

# The Merger of Interests 2.0

THE STORY BEHIND A PERSPECTIVE SHIFT



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## Introduction

During the summer holidays in 2012 I read the book 'Mindfield' by Danish neurologist and science journalist Lone Frank. I was arrested by the following sentence: "Every time someone – male or female – saw a product which they genuinely found to be attractive, the blood flowed to a small area at the front of the cerebral cortex. The medial prefrontal cortex lit up on the photo like a flame."<sup>1</sup> These words hit me like a sledgehammer. That's because all of a sudden I had found what I had been seeking all these years in my work as a sustainable building specialist. I also finally had an insight into the contours of the answer to a question which had occupied me and many of my scientific colleagues for some time. Namely: how can I actually prove what I had so positively asserted in my inaugural lecture in 2009?<sup>2</sup> What is the scientific justification of what I have taken over time to calling 'The Merger of Interests Perspective'?

I realized when reading Frank's words that what has occupied me now for more than twenty-five years, is this: will it ever be possible on a large scale to get people's medial prefrontal cortexes to light up if they see sustainable building materials or measures, experience services, or think about them? In my dissertation of thirteen years ago I talked about 'enhancing the diffusion of environmental innovations in housing'. But that only partially covers the connotations of my quest. What it was and is about for me is: 'How do you create a desire for sustainability measures in the built environment?' Or as I now know: 'How do you achieve an illuminated medial prefrontal cortex?'

Thinking about this, I did in fact realize immediately that my many years of questing had in fact yielded a great deal. In my Nyenrode inaugural lecture four years ago, entitled '*The Merger of Interests – on sustainability and benefits in the construction sector*', I described what I knew about it at that time. To a considerable extent I drew on the knowledge I had acquired over the years. However I had not previously considered that personal history is built up from many small pieces of knowledge which you could well call scientific to a considerable extent. Knowledge based on case studies, knowledge based on scientific literature, knowledge which scientists had shared with me... The proof of the scientific value of the Merger of Interests Perspective does not need to be provided, because it's

- 1 Frank, L. (2009). *Mindfield: How Brain Science is Changing Our World*, Oneworld Publications (translation based on the Dutch edition of the publication).
- 2 Hal, A. van (2009). *The Merger of Interests, on sustainability and benefits in the construction sector*. Breukelen, Nyenrode Business Universiteit. Can be downloaded from: [www.nyenrode.nl/bio/Documents/Hal-Anke-van%20doc%20intreerede.pdf](http://www.nyenrode.nl/bio/Documents/Hal-Anke-van%20doc%20intreerede.pdf) (second part is in English).

already there, as I confirmed with Lone Frank's book in my hand. It simply still has to be written down.

And that's why there is now a second publication about the Merger of Interests Perspective. It consists of three parts. The first describes the basis of the perspective, proceeding from my personal history. The second part describes the perspective in its current form. That's because a lot has happened between 2009 and now. What I described in my inaugural lecture in 2009 has evolved. These newest insights are included in both sections I and II. Finally the third section illustrates the practical value of the perspective using practical examples.

When I began immersing myself twenty-five years ago in what we now call sustainable building, the global problem of environmental pollution was at the heart of what I was doing. I believed at the time that resolution of this problem lay mainly in the combination of technical solutions and having sufficient financial clout. If I had to encapsulate the evolution which has occurred in one sentence in this publication, what it comes down to is that my focus has shifted from wide (the world) to narrow (a specific location and situation), and from a focus on technology and money to a focus on people. For me, sustainable building is now mainly about people. About meeting the interests of people. The people of here and now, and of there and later.

I acquired this insight partly thanks to people around me. The many people with whom I have been able to work, and with whom I still work, and in one case with whom I have lived. Apart from an update and scientific justification for the Merger of Interests Perspective, this publication has also become the story of (parts of) a quarter of a century of sustainable building history in the Netherlands, and its players. The summary of involved parties is of course not complete, but as a generality it is the case that what the people of then did and discovered, also meets the interests of people of today and the future.

*Technology and money is important in sustainable building, but ultimately it is mainly about people.*

*Both this and the previous publication about 'The Merger of Interests' could not have come about without the support of Ton Hillen, Robert Koolen and many others in Heijmans NV who continued to believe in the value of the knowledge I champion with my Nyenrode team, even in a time of major economic crisis. Their ongoing financial sponsorship of my Nyenrode chair made it possible for us to spend sufficient time on evolving theory and expressing our views of the profession. Our gratitude is boundless!*

## I. THE BASIS: A PERSONAL HISTORY

*In this part of the publication I describe the underlying elements of the Merger of Interests Perspective based on my personal history.*

### **Home is where the heart is**

I was still in primary school when my parents decided to buy a piece of land to build their dream house, in a still-to-be-developed suburb of the municipality in which we lived. Right from the start I was encouraged to participate in realizing that dream. I could imagine just what my ideal bedroom might look like (with cozy nooks and different levels), and where possible I was allowed to work on it. Through it all I kept a logbook of the building work, and took photos of the advancing realization of 'our' new home.

I still remember my father's elation when he first returned from the architect bearing plans. And how he tried to show me that what was on paper there was exactly what I had described: a bedroom under the sloping roof, with an L-shape and different levels. But I just couldn't see it at the time, the connection between my description and the drawing filled with figures and lines. The further the building progressed however, the more I began to understand it. And I became fascinated.

In an environment which was still occupied by cattle in my first photos, our house began to take shape steadily, together with many other houses, streets, watercourses and playing fields. We moved in, and the place became steadily more important. Right through my secondary school years our home was the place I felt best. I drew a lesson from this living environment, which although it gradually receded somewhat into the background, has always remained central to my work. This was:

- *The built environment is a place packed with emotions. Whether it's a house, a place of work or an outdoor area: to a considerable extent the built environment determines whether you feel fine and secure.*

I decided to become an architect on the basis of this conclusion, and to study Architecture in Delft. I wanted to create houses, neighborhoods and suburbs where people could feel fine and secure. But within a year that desire had turned into a disappointment. I didn't seem to be able to share my fascination with anyone else in the Architecture faculty. For most of my fellow students and teachers, designing the built environment appeared to involve mainly the technical elucidation of attractive aesthetics, or often designing very striking buildings.



I know now that I did many of them an injustice. But because there was little discussion of the impact of all these plans on people, I had the overwhelming impression that I stood alone in my search for 'fine' and 'secure'. So I decided to seek another line of study.

It was just at that time that I met Kees Duijvestein. He offered, during what I believed would be one of my final few months in Architecture, a professional course in 'energy-efficient housing designs'. This was a course about the type of homes where my heart still lay, with a higher aspiration than simply architecturally-proficient design. It was also a theme with which I was extremely familiar.

That's because in my youth, my father had been fascinated by the report from the Club of Rome called *Limits to Growth*.<sup>3</sup> This original report, written by Dennis Meadows of MIT and published in 1972, led many people to a totally new vision of the impact of our human dealings. It was an environmental effect report with a huge impact worldwide. My father's fascination led to him deciding both at home and in his work for Rotterdam's energy utility, to make saving energy an important theme. That put him at the very brink of a whole variety of energy experiments in the Rotterdam area. And so as an indirect consequence of this, I opted for Kees Duijvestein's university course.

This would have significant consequences. That's because in addition to his work with Delft's University of Technology, he also had his own consultancy: 'Milieukundig Onderzoek en OntwerpBuro BOOM' or literally translated, BOOM Environmental Research and Design Agency. And it needed a writer. At the time, alongside my studies I was working as a journalist for the student weekly paper Delta, where I had also undergone my journalistic training. So I went to work for Kees. There I became familiar with all aspects of sustainable building before the term existed, and I developed a basic knowledge of the subject which has always stood me in good stead. Ultimately it was because of this that I remained with Architecture, where I graduated with Kees in 1989. My graduation work was called HyperCoEn – a computer program for the Apple (HYPERcard) intended to familiarize architects quickly and easily with both ENERGY saving and living Comfort. I had in fact decided I no longer wanted to be an architect, but that I wanted to assist architects to create environmentally-friendly, good and secure designs.

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3 Republished as: Meadows, D. (2004). *Limits to Growth: the 30-year update*. Chelsea Green Publishing Company.

After my studies I rendered this assistance through my job with Delft municipality's environmental department. I broadened my scope from architects to all the parties within construction, and I was very happy with my supportive role in the *EcoDus* housing project (an acronym from ecological construction on the street called Van der Dussenweg). Finally I really could contribute to the creation of fine and secure homes – that were also as environmentally responsible as it was possible to be at that time, within the usual financial strictures.

As a building team we worked closely with the people interested in buying a home in this neighborhood. So they got to know each other long before any definitive purchase, and built up a close link. They jointly bought environmentally-friendly products and organized a vegetable-garden event. For a long time thereafter the difference in atmosphere was apparent in the neighborhood, between the cozy and more cohesive 'buyers' group' and the individual 'rental group' where people were allocated a home soon after completion.

In this period I learned a number of fundamental lessons which have always remained a great influence on me and on my work:

- *By cooperating you can achieve a great deal.*
- *Sustainability as a theme can contribute to creating a 'we' feeling in a neighborhood.*
- *Ignoring residents' wishes can have major negative consequences.*

The final lesson arose from the fact that as a building team, without highlighting the consequences for the residents, we had decided to create fewer parking bays than normal – with the only justification being the environmental objective of 'reducing vehicle use'. Serious parking problems and irritation were the result.

### **Sustainability as a quality aspect**

It was the start of the 1990s. As a result of the report entitled *Our Common Future* by the World Commission on Environment and Development<sup>4</sup> ('the Brundtland Committee') the concept of 'sustainability' began slowly to be accepted as an equivalent to, among other things, 'environmentally friendly'. That's because the committee launched the concept *sustainable*

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4 World Commission on Environment and Development (1987). *Our Common Future*. Oxford University Press.

*development* and placed the emphasis in it on both the interests of people here and now, and those of people in the future:

*“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”*

After having worked for the Delft authorities for four years, I had moved back to BOOM and Kees Duijvestein – this time as Senior Advisor – and I was given the opportunity to be environmental advisor for a high-profile housing project in Amsterdam on the former site of the municipal waterworks. This project, which had come about at the initiative of those living in the area, should be not only vehicle-free and highly environmentally-friendly, but above all should demonstrate that building sustainably could also be extremely beautiful.

This is because at that time there was a belief that sustainable building might indeed be good for the environment, but that it ‘didn’t look great’. Well-known designers led by one of the foremost Dutch architects of the time, Kees Christiaanse, had to demonstrate in Amsterdam that this belief was misplaced. Christiaanse was an urban development designer and Adriaan Geuze was the designer at ground level. The homes were designed by Christiaanse, Liesbeth van de Pol, DKV architects, Meijer en Van Schooten and Bureau Neutelings.

It was an intensive and scintillating project, where as environmental advisor I found myself in a completely different role to what I was used to. Not only had I to come up with tangible sustainability measures, but a primary task was also to test the unprecedentedly lofty ambitions of the residents involved against reality. These people were often convinced beforehand that if the municipality and the risk-bearing party (*‘Stichting Ecoplan’*, a body comprising five housing associations) said that if something was not possible, it meant simply that they didn’t want to do it. Although I also pursued ambitious goals, I had reached the conclusion that there was enormous goodwill within these parties. A large part of my work thus consisted of achieving consensus among the residents, municipality and *Stichting Ecoplan*, where I attempted to do justice to the interests of all these parties.

Because I went on maternity leave and BOOM’s role shrank considerably following the creation of the urban development plan, I wasn’t party to a great deal of the collaboration with the architects. However I did hear

from some of them that they had found it to be an enormously inspiring process. That was something which also became clear from the words of Liesbeth van de Pol in the film<sup>5</sup> which was produced about the neighborhood ten years after delivery: “...We drew a great deal of pleasure from each other, because after all we were working together on a daredevil plan...”

