem, waar ík actie op moet nemen. Als deel van een groter geheel kun je je verbergen achter anderen, je kunt problemen afwentelen op anderen. Dat kun je niet als je hoofdelijk aansprakelijk bent. Dat geldt met name voor veel ondernemers. Jarenlang hebben zij zich schuil gehouden achter façades als 'Maatschappelijk Verantwoord Ondernemen' en 'Corporate Social Responsibility'. Dikke woorden voor iets wat in werkelijkheid een schaamlapje is.

11. De Agenda van Brabant

Na POWER is het 'ieder voor zich', maar wel met hetzelfde doel voor ogen, dezelfde verbreding en verdieping door POWER in het achterhoofd en, in het onderhavige geval, passend binnen de Agenda van Brabant. Die Agenda sluit goed aan bij het voorgaande en de overige essays, zo blijkt uit het volgende citaat:

'In de huidige netwerksamenleving kunnen overheden complexe (maatschappelijke) vraagstukken vrijwel nooit zelfstandig oplossen. Dat kan alleen in partnerschappen.'

(Agenda van Brabant, blz. 6)

Het basisprincipe is simpel en wordt her en der al toegepast. Buiten Noord Brabant laat bijvoorbeeld Rotterdam zien dat de noodzaak tot verandering door gemeente, havenbedrijf, petrochemische industrie, kennisinstituten en burgers gezamenlijk ervaren en opgepakt wordt. In dat opzicht is Rotterdam een interessante casus voor Brabant.

'Rotterdam kent een traditie om problemen samen aan te pakken: burgers, bedrijven, overheden en kennisinstellingen,' aldus wethouder duurzaamheid Alexandra van Huffelen in het Voorwoord van het jaarverslag van het Rotterdam Climate Initiative (RCI) over 2010. 'In de jaren zeventig werd de vervuiling van de Maas aangepakt. Die is nu zo schoon dat erin gezwommen kan worden. En zo pakken we nu de klimaatverandering aan. Ik ben verrast door het initiatief dat door velen wordt getoond: zeer betrokken bedrijven, ambtenaren en burgers. In het RCI komen die partijen allen samen.'

Van Huffelen: 'Een trend is dat bedrijven op dit moment harder lopen dan overheden. Binnen het RCI maken we bijvoorbeeld afspraken met Havenbedrijf en Deltalinqs (werkgeversorganisatie, FVE) over het terugdringen van de CO_2-uitstoot.

Bedrijven doen aan duurzaamheid omdat ze een maatschap-
pelijke verantwoordelijkheid voelen, maar ook omdat het geld
bespaart en omdat ze er nieuwe economische kansen in zien.
Een betere motivatie bestaat in mijn ogen niet en zo versterkt
de klimaataanpak de economische positie van Rotterdam.'

12.   De trend: naar een bio-based economy

Grote economische depressies als die in 2008/2009 repre-
senteren problemen, maar ook kansen om de economie en de
samenleving opnieuw op te starten en economische groei te
genereren op geheel nieuwe terreinen. In de sfeer van 'schone
technologieën' bijvoorbeeld. We gaan met z'n allen van een
carbon based economy naar een bio-based economy. In
dergelijke toekomstgerichte delen van de economie worden nu
al rendementen van 5-13% per jaar gemaakt. En het potentieel
is enorm. Investeringen in de nieuwe economie leiden tot meer
werkgelegenheid en inkomen.