It also became apparent from this film that various measures we had selected at the time from a sustainability viewpoint, ultimately made a major contribution to the quality of the neighborhood for a completely different reason. The vehicle-free character led for example to children being able to play safely outdoors, and the communal vegetable gardens meant that many residents got to know each other well and kept an eye on the playing children. Partly as a result of this, the waterworks area (GWL terrain) is now still regarded as one of Amsterdam’s most attractive neighborhoods.

Three important lessons which I learned during this project were:

- *The realization that residents can constitute a considerable stimulatory power.*
- *The importance and the impact of non-environmental benefits of environmental measures (vehicle-free, green etc.).*
- *The need to build-in flexibility.*

This final point had a less positive motivation. Many of the energy-saving measures proposed by BOOM could not in fact be implemented, because agreements had been signed a long time previously to apply cogeneration on the waterworks site. This decision could not be reversed. The consequence of this was that many innovative energy-saving ideas, which were possible among others as a result of the unique presence of water cellars, could not be carried out.

I had only been directly involved in a few sustainability projects in the Netherlands during my work with the Delft authorities and with BOOM, but halfway through the 1990s many such projects were constructed in the Netherlands. This was partly thanks to the policies of Secretary of State Tommel at the time, as a firm advocate of sustainable building. For foreigners who wanted to get an impression of everything that was pos-

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5 Film: *GWL 10 jaar, de geboorte van een ecowijk*, by Diego Pos, [www.gwl-terrein.nl/?films](http://www.gwl-terrein.nl/?films) (consulted 21 October 2013).

sible in this respect at the time, this period in the Netherlands was a valhalla. In just a few hours you could visit the most high-profile projects.

But the question which occupied me increasingly in this period was this: “How is it possible that ‘normal’ building is just continuing with the old practices and does not appear to be learning from all the experience being acquired in the many example projects?” Kees Duijvestein, who had since become a professor, assisted me further. Supported by Professor Jelle Witteveen of the ‘Bouw’ research academy, he made it possible for me to launch doctoral research for an answer to this question. Together with Professor Han Brezet of Industrial Designs, Kees Duijvestein formed my doctoral guiding team. My research, which I completed in four years in 2000, took as its subject the diffusion of environmental innovations in housing. It led me to a fundamental rethink on how I regarded my work. I no longer focused on the technology, but from then on put the people involved and their thoughts and actions at the core (which brought me back to my original fascination motivating me to choose working in the building sector).

The most important lessons which I drew from the results of my doctoral research<sup>6</sup> and which would continue to serve as a *leitmotif* throughout my work, were:

- *The influence of individuals on the large-scale distribution of environmental innovations in housing construction is limited. External factors, factors where no influence can be exerted, exercise major influence.*
- *Technology, and in particularly its good operation, forms an influential factor, but is certainly not the most significant.*
- *Generally the so-called ‘soft’ factors exercise greater influence (for example the right stimulus from the right party at the right time).*
- *Cost is certainly an important restriction on the diffusion of innovations, but it is seldom the largest obstacle.*
- *The authorities have an influential role, but not by definition the most important one.*
- *The potential for diffusion of an innovation is often determined in the first project in which it is applied; if this project goes wrong, for whatever reason, the chance of diffusion declines dramatically (the innovation is dismissed along with the project).*

6 Hal, A. van (2000). *Beyond the demonstration project, the diffusion of environmental innovations in housing*. Bostel, Aeneas. Can be downloaded from: <http://repository.tudelft.nl/view/ir/uuid%3A3810e6fa-4e23-4c4d-9204-20e61bcd44b5>.

- *The success of a housing construction project is determined to a considerable extent by the method of collaboration of the parties involved.*
- *An innovation champion, a party which 'champions' the innovation, has a major influence on the chances of diffusion, and plays a considerable role in the collaboration.*
- *Far too little is learned from previous experiences (the wheel is constantly being reinvented).*
- *The quality of communication is important.*
- *There are many target groups, each of which is sensitive to a different story.*

### **Diffusion of innovation: theory**

As a theoretical basis for my doctoral research I opted for the innovation diffusion theory of Rogers. I viewed this theory from many other sources and aspects, including the theory concerning Technological Momentum by Hughes, and Network Management Theory by Bruijn and Ten Heuvelhof. I tested my theoretical insights against experiences from (European) practice. Choosing Rogers' approach also turned out to be appropriate after completion of the research, because many of his theories remained recognizable in practice. However the study also led to a number of critical comments concerning his approach. Thus it appeared from the research that 'relative advantage' as a characteristic in the diffusion of innovations had a greater weighting than the other characteristic of the innovation diffusion process named by Rogers, while he described all of these on an equal footing. In his model Rogers also assumed voluntary acceptance, while it became apparent from the doctoral research that to achieve diffusion in practice, a degree of compulsion is sometimes also needed. This might be in the shape of legislation, for instance. The role of the authorities is missing in Rogers' work, as is the importance of a long-term perspective among authorities.

What became particularly very clear in the doctoral study is that in general, the influence on the diffusion of innovations is fairly limited. External factors (factors with considerable influence, but difficult to influence) are often determinants. This aspect was certainly mentioned now and again by Rogers, but should be emphasized far more strongly.

During the four years the study took, new theories were also developed which could no longer be incorporated during the study. In retrospect it was determined that two of them would also have

been suitable as a starting point for evolving theory: the policy instrument Strategic Niche Management (developed from experiences with sustainable transport systems) and the Ecological Knowledge System (developed on the basis of experience acquired with sustainable agriculture).

I combined my doctoral research with a job I created with others in my second stint with BOOM: Editor-in-Chief of the magazines *Puur Bouwen* (literally, Pure Building) and *Puur Wonen* (Pure Living). Encouraged by publisher Aebele Kluwer of the Aeneas publishing house, we began the magazine *Duurzaam Bouwen* (later to become *Puur Bouwen*) with a group of people in 1995. The objective was to show professionals from the sector the advantages of sustainable building in practice, and to offer practical information enabling them to make a concrete start. I originally shared the editorship with Ronald Rovers, but he withdrew after a few years and I worked mainly with editor Anne Marij Postel (alongside the other members of the editorial team). From *Duurzaam Bouwen* came the magazine *Puur Wonen* with the same objective during my time in the US,<sup>7</sup> but exclusively with residents as the target group. Several years in succession the *Puur Wonen* magazine organized the so-called *Puur Wonen Estafette* or relay – an open-house day of sustainable living, alternately in different parts of the country.

Editorship yielded an extensive network for me, and a great deal of knowledge about what was happening in the Netherlands. The most important lesson I drew from my experience however, was simply:

- *You won't get there with just a good story.*

In fact it wasn't easy attracting readers to the magazines (how do you stand out among all those magazines?), and the same applied to visitors to the *Puur Wonen Estafette* (how do you stand out among all those events?). This was a period which awoke in me a significant interest in the marketing profession.

7 See page 15. During my stay there guest editors were engaged including the director of *Vereniging Eigen Huis* (the Dutch Association of Home Owners) Marlies Pernot. She wanted to turn the magazine into a once-off lifestyle glossy. This lifestyle publication appeared under the name *Puur Wonen* and was then continued as a periodical. At that time the trade magazine *Duurzaam Bouwen* was renamed *Puur Bouwen*.

### **The business case for sustainability**

Looking back on my period as a PhD student, two issues become apparent. First, I appeared to assume subconsciously that to achieve environmental innovation diffusion in the housing market, you need to enthruse people about sustainable products. Secondly, I devoted astonishingly little time to the parties who brought innovation to market. Apparently I assumed that their role remained limited to developing and launching the innovation.

A new view of what I had written in my dissertation came about in the year that I lived on the east coast of the USA as a result of pleasant personal circumstances. After I had completed my dissertation in 2000, I had begun a one-man consultancy intended to promote demand for sustainable building measures among both professionals and occupiers. I landed my first major job from what was then known as SEV (*Stuurgroep Experimenten Volkshuisvesting*, or the Steering Group for Public Housing Experimentation). With them I was able to establish the contours of a program of experiments to be developed, focused on making existing homes more sustainable. I quickly realized this was an extremely large assignment which had remained untackled up until then. My fascination was aroused.

When I left for the US halfway through 2001, Sander Gelinck of the SEV promised that, if I could assemble sufficient inspiring material, I could write a book about my American findings. This undertaking appeared to open many doors for me. As a researcher I got through many doors and what did I find: sustainable building was not getting underway in that part of the US and there was enormous interest in what was happening in the Netherlands. I was able to tell my tale in many places, and to debate the issues with American specialists.

Just as with my dissertation period, my stay in Boston and environs also led me to a new view of the task with which I was occupied. In the Netherlands I was used to using all my energy to enthruse people about sustainable building. You might call my motives idealistic; I found (and still find) that as prosperous westerners we cannot permit ourselves to short-change the generations following us, or people in other parts of the world, by exhausting our natural resources at lightning speed. My colleagues in the US appeared to share that feeling. But unlike what we were used to in the Netherlands, that's not a story they would tell if they felt it was not going to score any success. "It doesn't matter why they do it, as long as they do it," runs the slogan on doing business sustainably, which illustrates the American approach for me.



What this pragmatic approach could mean in concrete terms, became particularly clear to me in the contact I had with Barbara Batshalom, Executive Director of the Boston Green Round Table. She and her husband Moshe Cohen, President of The Negotiating Table, had developed their own approach together, which they called the Green Mindset Approach.<sup>8</sup> What I most recall from my time with them, and what led me to a genuine paradigm shift, is their statement that creating enthusiasm for something where no enthusiasm exists, is an enormously complex task. They had the same objective as I did, but what they proposed was much simpler: find out what people are really thinking and worrying about, and connect that with your knowledge of sustainable building. Because if sustainable building measures could contribute to resolving existing problems or achieving existing ideals, the chance that people would become enthusiastic about it increases markedly.

This approach appealed to me a lot, because I immediately recognized the experience I had acquired during my time as editor. Namely: for a long time people have been providing socially desirable answers during interviews about sustainable building, but the genuinely wonderful statements only occur at the moment that existing emotions are touched. Searching for that emotion had already become a sort of sport for me in that period, and so those skills were very useful in elaborating my American experiences.

The most important lesson I drew from the collaboration with Barbara Batshalom was thus:

- *Always take the needs, wishes and interests of those parties directly involved as your starting point. And using that as your foundation, work out which sustainability measures could make a contribution to this. The chance of large-scale adoption of these measures increases considerably as a result, because good news travels fast.*

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8 Batshalom, B., M. Cohen (2002). *Negotiating a green mindset*. International Conference Sustainable Building, Oslo, Norway.

### Getting to yes

In developing their vision, Batshalom and Cohen were inspired among others by the work of the Harvard Negotiation Project<sup>9</sup> and the book which arose from this, *Getting to Yes* by Fischer & Ury.<sup>10</sup> The publication describes an approach focused on reaching agreements in conflicts in such a way that all parties feel good about it. Put very briefly, this approach suggests that people and problem must be separated, the focus must be placed on the interests and not on ultimate positions, that collaboration must lead to a mutually-borne solution, and that work must be done creatively but without dirty tricks.

Through this new insight the realization also percolated through to me that providing parties in the diffusion of environmental innovation in building play a far greater role than I had hitherto believed. My acquaintance with the American architect William McDonough also contributed to this. I interviewed him on the phone during my stay as a consequence of the book he had written with the German chemist Michael Braungart and which had just been published, *Cradle to Cradle*.<sup>11</sup> One of the messages which made an impression was that you could be occupied with sustainability while still being successful in business terms. The concept 'the business case for sustainability' made its entry into my vocabulary. Here too the definitive foundation was laid for what would later be called 'the Merger of Interests Perspective'.

All in all it was a splendid and inspiring year. I got to know many people, new approaches and projects. Under the SEV assignment I processed the material this yielded into a booklet entitled in Dutch, *Amerikaanse toestanden* (American situations).<sup>12</sup> During that year I also met Doug McKenzie-Mohr. McKenzie-Mohr is a leading environmental psychologist and now Professor of Psychology at the St. Thomas University in Fredericton, Canada. Among other things he was Chairman of the American Psychological Association Task Force on Sustainable Development. With him I followed a workshop on community-based social marketing. At the event

9 [www.pon.harvard.edu/category/research\\_projects/harvard-negotiation-project](http://www.pon.harvard.edu/category/research_projects/harvard-negotiation-project) (consulted 21 October 2013).

10 Fisher, R., Ury, W. (1991). *Getting to yes, Negotiating agreement without giving in*. New York, Penguin Books.

11 McDonough, W., Braungart, M. (2002). *Cradle to Cradle, Remaking the way we make things*. New York, North Point Press.

12 Hal, A. van (2002). *Amerikaanse toestanden, commerciële kansen voor duurzame woningbouw*. Boxtel, Aeneas.

he discussed his book, *Fostering Sustainable Behaviour; An Introduction to Community-Based Social Marketing*,<sup>13</sup> where I became fascinated even more than before about the role and influence of human behavior.

### **Community-Based Social Marketing**

The basic assumption of McKinsey-Mohr in brief, was that behavioral change can make a significant contribution to reducing environmental problems, but that the most feasible ways of stimulating that behavior are not effective. Information campaigns and education have had little or no influence on behavior. The popular assumption that people will indeed be motivated to change their behavior when it has a financial benefit for them, is also not apparent in practice. He believes common approaches fail because they devote too little attention to the 'people' factor. He developed his own very pragmatic approach, community-based social marketing, which turned out to be extremely effective in practice. This approach consists of a number of steps. The first is carefully establishing the desired behavior, the second involves identifying the barriers and benefits associated with the behavior, and the third is developing a strategy with instruments aimed at behavioral change which remove the identified barriers and enhance the benefits. The fourth step is testing this strategy on a small scale, and the fifth ultimately embraces the broad roll-out – following evaluation of the pilot scheme – of the strategy and proper evaluation of its results.

Back in the Netherlands I continued the work from my consultancy. I put my American findings at the core of it, leading to major discussions. This is because at that time in the Netherlands, for many people who were active in the sustainable building field it was a taboo to link the sustainability objective ('a cleaner world') to earning money and one's own tangible interests. Over the years many discussions on this issue have been conducted in my presence. The arguments of the adversaries have helped me to refine my thoughts, but they have never convinced me; I became increasingly fascinated by the business case for sustainable building.

During the spring holiday of 2007 I was called by someone I had once interviewed, asking whether I would support him in a building-related project

<sup>13</sup> Reissued as McKenzie-Mohr, D. (2011). *Fostering Sustainable Behavior; An Introduction to Community-Based Social Marketing*. Gabriola Island, New Society Publishers.

he was going to perform for his new employer, the Centre for Sustainability at Nyenrode Business University. At the time I was familiar with Nyenrode largely as a somewhat elitist (and thus expensive) university mainly for individuals focused on earning money. That it had a Centre for Sustainability surprised me immensely. Because I was curious, and also wanted to see the splendid campus with its castle up close, I agreed to an orientating interview. That interview was to become a turning point in my life.

Because there was a convergence.... The body of thought I believed I had developed personally as a consequence of my American adventure, and through which I often felt I stood alone in the building world, also turned out to be shared by the Centre for Sustainability (CfS)! The CfS consisted of a small group of people led by Professor Gerard Keijzers, originally an economist. Gerard Keijzers was present for that first discussion with me at Nyenrode, and he also turned out to have evolved his view of sustainability in the US, in Cambridge, the university on the edge of Boston. We ended up in an animated discussion, in which the building-related project was barely covered. Our views converged in many ways, but our backgrounds and networks were completely divergent. There and then I decided that Keijzers was the person from whom I wanted to learn more about the business case for sustainability.

Almost immediately thereafter I was able to start working at Nyenrode two days a week, and I quickly discovered that my preconceptions about the university did it no justice. It turned out to be a place with many fine people and a great deal of knowledge I could use well. Among other things, about marketing.

### ***Consensus Building Approach***

The work of Gerard Keijzers was based to a certain extent on the Consensus Building Approach of Lawrence Susskind. Professor Susskind supervised Keijzers when he was conducting research in Cambridge, at MIT, and among other things is currently director of the MIT Science Impact Collaborative. He founded The Consensus Building Institute and was one of the initiators of the Program on Negotiation at Harvard Law School. Susskind currently leads the MIT-Harvard Public Negotiations Program.

In brief his working method comes down to the following.<sup>14</sup> Consensus Building is an approach oriented towards group decision-

14 [www.cbuilding.org/publication/article/2013/consensus-building-approach](http://www.cbuilding.org/publication/article/2013/consensus-building-approach) (consulted 21 October 2013).

making with 'problem-solving' as its focus. Here decision-making occurs not on the basis of a majority of votes, but in consensus (unanimous). The aspiration is to fulfill the most important interests of all the parties involved. The duration of negotiations is agreed in advance. The original issue must also be 'reframed' in such a way as to create space for a problem solution. Among others this could be by broadening the view of the task and defining it more widely (broadening scope). Perhaps in time ('I pay a lower price, but then I will also buy that other item from you.')

For complex projects, like a conversion project in a neighborhood, he believes it is important to engage an experienced intermediary who can bring breadth into the discussion, creating more space for agreement. The final result must be a package of agreements, which together lead to more value for everyone than when no agreements are reached. This mediator must be neutral, must be trusted by everyone and must be able to restructure the task with the agreement of all parties. He or she must be able to change confrontations into 'consensus building opportunities'.

I still work at Nyenrode. I have learned a lot and continue to do so. But the first lessons I learned, right back from that first discussion with Gerard Keijzers, were:

- *Market parties play a vital role in creating a sustainable business case.*
- *Creating a sustainable business case is different for a company than operating with corporate social responsibility; parties must be better off as a result. The major benefit here is that striving for sustainability perpetuates, and doesn't drop off the agenda at the first setback.*
- *By defining the problem more widely, more space is created for new solutions.*
- *A business university can serve well as a mediator, because the corporate world regards it as both neutral and trustworthy.*

Gerard's knowledge also strengthened my conviction that a large-scale adoption of sustainable products or concepts would occur more quickly if the adoption is paired with another objective, instead of sustainability being an objective of itself. This other objective might for instance be a company which is more economically healthy, or a residential environment of high quality.

One of the first projects we carried out together (and unfortunately as it would later turn out because of his illness and early death at the age of 60, one of the few), was the *Innovationlab Bestaande Woningbouw*, or literally translated the Existing Housing Innovationlab. Here we brought together parties involved in a specific housing construction project in Rotterdam South. We also opted consciously to involve parties who would normally not sit around the table, right from the initial discussions. Alongside the municipality, the building company and the housing association, we also invited an energy utility and a bank to participate. The result was astonishing: after a brief period of verbal confusion the involvement of these 'outsiders' turned out to lead to new insights, and to form the basis for innovation. There too I learned a lesson which I later saw confirmed many times in practice:

- *In a collaborative venture, involving parties with whom one is not used to working increases the chances of innovation.*

Fascinated by the business opportunities of sustainable building, I tried to read as much as possible about company successes arising from a sustainable course. A book that broadened my knowledge in so many ways in this field was *Green to Gold* by Esty & Winston<sup>15</sup> (Daniel Esty is a professor at Yale, and Andrew Winston was the founder of the Winston eco-strategies). What particularly appealed to me in their work, is that they suggest there are various ways to create a business case. But also that seeking a niche – achieving something which is genuinely new – has the greatest chance of success in their view. To achieve this, you certainly do have to dare to change, they suggested. This yielded the following insight for me:

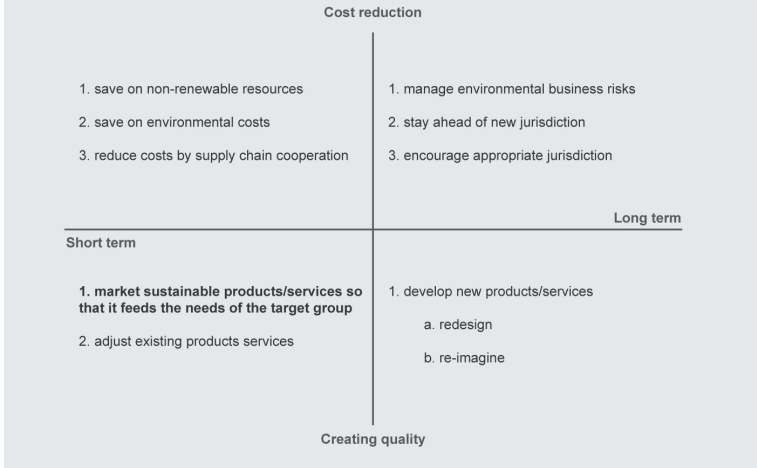
- *The possibility of a healthy business case is the greatest when the parties involved succeed in developing a sustainable innovation which meets the interests of the parties involved.*
- *To achieve an innovation, it's necessary to move away from the usual way of thinking and doing, and to achieve fundamental change.*

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<sup>15</sup> Esty, D.C., and A. Winston (2006). *Green to Gold, How smart companies use environmental strategy to innovate, create value and create competitive advantage*. Yale University Press.

### Strategies for building eco-advantages

One of the most interesting sections of Esty's and Winston's book is their 'strategies for building eco-advantages'. In my inaugural lecture for Nyenrode I worked their approach into the following diagram and discussed this extensively. The work of my Delft colleague Vincent Gruis on 'organizational archetypes of Dutch housing associations'<sup>16</sup> also influenced the development of this graphic.



### A safari versus an organized tour

In the summer of 2006 I was on holiday with my family in Canada. Shortly beforehand someone pointed out a vacancy for a Professor of Sustainable Housing Transformation in TU Delft's Architecture Faculty. The post was occupied by Andre Thomsen, who reached retirement age. I wasn't sure whether I should respond to the vacancy.

I had really enjoyed myself in my one-person business, but right from my very first assignment (for the SEV) I had been fascinated by the issue of existing residential areas. I wanted nothing more than to contribute again to making attractive, livable and sustainable residential areas from the large neighborhoods from the 1960s and 1970s in particular. As I reasoned things, the chair of Sustainable Housing Transformation would give me more opportunity to get down to this task. But I also envisaged many objections. I had indeed graduated, but I didn't regard myself as a real

<sup>16</sup> Gruis, V. (2008). Organisational archetypes of Dutch housing associations. *Environment and Planning C: Government and Policy*, 26, pp. 1077-1092.

scientist. Could I keep my feet on the ground in such a job? And was what I had proposed to myself actually possible?

I received a confirmatory answer to this latter question in Canada. Purely by accident during our trip we arrived in the Granville Island area in Vancouver. An energetic area with all the characteristics of sustainability which can be found – the products which were sold, the way the area was set up – and all this largely in old sheds in what was essentially a poor location, because it was under a major road. Back in my hotel I immediately searched the internet for the story behind this inspiring place. I quickly discovered that this had not been an accidental though happy combination of circumstances, but rather that it was the result of a carefully-considered approach.<sup>17</sup> If it was possible to make something so fine from such a place, I thought, it must also be possible to make something fine from our 1960s and 1970s neighborhoods. I applied for the job, and was accepted.