13.   Triple Helix

Het potentieel van de regionale vernieuwde economie kan
het beste geëxploiteerd worden door partijen die met elkaar
samenwerken, elkaar versterken, gezamenlijk vermarkten
etc. Dat betekent: clusters completeren, aanvullende kennis-
centra oprichten, koppeling van kennisinstellingen aan R&D
faciliteiten van bedrijven, cruciale stakeholders betrekken,
eenduidige lobby, bieden van locaties etc. De afgelopen jaren
is gebleken dat dit niet vanzelf gaat. Hier is een instrument
voor nodig, dat deze meerwaarde organiseert, om een geheel
te creëren dat meer is dan de som der delen.
Dat vergt een tripartiete construct. Er wordt gewerkt vanuit de
behoefte van bedrijven en kennisinstellingen, met een overheid
in een facilitaire rol. Daarnaast kan de overheid optreden als
launching customer en staat zij aan de lat voor het invullen

van een aantal randvoorwaarden in het publieke domein. Dit tripartiete instrument (triple helix) is naar zijn aard eigendom van de bedrijven, kennisinstellingen en publieke organen, en met een rolverdeling zoals hiervoor geschetst.

14.   Joint Effort Energievoorziening

Een eerste aanzet tot een dergelijke helix is in Noord Brabant gemaakt door ondermeer POWER project TIMBER, waarin Stockholm, Cadiz, Krakow, Kent en Boxtel samen verkenden hoe – op economisch verantwoorde wijze – bio-energie op te wekken uit houtige massa. Meer over TIMBER is te lezen in het essay Power for Wood. De genoemde EU regio's hebben een vervolg subsidieaanvraag ingediend bij het Europees Programma Intelligent Energy Europe (IEE) onder de naam Repco en de Duitse Philips universiteit heeft zich bij hen gevoegd. Doel: het concreet maken van de uitkomsten van de verkenning die POWER was en een regionale markt creëren voor hernieuwbare energie. Producenten coöperaties en coöperatieve consumenten verenigingen staan aan de basis van een Joint Effort Energie voorziening, luidt de gedachte. Hiermee komt een verbinding tot stand met de Agenda van Brabant. Drie kerntaken van de Agenda - Sociale Veerkracht, Economische Vitaliteit en Duurzame Energie – moeten door Repco in praktijk gebracht worden door lokale samenwerking en interregionale kennisuitwisseling. Het spel is om dicht bij huis hernieuwbare energie op te wekken, het landschap in stand te houden met de opbrengst van afvalhout en andere biomassa en banen te creëren. Er ontstaat bovendien een lokale infrastructuur die de weg naar een lokale biobased economy plaveit, is de gedachte. Een gedachte die past bij de trend beschreven in dit essay en die de transitie is naar nieuwe vormen van sturen. Allemaal varianten van zelforganisatie die zich als wortelstokken verbreiden.

15.   Joint Effort Society vervangt oude structuren

Fokker ging failliet, maar de expertise van het vliegtuigonderhoud bleef. Voormalige Fokker medewerkers begonnen voor zichzelf en vormden met elkaar in West-Brabant Maintenance Valley. De Amerikaanse farmacie gigant Merck sloot z'n vestiging MSD (het vroegere Organon) in Oss en liet de mensen achter. Die vormen nu met elkaar een Pharma cluster. Het kleine DAFje met het slimme pookje behoort tot het industrieel erfgoed, maar op de as van de vergane glorie ontstond rond Eindhoven een Automotive cluster. Essent werd verkocht, maar in 7 gemeenten, met Boxtel als episch centrum rijzen nieuwe PNEMMETJES uit de grond. Vindt u ook dat de vroegere kredietcoöperatie log en star is geworden en als twee druppels water lijkt op die andere financiële reuzen voor wie een klant een nummer is? Benader een aantal gelijkgezinden en richt in een joint effort een nieuwe coöperatieve bank op die u als klant en als mens behandelt.

POWER to the POWERLESS noemt Havel dat. De overkapping duiden wij aan als Joint Effort Society. Een samenleving waar samen aan iets nieuws werken (innovatie) gaat boven elkaar kapot concurreren, waar small synoniem is voor beautiful en waar ondernemers uit zichzelf het milieu meenemen in hun besluitvorming, zoals consumenten dat ook doen bij het maken van keuzes. Zo groeit van onderen af een beweging van milieubewuste burgers die op natuurlijke wijze bijdraagt aan een vredelievend, welvarend, hulpvaardig en gastvrij groter geheel. Het maakt de mens weer één.

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