### ***Granville Island***

The approach underlying Granville Island (see also the description in part III) was partly the result of the unique circumstance that the area is owned by the federal government and not by the municipality. One of the consequences of this is that the municipal requirements do not apply, and so there was more scope for innovation than usual. The foundation of the project was an agreement between the municipality and the federal government. In this among other things there was an explicit expression that Granville Island should become a 'people place', in which the industrial maritime heritage would remain recognizable. The starting points were: the island had to be accessible to all (visitors and users), the existing buildings should be reused as far as possible, and the use should be diverse. There should also be both public and private investment. The sustainable nature was not prescribed, but it was only natural that it came about during the process, because virtually all the initial investors believed this theme to be important. All this together made Granville Island a symbol of transformation and for being able to achieve what initially appeared to be an unattainable ideal. The initial projects dated from the 1970s, but the island continued to evolve.

<sup>17</sup> [www.pps.org/blog/how-granville-island-came-to-be](http://www.pps.org/blog/how-granville-island-came-to-be) (consulted 3 November 2013).



By talking about the realization and continuation of the island with a number of involved parties, I acquired a new take on spatial development. The most important lessons I drew from Granville Island were:

- *Do not fear uncertainty; simply start.*
- *By viewing a task from a broad perspective (such as financing from a long-term perspective and buildings/neighborhoods in relation to their environs) you can reach unorthodox but extremely effective solutions.*
- *By dealing very carefully with the interests of pioneers/innovators, you lay a healthy foundation for parties who have a less adventurous nature.*
- *Details which appear to be unimportant at first glance, can actually have decisive importance.*
- *Consistently maintaining certain central principles helps in reaching the intended objective (the point on the horizon).*

In the interim I was already working at Nyenrode (where I was also awarded a chair after some time), and I decided to combine both jobs by specializing in the business case for a sustainable approach to existing housing and neighborhoods. Realizing fine and livable neighborhoods became my goal, but my toolbox only contained sustainable instruments. In this way I wanted to fulfill the concept of Sustainable Housing (and Neighborhood) Transformation.

In preparation for my Nyenrode inaugural lecture, at the time I had collated all the knowledge I had acquired over time and combined it with my Nyenrode colleagues Joost van Ettehoven, Anne Marij Postel, Birgit Dulski and Rob Wetzels into an unequivocal story. Naturally they also contributed their own knowledge and experience. From Rob, co-author of the book *Niets nieuws onder de zon en andere toevalligheden, strategie uit chaos*<sup>18</sup>, I in fact learned not to regard chaos as something negative, but rather as a transition phase to a new situation. It is true that the economic crisis which had become apparent shortly beforehand, brought with it many uncertainties. But the trick is to spot and create opportunities from that uncertainty. This approach confirmed the suspicion that I had harbored since getting to know Granville Island:

18 Peters, J. & Wetzels, R. (2003). *Niets nieuws onder de zon en andere toevalligheden, strategie uit chaos*. Amsterdam, Uitgeverij Business Contact.

- *If you focus on the development of innovations, the process which must be undergone has more the nature of an adventurous safari than an organized tour.*

After all: the goal towards which I and my team were striving (a new product, concept or service that promotes both quality in the built environment in a broad sense, and sustainability in particular) can only be achieved by changing the working methods completely. But how the innovation and change would look, is unknown in advance. Both can only be established by trying. By comparison: in our eyes improving a well-known product seemed more like an organized tour than a safari, because in a tour much more is known in advance. To be able to undertake the intended safari we believed that the following were necessary in addition to people who wanted to join: good instruments to be able to determine the direction, and plenty of knowledge of sustainable building, but also a lot of creativity and the skills to be able to collaborate well.

The U-theory by Otto Scharmer of MIT constituted a source of inspiration in acquiring this insight.

### ***U-theory***

The U-theory by Otto Scharmer<sup>19</sup> is about creating a genuinely new future, and puts the concept of 'presencing' at its core. I translated that concept for myself as having confidence that the road to the dreamed-of future would reveal itself if you opened your subconscious to it and dared to relinquish old certainties.

Scharmer himself described presencing as a journey with five moments which together assume a U-shape. First you head down one side of the U: the phase in which we broaden our view of the world and where old ways of thought are relinquished. You then head to the bottom of the U, where contact is sought with the subconscious and a new form of thinking and acting begins to evolve. On the way up on the other side of the U the change acquires concrete form, and there is in fact no way back.

According to Scharmer, leaders who can achieve such a transition have seven essential capacities: 1. They can listen (to others but also to themselves and to that which can emerge from a collective. Thanks to this capacity they create space in which everyone can reach their potential). 2. They can observe without judgment.

<sup>19</sup> [www.ottoscharmer.com/publications/summaries.php](http://www.ottoscharmer.com/publications/summaries.php) (consulted 15 October 2013).

3. From a collectivity they can allow the start of a change to be experienced (Scharmer calls this the deployment of the instruments 'an open mind, an open heart and an open will'). 4. From the collectivity they can enable a new future image to arise (presencing). 5. They can enable a core group to make this future image tangible and can commit to it, whereby they allow energy to be created which pulls in the others (crystallizing). 6. They can enable the group to get to work in concrete terms in trying out the new ways of thinking, feeling and wanting (prototyping, 'learning by doing'). And finally number 7: they can 'perform'. In other words they can bring together the right players to give actual shape to the new future communally.

In expressing our ideas in the inaugural lecture my colleagues and I established the following:

- *It is important that the gulf remains as small as possible between what we call innovative leaders and traditional craftsmen (the people who are prepared to get to work with something new, versus the parties who do indeed perceive the necessity, but who also cling to what they trust).*

It's hardly surprising that the first car looked a lot like a horseless carriage. The transition from the old product to the innovation should never be too great if it is to be accepted.

#### **After the lecture**

The concept *The Merger of Interests* with its underlying theory was born when writing the lecture. But the evolution did not stop there. In the years following my lecture we worked further on elaborating the concept and its associated vision and starting points, and we developed a concrete approach under this banner. New practical projects and studies in which we were involved, contributed to the elaboration, as of course did new people and new publications. We refer now to a Merger of Interests Perspective. Most notably, a strategy also followed this vision.

In the period between my lecture and writing this publication, we conducted a variety of studies which kept revealing new knowledge. I will look at three of these studies in more detail here. The first had as its working title 'The Control Panel' and concerned making the standard housing developed in the 1960s and 1970s sustainable in an inhabited state. It was commissioned by '*Innovatieprogramma Energiesprong*' (literally In-

novation Programme Energy Leap), launched by the government to accelerate making the built environment energy-efficient. The second study came about thanks to sponsor *Koninklijke BAM BV* and was focused on the relationship between collaboration and the development of sustainable innovations in the building sector. The third study, finally, was focused on the conditions for achieving a successful approach to energy-saving in owner-occupied homes. The principals for this were *Agentschap NL* and the *Meer met Minder* foundation. The *Meer met Minder* foundation (literally translated, More with Less) focused specifically on energy savings in the existing private housing stock.

The study with the working title *The Control Panel* arose from the initiative I launched together with Jan Willem van de Groep of *Energiesprong* in 2009. Its objective was to give the standard housing developed in the 60s and 70s both a general quality stimulus and an energetic upgrade. The project, given the name *Slim & Snel* (Smart & Speedy), entailed setting up a network (under the Nyenrode banner) and a practical program (under the *Innovatieprogramma Energiesprong* banner), alongside a study that Nyenrode was conducting commissioned by *Energiesprong*. This study was intended to collate the existing knowledge in this field at home and abroad.

The working title *The Control Panel* arose from an earlier study I would also like to describe briefly here because it yielded a number of influential lessons for us. This was a study into the role of small to medium enterprises (SMEs) in making the existing housing stock sustainable, a study we could carry out commissioned by the then Ministry of Housing, Regional Development and the Environment in the Netherlands, and which was completed in 2008. This study, *Draaien aan knoppen*,<sup>20</sup> (Turning knobs), initially caused us to rack our brains. The object of the study was to determine precisely what the role of the SME sector could be in making existing housing sustainable.

After an intensive process resulting in being able to set out many relevant sources in a row and assembling our data, we initially could not find any recurring theme in our research material however. The findings regularly contradicted each other, for example. Only after a considerable period of discussing and studying the available material did the penny drop for us: an unequivocal answer to the question 'What role can the SME sector play

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20 Hal, A. van, B. Dulski and A.M. Postel (2008). *Draaien aan knoppen*. Breukelen, Nyenrode Business Universiteit.

in making existing housing sustainable?’ simply did not exist. Because the answer depends hugely on the circumstances. The first lesson from my dissertation came back to me: the influence of individuals on the large-scale distribution of environmental innovations in housing construction is limited. External factors, factors over which no influence can be exercised, have a major influence.

But how do you cope with such a fact in practical terms? That’s the question we wanted to answer. After again studying the collated material we did indeed discern an underlying consistency, albeit fairly abstract. We concluded:

- *Working with the practicalities of sustainable building can be compared to operating a control panel. You must know the effects of the buttons you can operate (you must have the basic knowledge), but the degree to which you must then turn each knob (what you need to do with your knowledge in concrete terms) is determined by the circumstances.*
- *One way of preparing yourself for unexpected developments is to master the basic knowledge well, and to work out in advance what response would be desirable in each conceivable situation.*

In that study we worked with scenarios to gain a clear idea of the difference in ‘turning the knobs’ in different circumstances. Here we selected three: the situation at the time (average energy price, good employment), a situation with an extremely high energy price and a situation with an extreme reduction in employment. We described it in the spring of 2008 and had no idea at that time that in fact the third scenario would so quickly become a reflection of reality. In my inaugural lecture we incorporated the ideas we had developed on the basis of this study and the input of various sources and colleagues, under the heading ‘Guiding through dynamic and complexity’.

When we were given the opportunity along with *Innovatieprogramma Energiesprong* to put actual shape to these ideas (about how to tackle the existing housing from the 60s and 70s intelligently and quickly; see the description of the *Slim & Snel* project on page 83), we persisted with the control panel metaphor. We attempted to collate as much existing knowledge involving the task being studied (at home and abroad). This led to a huge volume of material and also the basic knowledge which, in accordance with our earlier study, we arranged into the knobs on a control panel. The accent in the study was placed on operational perspectives. We decided not to focus overly on possible developments in the context

(scenarios). This was because of the experience we had gained with the *Slim & Snel* network and the practical program led by *Energiesprong*, and the intense discussions with the program's supervisors. The practical program, in which market parties came together to attempt to find a solution for a problem described by a housing association, in fact clarified the following:

- *Without people generally being aware of it, the effect of collaboration is often influenced negatively because parties have an advance image of the wishes and ideas of the other party or parties. This causes people to listen to each other selectively, and as a result they often talk past each other.*

We observed as the *Slim & Snel* team that 'learning to cooperate effectively' is an important precondition to be able to achieve high ambitions in practice, and mainly that our study result must contribute to this. We wanted parties to be able to establish jointly in close consultation (and assisted by the results of our study) what could be done best when and by whom within a specific *Slim & Snel* project. Partly as a consequence, the 'Control Panel' study resulted in a master class in which a reality game played an important role.<sup>21</sup>

The scientific approach behind the approach of the *Slim & Snel* assignment was based on a theory which also influenced the evolution of the Merger of Interests Perspective: the Soft System Methodology of Peter Checkland.

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21 This Masterclass is offered to parties working with the issue of existing housing stock. Contact: Niek Stukje (N.Stukje@nyenrode.nl). See also [www.youtube.com/watch?v=5EY9OzG8gCI&feature=youtu.be](http://www.youtube.com/watch?v=5EY9OzG8gCI&feature=youtu.be) (consulted 10 December 2013).

### Soft System Methodology

The Soft System Methodology (SSM) of Peter Checkland, system thinker and professor emeritus of the University of Lancaster,<sup>22</sup> is a 'soft approach' based among other things on interpretative sociology. Its starting point is that reality is not static, but is continually under development and redevelopment as a consequence of human influences. The purpose of SSM is to understand complex situations better and to find concrete measures for improvement. According to Checkland (and co-author Poulter), unstructured discussions aimed at improving a complex situation leads to incomprehension between discussion partners, so that they produce different conclusions among themselves, because everyone has a different view of the world. SSM offers an organized way to put these divergent world images into view. It's an action-orientated approach, with a methodology of social learning which structures the thinking of the various people involved in a complex situation, so that focused actions can be undertaken. This approach consists of a number of phases:

- Collect information about the situation stated as a problem and about the characteristics of possible interventions which would lead to improvement.
- Select a number of relevant focused activities, explore these further and place them in a cohesive model.
- Pose questions on the complex situation based on this mode, so that the situation and the possible change-orientated interventions can be discussed in a structured manner.
- Select suitable interventions for the situation under consideration.

This process involves a group process which must be conducted by those involved themselves and not by external advisors (though these could indeed provide support). It is a learning cycle which in principle, never ends. The phases also do not need to be tackled consecutively. It is also a way of consistently managing a current social situation.

The second study which exercised considerable influence on our vision was related to our earlier findings concerning collaboration. If collaboration is so important (and innovation too, as we had earlier established),

22 Checkland, P. and J. Poulter (2006). *Learning for Action – A Short Definitive Account of Soft Systems Methodology and its use for Practitioners, Teachers and Students*. Chichester, John Wiley & Sons Ltd (summarised by Eefje van der Werf).

what is then needed to turn collaboration into genuine innovation in the field of sustainable building? Initially I conducted the investigation into the answer to this question with my immediate colleagues Anne Marij Postel and Joost van Ettehoven, but things only really took off when we involved Henk Diepenmaat, specialist in multi-actor process management.

Based on practical experience and our specific knowledge, but also thanks to the theories of, among others, Tracey and Wiersema and Porter and Kramer, we arrived mutually at the conclusion that achieving genuinely sustainable innovations is not easy in collaboration. Ultimately three branches of sport must be managed. Namely: more efficient collaboration, more effective collaboration and collaboration based on multiple (social) interests. We called this approach Mastering Three.<sup>23</sup>

### Strategies for value creation

In 1985<sup>24</sup> Porter distinguished two determinant strategies in the value chain for achieving above-average performance in a specific business sector: (1) be cheaper (cost leadership) or (2) be better (as a consequence of differentiation. Over time Porter has in fact broadened his view. The article he wrote with Kramer in 2011<sup>25</sup> emphasized the importance of shared value creation. In their words: "...which involves creating economic value in a way that also creates value for society by addressing its needs and challenges."

In the 1990s on the basis of extensive field research, Treacy and Wiersema<sup>26 27</sup> listed a trio of strategies to create value. They distinguished (1) Operational Excellence, (2) Product Leadership and (3) Customer Intimacy as value-adding strategies in the commercial sector in general. These strategies each offer a very different picture of the way in which value can be added, and an entirely different view on the nature of business activities, the boundaries of the business model and the scope of attention.

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- 23 Diepenmaat, H., J. van Ettehoven and A. van Hal (2012). *Mastering Three, een drievoudige werkwijze die leidt tot een vitale bouwpraktijk*. Breukelen, Nyenrode Business Universiteit.
  - 24 Porter, M.E. (1985). *Competitive advantage, creating and sustaining superior performance*. New York, Free Press.
  - 25 Porter, M.E., and M.J. Kramer (2011). *Creating Shared Value*. *Harvard Business Review*, 89 (1/2), 62-77.
  - 26 Treacy, M., and F. Wiersema (1993). *Customer Intimacy and other value disciplines*. *Harvard Business Review*, 71 (1), 84-93).
  - 27 Treacy, M., and F. Wiersema (1995), *Discipline of Market Leader*. Hammersmith, Harpercollins Trade Sales Dept.



They make up, as it were, three different routes to operational success. Operational Excellence establishes that whatever you do, you must do as well as possible. It is about excellent operational processes.

The accent lies with improving the process. This also immediately makes the product or service cheaper (see Porter's 'Be cheaper'). But outstanding logistical and other process changes also contribute operational excellence. Product Leadership dictates that you should make something which is patently better than that of the competition. The focus lies with the product. 'Make the better product', in Porter's terms. Customer Intimacy, finally, is focused on the relationship with the client. Imagine yourself as him, know his wishes, fulfill his needs. pre-eminently a client-orientated strategy. Relation marketing and repeated contact are central. Treacy and Wiersema also refer to 'masters of two': companies who carry out at least two of these three value strategies well. These are the really successful companies – you might call the example companies of the end of the previous century excellent. They predicted on the basis of their trio that "The big winners of the future will have mastered two."

The most important lessons we derive from this study, were:

- *In practice the collaboration emphasis lies mainly in more efficient co-operation. One improves the creation of an existing product, but there is no innovation.*
- *To achieve a sustainable innovation from collaboration, various skills are needed which contradict each other in various aspects. In practice Mastering Three is thus both desirable and exceptionally complicated.*

Substantial work is now being done on our findings concerning *Mastering Three*. Among other things, in practice we are working on it in the form of a master class, on which we will also base follow-up research, and various TUD graduates are using it as the starting point for their work.

We also conducted the third major study I have discussed here and which refined our vision further, with (and thanks to) Henk Diepenmaat. He was asked to chart the factors which would enhance the chance of communal activities in terms of energy-saving in the homes of owner-occupiers. When he involved us in this research, I spotted the opportunity to elaborate two insights afresh further: my first lesson ('the built environment

is a place which is redolent with emotions’) and the lesson I had drawn in the US in my workshop with McKinsey-Mohr (‘as a professional group focused on technology and financing, we unjustifiably ignore a major source of knowledge: the behavioral sciences.’)

Since my American experience I had continued to immerse myself further in the knowledge of behavioral sciences and the contribution they yielded to our work. The investigation into an effective municipal approach, *Kansrijke Aanpakken*,<sup>28</sup> (Favorable Approaches), offered me the opportunity to delve deeper into this. My contribution to this first publication which had arisen within the cooperation with *Meer met Minder*, consisted of me setting out in a row all the behavioral sciences sources I had studied until then, comparing them with the findings among municipal approaches which had occurred in the Netherlands. I also compared them against campaigns conducted abroad, focused on energy-saving in the homes of owner-occupiers. The study confirmed a number of lessons I had already learned in the past, while also confirming a number of suspicions. Among others:

- *Certainty, simplicity, multiplicity of choice, advance experience of measures and their effect (for example through excursions) and operational perspective (including clear deadlines) are all vital preconditions for success.*
- *It is of decisive importance that the involved parties are perceived by the target group as being trustworthy.*
- *Money is extremely important, but is not always the deciding factor.*

My colleague Niek Stukje joined Henk Diepenmaat in conducting the follow-up to this study. Together they immersed themselves further in the possibilities of assisting home owners in making their homes energy-efficient. One of the findings from this series of studies which influenced the Merger of Interests Perspective was:

- *Local authorities must not want too strongly to occupy the director's chair, but should rather serve market parties. They must offer the supply and demand sides the opportunity to support each other. In the metaphor of the children's merry-go-round which we use in the study: they don't push, but provide the lubrication which enables the merry-go-round to turn.*

<sup>28</sup> Diepenmaat, H., M. Boerbooms and A. van Hal (2010). *Kansrijke aanpakken in gebouwgebonden energiebesparing, de particuliere eigenaar*. Meer met Minder.

My search for knowledge from the behavioral sciences, which had been given a major stimulus with 'Favorable Approaches', had far-reaching consequences for the elaboration of the Merger of Interests concept. I began by reading the book *Predictably Irrational* by Dan Ariely<sup>29</sup>, Behavioral Economist and Professor at Duke University, and became fascinated by this professional field. I read many more publications about behavioral economics, about the workings of the brain (such as 'Mindfield' which I referred to in my introduction), about psychology and about marketing. Continuing from what I had noted earlier, on the basis of all these sources I determined the following:

- *To charge the 'lighting up in the medial prefrontal cortex' mentioned in the introduction through sustainable products/services, you first have to conduct thorough research into what people really want (draw up an inventory of the interests).*
- *To be able to fulfill these interests using sustainable products/services, it is vital to have considerable knowledge of the non-sustainability benefits of these products/services (the knife must cut on as many sides as possible).*

An association arose with the sequence of the first two Ps of the well-known Triple-P from Elkington<sup>30</sup> (People, Planet, Profit): before you get started with Planet, immerse yourself first in the interests of People.

And because Kees Duijvestein had already taught me in the distant past that sustainability is about the people there (in other parts of the world than the western one in which we live, for example in the tropical rain forests) and later (the people of the generations after us), I finally also discovered the definition of sustainability which covers the overtones.

*Sustainability is about meeting the interests of the people here and now in a way which also takes into account the interests of the people there and later.*<sup>31</sup>

29 Ariely, D. (2009). *Predictably irrational, the hidden forces that shape our decisions*. London, Harper Collins Publishers.

30 Elkington, J. (1999). *Cannibals with forks, Triple Bottom Line of 21th century business*. Oxford, Capstone Publishing (paperback).

31 The concept of 'social sustainability' is also encompassed with this definition. Namely: in the here and now within this definition, you must also take into account the interests of people of whom account is often not taken (such as the long-term unemployed, retailers in difficulty, solitary pensioners, families with low incomes, children with obesity....). And paying attention to the interests of people 'there' also includes attention paid to child-labour for instance, or the exploitation of farmers.

Another important lesson I drew from all this literature, and which I recognized from my practical experiences, was:

- *Once ‘the illumination in the medial prefrontal cortex’ has been charged and people therefore very much want a product, they become creative in ways of getting this product financed.*

If you summarize Elkington’s third P, Profit, simply as considering the financial aspects, this well-known trio then becomes an effective memory aid for the approach to which we are aspiring. Namely: first consider the interests of the people involved, attempt to promote them in a way which is also good for the planet (the environment, the people of the generations following us), and only then consider the costs. So without immersing ourselves further in Elkington’s approach in any way, we would like to use the familiarity of his trio as a memory aid for the sequence of steps within our Merger of Interests approach: 1. People, 2. Planet and 3. Profit.

Naturally I learned a great deal more from studying publications. Thus the book *Thinking Fast and Slow* by Nobel prize-winner for economics Daniel Kahneman<sup>32</sup>, which I read shortly after publishing *Kansrijke aanpakken*, exercised a major influence on my work. He demonstrates convincingly that even when we think we are being rational, irrational emotional aspects are exercising a major influence on our thoughts and actions. In his book *The Great Reset* sociologist and urban scientist Richard Florida places our current period of crisis in a historical perspective, again arousing optimism for its consequences in me.<sup>33</sup> I was also affected by the following quote from Peter Drucker, influential professor and consultant among others in the field of management and organizational theory: “The aim of marketing is to know and understand the customer so well that the product or service fits him and sells itself.”<sup>34</sup> This statement confirms the main message of the Merger of Interests Perspective.

And then of course there were the people with whom I was permitted to work and still work. I acquired new immediate colleagues, such as in Nyenrode, Professor in Sustainable Organizational Development Danielle Zandee, who introduced me among other things to the scientific world of *action research* so that I obtained a better insight into how the relationship between practice and science should lie in my work, and what the impact could be of selected research techniques. Through her I also

32 Kahneman, D. (2011). *Thinking Fast and Slow*. New York, Penguin Group.

33 See also the introduction to section III of this publication.

34 Drucker, Peter F. (2001). *The Essential Drucker*. Harper, New York.

became acquainted with a type of *action research* conducted on the far-reaching business operations changes to which we aspired: *Appreciative Inquiry*. Danielle has worked closely for years with David Cooperrider of Case Western Reserve University. He is the founder of this theory which underpins the working methods of my team and me and has provided tangible means, focused on ‘thinking and acting differently’.

### **Appreciative Inquiry**

In brief, Appreciative Inquiry (AI) by Cooperrider comes down to the following;<sup>35</sup> To bring about social innovation through action-research, a good theoretical underpinning is necessary. However the usual approach, orientated towards problems, forms an obstacle to fundamental change, because it clings fast to the ‘old thinking’ and offers no scope for the imagination, commitment and passion needed to achieve genuine change. By operating from a valuing approach, this scope is indeed created.

Instead of naming the problem, in AI there is first a search for what does work well (what is valued). And instead of analyzing the causes of the problems, a desired future vision is sketched (envisioning). A dialogue then arises with all those involved about the way in which this ideal picture can be realized in practice (dialoging) and a start is then made on implementing the intended changes (innovating).

Also an influence on our work was the arrival at Nyenrode of the director for the new Centre for Entrepreneurship & Stewardship under which our Centre for Sustainability (Cfs) was accommodated. Henk Kievit specializes among other things in *social entrepreneurship* and assists us from its views in a variety of ways.

But a number of Delft colleagues also inspired me. Ultimately two of my TU doctoral students completed their studies. Their work also influenced the evolution of the Merger of Interests Perspective. Thus the research of Erwin Mlecnik<sup>36</sup> into the large-scale adoption of homes with a minimal energy bill led to the following main conclusion:

35 Among others Cooperrider, D.L. and S. Srivastva (1987). Appreciative inquiry in organisational life. *Research in Organisational Change and Development*, Vol. 1., pp. 129-169.

36 This dissertation was entitled *Innovation development for highly energy-efficient housing. Opportunities and challenges related to the adoption of passive houses*, and was defended on Wednesday 20 March 2013 at the TU Delft (can be downloaded via repository.tudelft.nl).

- *The building world needs to operate less on an ad-hoc basis, and should focus more on collaboration in the form of networks. People should also listen more to the experiences of the occupants of homes with a minimal energy bill.*

#### **Comments on Rogers**

As far as the theory is concerned covering the diffusion of environmental innovations in housing, Mlecnik reached the conclusion that Rogers' innovation diffusion approach is not always ideal. In particular research issues involving system innovations, like entire homes, and networks of entrepreneurs, appear to need an entirely different angle of approach. A combination of Rogers' approach, theory on system innovation and specific building innovation, strategic niche management, environmental behavior and theories involving marketing and policy, are the most suitable, Mlecnik believes, for charting the barriers and opportunities for the adoption of innovations. However such an approach does not yet exist, so his recommendation is for further research to establish the connection between the various theoretical fields.

The objective of the research by Sonja van Dam<sup>37</sup> was to develop design-related insights and guidelines to improve the usability and effectiveness of home energy management systems (HEMS). After all, a home can be designed as significantly energy-saving, but if the behavior of the occupants does not achieve energy savings, then the ultimate goal has not been reached. She determined that very many factors influence ultimate energy consumption in a home, such as occupant, home and product characteristics. All these aspects come together in home energy management systems (HEMS). An interdisciplinary approach appears to be needed, and knowledge on both sustainable home transformation, product development and environmental psychology was deployed during the study. Her research clearly indicated how complex the task of saving energy is in housing, and that deploying energy-saving products and taking energy-saving measures certainly do not lead automatically to energy savings.

<sup>37</sup> This dissertation was entitled *Smart energy systems for households* and was defended on 11 July 2013 at the TU Delft (can be downloaded via repository.tudelft.nl).

And for the Merger of Interests Perspective, the most important main conclusion from Van Dam's research is:

- *For the building world, it is necessary to take cognizance of occupants' behavior when striving towards sustainable home transformation.*

Alongside the doctoral students there were also many graduates, both at the TU Delft and in Nyenrode, who carried out sectional studies in the areas of interest to me. One of them must certainly be named. With her Architecture graduation work, Eefje van der Werf<sup>38</sup> charted very clearly that the interests of occupants in existing housing coincide only obliquely with energy-saving. Her work confirmed what would ultimately become the basis of the Merger of Interests Perspective (an initial step towards a successful implementation of sustainability efforts in building requires a thorough analysis of the interests of those involved). In particular, it appeared from her research that:

- *Saving energy is adjudged to be far less important by occupants than professionals often think. So thinking cannot be done on behalf of occupants, but rather it must be very thoroughly investigated just what occupants are thinking in a specific project, to enthuse them about sustainability efforts. This almost always requires a tailor-made approach.*

And naturally of course there were very many inspiring people with whom I worked within projects. Professor of Transition Management (and activist) Jan Rotmans, with whom I visited the managers of housing associations together with Jan Willem Croon within the framework of what was called 'The Roadshow', should be explicitly named. During our collaboration the vision of transition management developed by him, appeared to hang above the pragmatic Merger of Interests Perspective like a self-evident umbrella.

38 Werf, E.N.M. van der (2011). *Bewonersbelangen bij renovatie in bewoonde staat*. Dissertation Faculty of Architecture, TU Delft (can be downloaded via repository.tudelft.nl).

### **Transition management**

The concept of Transition Management<sup>39</sup> introduced by Jan Rotmans characterized itself from the start by the thought that persistent (non-sustainable) problems cannot be resolved with the normal policy or market forces (only). They require a different approach to normal. This transition approach is defined on the basis of the following characteristics: anticipating the longer term, dealing with structural uncertainties, an integral approach and a multi-player process. Social changes occur within his view in a combination (interaction) of changes within dominant structures (regime), broader social developments (landscape) and innovations. Rotmans regards transitions as integral in character (multi-domain); they arise from changes in economy, technology, policy, ecology and society.

The original rules of thumb within the transition approach were drawn up from reduced starting points in the Complex System Theory. However the approach proved itself and evolved in practice, and received a major stimulus within the KSI program (2001-2003). The concept Transition Management has now been in existence for some two decades. Now that some transitions are accelerated, there is a tipping point and a need for a new or supplementary theory and practice. Transition Management 2.0, with its increased focus on intelligent acceleration, arose from searching, experimenting and learning on the basis of Transition Management 1.0. This acceleration requires a deeper insight into the processes of structure change, but also adjustment forms which can cope with major uncertainties, tension between divergent interests and more. Now that sustainability in various fields has become a concrete, feasible, affordable and desirable direction, the regimes and existing interests dig their heels in even more solidly; the more the undercurrent aimed at transition builds up, the more that preservation strength grows. What is mainly involved in intelligent acceleration is a political-strategic shift, scaling up and breaking through, breaking down non-sustainable institutions, tough confrontations and creating irreversibility. Rotmans and his colleagues believe that over the coming decade it will be crucial to continue influencing the speed and direction of the sustainability transition as intelligently as possible.

<sup>39</sup> See among others [http://repub.eur.nl/res/pub/35017/Metis\\_1006783.pdf](http://repub.eur.nl/res/pub/35017/Metis_1006783.pdf) (consulted 21 October 2013).



And then finally there are very many people who inspire me enormously because they put my ideals into practice. With an admirable persistence they actually realize the most splendid examples of what we intend as the results of the Merger of Interests Perspective. I hardly dare to name names because this will leave others unsung, but there are two who cannot remain unrecognized for various reasons. The first is architect Paul de Ruiter. We became friends right back in my student days, and have stayed in touch and inspired each other regularly since then. He does exactly what I am propagating: improves the quality of the built environment through taking the interests of people as his starting point and promoting those interests through sustainable, often very innovative, interventions.

But as already mentioned: there are other people who do this. The second I would like to name in this context is Jan Jongert; first from 2012Architecten and now from Superuse Studios. I also admire his work enormously, but I particularly want to name him here because he has been able to translate the inspiring 'blue economy' thinking of Gunter Pauli into practical examples within my field. This brought more reality to this approach for me.

### **Blue Economy**

Gunter Pauli's book *The Blue Economy* was originally a report for the Club of Rome. Pauli wrote the book with the double objective of stimulating entrepreneurship, and establishing new and higher ambitions for a world in which what is good for our health and the environment is also cheap. The Blue Economy Business Model intended to create 100 million jobs within ten years, and to realize substantial capital value on the basis of a hundred innovations. The basic assumption here is thinking from a 'what there is' viewpoint and following existing streams, like energy streams, waste streams, material streams and the like. By working creatively with what there already is, money can be earned and jobs can be created. His most quoted example is cultivating mushrooms on coffee waste, a process developed in Columbia and Zimbabwe (by the Zeri company) and which has now been rolled out worldwide. Paul distinguishes his blue economy from the green one which he believes is only reserved for a selective community which can afford sustainable products financially. In the publication *Inside Flows* Jan Jongert offers his interpretation of Pauli's body of thought. Together with his assistants he distilled fourteen streams which can

easily be followed by professionals, and he clarified how these can be translated into a design.<sup>40</sup>

### The future

Naturally it is strange simply to end a view like this, just because the moment of publication has arrived for this text. Because even while writing this historic overview, development continues. After completing her studies Eefje van der Werf started as a PhD student, focusing on the upscaling on which Rotmans is also concentrating within Transition Management 2.0. I continue to learn through working with her.

The same applies to the doctoral research of my Nyenrode colleague Birgit Dulski. She is currently encompassing her years of experience in sustainable monument care in a scientific framework. Insights she gains in this are also of direct influence on my views. In this way we are currently immersing ourselves in the consequences of her observation that it is not only interests which exercise a major influence on the diffusion of environmental innovations, but also deep-rooted convictions. Sometimes people do indeed know that a choice is good in principle, but a deep-rooted conviction restrains them from making this choice. How should this be dealt with? I am also learning from the experience she is acquiring in *grounded theory* (or a substantiated theory approach). This embraces a methodology whereby theory arises during the research process, based on a thorough analysis of data collated systematically. In this method, data collection, analysis and theory are intertwined in a tight relationship.<sup>41</sup>

Joost van Ettekovén and Henk Diepenmaat are currently elaborating the paradox of Mastering Three further: how can you assemble all the skills effectively which are needed for the development of sustainable innovations, while these skills are distributed across a very differing range of both people and company characteristics? With Niek Stukje and Eefje van der Werf we are putting the finishing touches to the relevant master class involving the *Slim & Snel* study. Here too, together with our principals, we are constantly acquiring new insights.

40 Jongert, J., et al., (2013). *Inside Flows; reinventing the performance of space*. INSIDE, Koninklijke Academie van Beeldende Kunsten, Den Haag (second edition).

41 [http://wiki.uva.nl/kwamcowiki/index.php/Gefundeerde\\_theoriebenadering](http://wiki.uva.nl/kwamcowiki/index.php/Gefundeerde_theoriebenadering) (consulted 12 November 2013).

All the colleagues together are currently also working on an assignment given by the Ministry of the Interior and Kingdom Relations: collating and arranging access to our knowledge on scaling up energy-saving interventions in existing housing stock. In particular this latter issue is occupying a great deal of our time: how do we get our knowledge adopted in practice? In the search for the answer to this question we continue to meet new people with new insights. Thus we have added Alexandra de Jong to our team to help us draw a suitable conclusion to this assignment. We have also put together a reflection team to assist us. Alongside familiar faces there are new people with new insights. And from these and other contacts new collaborative ventures arise, such as for example, involving municipal approaches with marketing and communications consultancy 5 plus 1. And that in turn again yields insights for us. Not to mention all the books which continue to be digested (including the imposing *The Future* by Al Gore, in which he assembles very thoroughly *six drivers* for world change).<sup>42</sup>

And thus our Merger of Interests Perspective continues to evolve. The description in the next section of this publication is therefore only (once again) an interim report. The current 'building team' at Nyenrode, in addition to myself consisting of Birgit Dulski, Niek Stukje, Henk Diepenmaat, Alexandra de Jong and Eefje van der Werf (as a graduate with a career elsewhere), has set itself the main goal of not falling into the trap of believing our own story too much and thus clinging to it stubbornly. After all we know from a variety of scientific theories just how dangerous this can be. Transition is our objective and so we must also continue to be open to change. Or as Otto Scharmer prefers to see it: we continue to aspire to having '*an open mind, an open heart and an open will*'.

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42 Gore, A. (2013). *The Future, six drivers of global change*. New York: Random House.

## II. THE MERGER OF INTERESTS PERSPECTIVE AND THE ASSOCIATED STRATEGY

*In this section of the publication I discuss the mission and vision which lies at the basis of the Merger of Interests Perspective and the strategy which arises from it.*

### Introduction

As was apparent from the previous section, a process lasting years led, consciously or otherwise, to a cohesive view of the relationship between sustainability and the built environment. This is the view which I and my colleagues have called the Merger of Interests Perspective following my inaugural Nyenrode lecture.

We do realize that in many respects we are not unique in our perspective. When I read the recent booklet '*MBA in één dag*'<sup>43</sup> (literally, MBA in a Day), many management theories were explained in brief, making me realize that virtually everything we state in our perspective description has already been said previously by others, albeit in a different form. Including by people whose work was unknown to me up to that time. This even caused me to doubt the usefulness and need for our story; who are we to postulate our perspective with such certainty? What does it add to what already exists?

With regard to our certainty: we did not think up what we are offering here on a quiet afternoon. We have labored for years, establishing connections and testing. Should our conclusions coincide with those of others, then that certainly would not be coincidental. It only increases the likelihood that we are on the right track.

But our Merger of Interests Perspective also appears to include unique elements. For example, it does not appear to be usual in general to deploy sustainability initiatives as a resource rather than an objective. We also appear to have placed the concept of innovation, certainly for the building sector, in a broader context than is usual. So with our story we do indeed add something to whatever already exists, we ultimately concluded.

We regard the Merger of Interests Perspective as a pair of spectacles through which one can view the world. It is a way of looking which can

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43 Tiggelaar, B. (2012). *MBA in één dag, een frisse blik op de beste ideeën van de belangrijkste managementdenkers*. Tyler Roland Press.

certainly prove its added value in the current context. That's because the Merger of Interests Perspective is about changing, and this time is more open to that than previous periods. Sociologist and urban scientist Richard Florida even dubs this moment in history The Great Reset,<sup>44</sup> a period in which old values and working methods come to an end and space arises for new developments. He discerns strong similarities with earlier periods in history, such as the great depression from the beginning of the last century, and the long depression at the end of the century before. It appeared possible then to achieve economic regeneration afresh from those bad situations, thanks to rigorous changes in a variety of areas. Techniques, lifestyles, ways of thinking and acting – everything changed. History has thus taught us that a period of innovation appears to have arrived, and my Nyenrode colleagues and I believe that the Merger of Interests Perspective can contribute to a fulfillment of this change in a sustainable manner.

That striving for sustainability is necessary, we have already known for some time. Right back twenty years ago Jan Rotmans based the development of his Transition Management on it. Al Gore shook the world awake a few years ago with his film and book *An Inconvenient Truth*<sup>45</sup> and did it again recently with his book *The Future*.<sup>46</sup> In this latter publication he used eight years' research to distinguish six developments which are changing our world fundamentally, and (as he warned again) sometimes with disastrous consequences.

All these developments, including the conjunction of both an ecological and an economic crisis, are spurring a new development into action. Increasing numbers of people are becoming convinced that the search for solutions to economic problems must go hand-in-hand with solutions for the ecological task which faces us. And that these are major changes – about innovations. Small steps are no longer sufficient. I see these developments almost daily in my work; the call for change which is part of the Merger of Interests story is being adopted by far more people than before. The task of changing – or transition, reset – is complicated however. It involves a combination of changes in economy, technology, policy, ecology and society and, as Rotmans also states, it also means dealing with contradictory forces. Because the more the undercurrent swells, the more that conservation forces increase.

44 Florida, R. (2010). *The Great Reset, How new ways of living and working drive post-crash prosperity*. Harper Collins Publishers.

45 Gore, A. (2006). *An Inconvenient Truth: The Planetary Emergency of Global Warming and What We Can Do About It*. London, Bloomsbury Publishing.

46 See footnote 42 in part I of this publication.

This latter aspect is not illogical. People are not inclined towards change. Certainly not when it has as its consequence that what they hold dear must be abandoned. As already stated in the first page of this publication, “When people find something very attractive, blood flows to a small area at the front of the cerebral cortex. The medial prefrontal cortex lit up on the photo like a flame.” And this has major emotional consequences, because letting go of something you find to be very attractive – and there are certainly many products seriously detrimental to the environment which are felt to be very attractive, such as fast cars, luxury homes, wonderful air-travel – is exceptionally difficult. It is hardly surprising that psychology uses the concept of loss-aversion.

So it is not the case that an increasingly more broadly accepted feeling of necessity will persuade everyone to change. As I already noted in my inaugural speech:<sup>47</sup> there will always be a very large group of people who will only change when there is simply no other option (we called the people of this group the traditional craftsmen in my address). And we don’t mean anything negative by this. It is simply the case that for very many people it is extremely difficult to change. It is up to the parties who can indeed change and who want to, to show that the road to change leads to something very fine indeed. We hope that the Merger of Interests Perspective can contribute to this.

### **Mission, vision and starting points**

In the Nyenrode building team I work in close cooperation with colleagues. We differ from each other in many respects, but we share a deep-seated wish for which we strive together. Together we have a mission. We have described this mission as follows:

*We want to improve the quality of living of people (both here and now, and there and later) within the context of the built environment.*

This is a fine shared aspiration, but many share this ideal with us. The perspective from which we want to achieve our mission also binds us, and more specifically too. In our work we share a number of basic starting points which determine our approach and working methods. We call this our vision. Namely:

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47 Hal, A. van (2009). *De Fusie van Belangen, over duurzaamheid en rendement in de bouwsector / The Merger of Interests*. Breukelen, Nyenrode Business Universiteit.

*We believe that the quality of the built environment can be improved using a 'toolbox' which contains mainly sustainability measures. That's because we believe that sustainability initiatives can in fact offer quality in more areas than simply in terms of sustainability.*

*We are also convinced that such sustainable initiatives can quickly become communal property when sustainable initiatives promote both interests and engender positive emotional feelings (in other words: they light up the medial prefrontal cortex).*

*That's why we believe that one should not simply take rational interests and the general sustainability policy as a starting point in the selection of sustainability initiatives within the context of the built environment. You also need to seek for what people desire – what they really want, and what makes them happy. How can you engender positive emotions with sustainability initiatives?*

Supplementary:

*If quality is seen more broadly than just sustainable quality, and we thus broaden our scope, the chance of a growing demand for sustainable products is increased. This is why we believe that focusing on the 'non-sustainable qualities of sustainability initiatives' leads to healthy business opportunities.*

That a sustainable measure can offer more quality than simply environmental quality, and a win-win situation can be created, thus makes up an important point of departure for the Merger of Interests Perspective. Which extra qualities does this then involve? Here it is difficult to make a generic statement. Financial quality is often named. The cost factor is indeed a major influence on the quality perception. But this does not also mean it is always the deciding factor. Other qualities can also be important, for example comfort or a pleasant and safe living environment. Which qualities can be integrated successfully also varies per location. So it's about customized work. This note makes up an important element of the Merger of Interests Perspective.

We suggest that business opportunities arise when parties succeed better in putting existing subsidiary qualities under the spotlight and providing an insight into how these cohere with the offered sustainability measures. And/or when they succeed in developing a sustainable innovation which meets the interests of the parties involved.

By 'innovation' we do not specifically mean something totally new. Just like Rogers,<sup>48</sup> we regard innovation as something (and that 'something' can be a product, a service, a process or a social development) which is regarded as new in the eyes of the people who deal with it. So it's entirely possible that an innovator finds something to be very well-known, but that the previously mentioned traditional craftsman regards it as an innovation. And something which is very usual abroad may be a genuine innovation in our own country.

We suggest that successful innovations engender strong positive emotions because they fulfill the interests which people have. That's why we believe it is essential in the development of innovations that the interests of the parties involved be charted thoroughly in advance (the interests of the people here and now). We base this conviction among others on knowledge of marketing specialists. By replacing the concept of marketing in the familiar quote by Peter Drucker<sup>49</sup> with the Merger of Interests Perspective, it becomes clear why: *"The aim of the merger of interests perspective is to know and understand the customer so well that the product or service fits him and sells itself."*

The original definition of sustainable development (the Brundtland<sup>50</sup> definition) is *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."* Within the context of the Merger of Interests Perspective we utilize a definition which does justice to the aspiration of making something from sustainability innovations that people really want. In this definition we combine the Brundtland definition with Drucker's view:

*Sustainability is about promoting the interests of the people here and now, in a way which takes into account the interests of the people there and later.*

We believe that innovations which contribute to this, have a particular chance of succeeding (see also the introduction) if the parties involved deviate from the normal ways of thinking and acting. We believe that the realization process of the innovation therefore appears more like an 'adventurous safari' than an 'organized tour'.

48 Rogers, E.M. (1995). *Diffusion of innovations, fourth edition*. New York, The Free Press.

49 Drucker, P.F. (2001). *The essential Drucker, the best of sixty years of Peter Drucker's essential writing on management*. New York, Harper Collins Publishers.

50 Brundtland, G.H. (1989). *Our common future*. World commission on Environment and Development.



In an adventurous safari cooperation is a success factor. For those who are working from the Merger of Interests Perspective, cooperation is therefore also extremely important.<sup>51</sup> Cooperation is particularly essential because innovations have more chance of success if the scope is broadened in terms of time, place, profession and financial flows. Cooperation with other parties than is usual enhances the chance that there is a diversion from the usual track and that there is a broader view of the sustainability statement in the built environment. *So we therefore believe that cooperation leads more readily to an integral quality of sustainability measures, where the need for quality must be met on multiple fronts. And that this leads to innovations.*

The final comment concerning our view (basic principles): we are very well aware of just how significant the influence is of external factors – factors over which no influence can be exercised. Consider for example divergent issues like the discovery of new energy sources leading to a declining oil price, and thus to employment which rises in the sector or not. The trick is therefore – within the changing circumstances which are not easy to influence – to make the right choices about things over which one can indeed exercise influence. In my inaugural speech we called this ‘guiding by dynamic and complexity’. This goes more deeply into its consequences. For the rest we will leave this aspect aside in this publication.

So in summary, there are five basic principles of crucial importance in the development of innovations from the Merger of Interests Perspective: broadening scope, identifying interests, collaborating, creating a win-win situation (doing justice to the interests of people here and now, and of people there and later) and creating business opportunities.

In the third part of this publication we will highlight examples which inspire us, on the basis of this five-sided division.

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51 However to achieve a sustainable innovation through cooperation is not that simple, as also became apparent from our study *Mastering Three* (Diepenmaat, Van Ettehoven and Van Hal). The collaborating parties must have a variety of skills which contradict each other in certain aspects, and which are therefore difficult to combine in one person. We are currently studying the way in which the paradox can be resolved and this process can be simplified. The experience which has been acquired with the *Slim & Snel* practical program also offers insights in this respect.

## Strategies

The Merger of Interests Perspective offers a view of the successful integration of sustainability measures in the built environment. But how can parties in this sector turn this into practical interpretation? We have evolved two strategies for this: the Merger of Interests strategy and Mastering Three.

The Merger of Interests strategy is one which enhances the chance of sustainable innovations with an integral quality (in other words, with more qualities than simply sustainability ones). Mastering Three is focused on the collaborative process in the development of such sustainable innovations (so that there is more chance of successful innovations). In this publication we will highlight the Merger of Interests strategy. For an explanation of Mastering Three we would refer to the publication bearing this name.<sup>52</sup>

The Merger of Interests strategy consists of three steps with a fixed sequence. They are mentioned briefly here, and are explained later in this section.

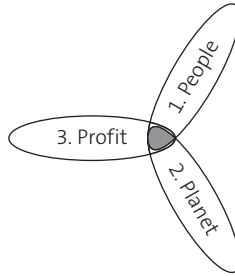
- Step 1: *Drawing up an inventory of the interests of people here and now (including all those involved in a project, thus including the offering parties).*
- Step 2: *Defining measures which promote these interests, and in such a way that account is also taken of the interests of people there and later.*<sup>53</sup>
- Step 3: *Seeking (innovative) funding models which make investment in such measures possible.*

As also stated in part I of this publication: if you simply regard the word Profit from the well-known triptych of Elkington (People, Planet, Profit) as considering the financial aspects, this triptych becomes an effective memory aid for the approach we advocate. Consider first the interests of the people involved, then attempt to promote those interests in a way which is also good for the planet (the environment, the people of the generations following us), and only then consider the costs. So without going into the background of Elkington's approach in any way, we would like to use the familiarity of his triptych as a memory aid for the

52 Diepenmaat, H., J. van Ettehoven & A. van Hal (2012). *Mastering Three, een drievoudige werkwijze die leidt tot een vitale bouwpraktijk/a threefold method towards a vital building practice*. Breukelen, Nyenrode Business Universiteit.

53 The 'toolbox' thus consists purely of sustainable measures.

sequence of steps within our Merger of Interests Perspective: 1. People, 2. Planet and 3. Profit.



The following logic lies at the heart of this sequence: if you offer people something which meets their needs (helps to resolve their problems or helps to embody their ideals), an inner wish is created to have access to it (the medial prefrontal cortex lights up). Preparedness to be creative in seeking innovative funding models then also increases.

By way of illustration: many of my students, despite their limited financial resources, have the newest and most expensive computers and phones. Because they really want to have them, they ensure in all sorts of ways that they can gain access to them. They save, do extra work or find another solution. The Merger of Interests strategy capitalizes partly on this dynamic: wanting to fulfill a need or desire, whereby that longing becomes a driving force in realizing a solution.<sup>54</sup>

All in all it sounds as though these three steps are probably obvious. But in practice the available budget is generally the starting point in the selection of sustainability measures, rather than wanting to meet the needs of the parties to the fullest. Sustainability objectives then quickly disappear from sight.<sup>55</sup> When things are done in accordance with the Merger of Interests strategy the chance of this happening is reduced, because there is a striving towards a win-win situation.

<sup>54</sup> This mechanism is in fact not only applicable to consumers. Other stakeholders are also driven by the fulfilment of desires. By working in accordance with the passion of all the parties involved, more chance is created of sustainability, innovation and collaboration in building.

<sup>55</sup> Bart Bossink describes this well in his dissertation with the term 'objective erosion'. Bossink, B.A.G. (1998). *Duurzaam Bouwen in Interactie: Doelontwikkeling in de Woningbouw*. Dissertation, University of Twente.

We describe steps 1, 2 and 3 in more detail below. But after these steps there is of course more: realizing the ambitions in practice, and propagating the good experiences. We will mention a few initial comments and will return to it at the end of this section.

The following, about realizing the ambitions in practice: if people want something very much, but in order to realize this in practice they must operate very differently to what they are used to, the process of realizing ambitions often stalls, and the desired renewal does not happen in practice. This also applies to sustainable building and renovation projects which are distinguished by lofty ambitions in their initiative phases. The team often changes during the preparatory and execution phases, and people are introduced who were not involved in the initial process. This can constitute a barrier to actually carrying out the proposed renewing approach. The fact that people often do not like change and prefer to work 'the way they are used to' can put the brakes on.

So fine plans often remain just fine plans, and the transition from plan to practice is often not achieved. Partly for this reason it is important to evaluate the experience acquired in projects where lofty ambitions have indeed been realized in practice, so that things that didn't turn out well can be improved. The news about what went well can be released into the world by careful communication (after all, the demand for 'proven technologies' is considerable).

Elaboration of the steps:

### *Step 1*

Drawing up an inventory of the interests of the parties concerned therefore constitutes an exceptionally important phase, and is also the starting point for the Merger of Interests strategy. The interests of the professionals are often clearer than those of the people for whom one is ultimately doing the actual work: the residents and users, but also others who have a direct interest in the project being realized. A thorough inventory of their interests is also therefore necessary. But a complicating factor here is that people do not ask for what they do not know. The well-known quote ascribed to car-maker Henry Ford illustrates this dilemma: *"If I had asked my customers what they wanted they would have said a faster horse."*

Important for a successful elaboration of the first step within this strategy is therefore also that there is a discovery of the more deep-seated needs of the involved parties. What do people dream of? What keeps

them awake? It is also important, as Jan Willem van de Groep of *Energiesprong* determined during an evaluation of the *Slim & Snel* program, that you also need to ask what people don't want. About what really irritates them, or they are afraid of. So emotions are included emphatically in this phase. To answer such questions, more knowledge is thus needed than that which most people in the building sector possess. This is also the reason that from the Merger of Interests Perspective we also issue a fervent plea to integrate behavioral science in the now mainly technically and economically orientated training for professionals in this sector.<sup>56</sup>

The needs which come to the fore differ from situation to situation. The parties whose interests are also taken into account, can also differ. In general, the recommendation applies that the group of those involved should not be restricted. Expanding the formulation of a problem also expands the possibility of new solutions. Thus it could be entirely logical to chart the interests of the youths in a neighborhood where young people have been causing significant disturbance. Or where there is a problem of graying, the specific interests of the elderly who live there. Operating from the Merger of Interests Perspective is therefore always tailor-made.

Practice shows<sup>57</sup> that ignoring the needs of parties is often the reason projects fail. If for example residents feel they have not been heard during the preparation of a project, there is a significant chance that they will reject whatever is offered to them, no matter how good. On the other hand, when residents are taken seriously, much more appears to be possible than previously thought by professionals. Involved residents can for example make up a major stimulatory force in neighborhood development. The importance of the first step of this strategy cannot therefore be stressed enough.

### Step 2

Promoting the interests in a way which takes account of the people there and later, through deploying sustainability measures, requires a great deal of knowledge and creativity.

56 My 'building team' from Nyenrode is currently conducting a study intended to offer concrete handles to the building sector in terms of the sustainability issue, by integrating knowledge from the behavioural sciences into daily building practice. The report *Kansrijke Aanpakken* also motivated an approach to this. The relevant study is more or less a continuation of it. Details will be published in 2014.

57 Among other things this is highly apparent from the research from *Slim & Snel* and the study by Eefje van der Werf (see footnotes 21 and 38 in the first section of this publication).

A variety of resolution directions is also possible. Thus striving towards a communal energy system could contribute to enhancing the social cohesion in a neighborhood. Because a heat-pump is often combined with wall heating, it can provide cheap cooling as a side-effect (you can easily let cold water flow through the wall on hot days). The appreciation for a new system can also rise through a combination of functions. Consider for example a project where a new heating system is placed in a new cupboard in the doorway, outside the front door, so that one no longer has to go inside to maintain the system. By also creating space in this cupboard for storing shoes, concerns about untidy footwear are also immediately put to rest. Extra outer wall insulation sometimes leads to thicker walls, and thus a very cozy and deep windowsill. Mud walls accumulate heat, but if applied in restaurants they also remove the smells from adjacent tables. And thus there are many other combinations which could be conceived where the knife cuts several ways (see Part III for more examples).

Because discovering and/or developing non-environmental benefits of sustainability measures requires a great deal of knowledge of environmental measures, intense collaboration between various parties is highly important at this stage. To promote the required creativity, it is also desirable that people are involved in this group process who view the issue in an unorthodox way in the eyes of the others involved. This enhances the chance that parties do not 'cling to their own channels of thought', but achieve new solutions. Experiences from abroad or other sectors can also result in such an expanded vision.

Collaboration focused on the development of sustainable innovations is not simple. The effect of collaboration is often influenced negatively because parties have unconsciously formed an advance idea of the wishes and needs of the other party or parties. This means they listen to each other selectively, and talk past each other. Working together on sustainable innovations requires skill, from all parties.

The building sector now accepts the importance of collaboration. Here cooperation is particularly devoted to increasing efficiency, in other words product improvement. But for sustainable innovation much more is involved: the improvement of the effectiveness of processes, products and services. And certainly such that the interests of people here and now and those of there and later, are met. It is precisely this which requires collaboration, and it is precisely this collaboration which leads to innovation.

This process of collaboration was compared earlier to a safari adventure. Just as in a safari, the consistent goal is the established objective, but at the same time there is always a careful watch maintained for unexpected opportunities and solutions (broadening the *scope*).

When solutions bubble up, in a (possibly supervised) creative collaboration process, it is also important to determine whether the proposed intervention in the built environment will be sufficiently time-resistant. What if the interests of people change over time? Will the interventions then continue to be viewed positively? Only if these questions are answered positively, can the move be made to step 3.

### *Step 3*

The Merger of Interests Perspective is also about creating sustainable and healthy business opportunities. In sustainable entrepreneurship through the Merger of Interests Perspective, a feeling of social responsibility plays a vital role. Striving for sustainability in its broadest sense is an important motivation for many entrepreneurs in their business operations. But striving for business success is not just a factor for entrepreneurship – it is also a vital success factor in achieving sustainability. It leads to a perpetuation of the sustainability aspiration rather than it being ditched at the first setback. So the third step of the Merger of Interests Perspective therefore also implies that market parties will be better off through it in a business sense.

Whether sustainable measures and sustainable innovations are attractive to both purchasers and providers, is also determined by a suitable financial model. Because if a significant need for a sustainable intervention is created thanks to steps 1 and 2, this still does not mean that extra money is available to fund it. Certainly the *willingness to pay* may have grown among purchasers, and mostly with it too the preparedness to seek funding possibilities in a creative manner.

This can be done in many ways. Thus for example the non-environmental benefits of environmental measures can also be incorporated in the financial picture. In housing construction the aforementioned heat-pump offers not just the possibility of cheap cooling, but also offers extra living space as a result of a lack of radiators. By creating a comparison of homes with extra space and with cooling, the financial picture for this system becomes far more attractive than when only the benefit of saving energy is considered. The utilization of something other than the usual tendering system can also contribute to a new financial picture. If for example

parties such as architects, builders and investors are made responsible for the building they have delivered for twenty years, their financial view of the issue is very different than when they are only responsible for the delivery phase. The intervention of an extra party can also lead to new business opportunities. Consider for instance the introduction of an energy service company (ESCO) in a building project focused on energy savings. This party invests in the energy-saving measures and also stands surety for the savings. This investment is then paid off from the savings on the energy account.

Only once this third step in the Merger of Interests Perspective has been completed successfully, can one refer to a healthy business opportunity.

### Realizing the plans in practice

Whether a certain measure has the opportunity of being rolled out on a large scale, is often determined right back in the first project in which it is applied. If this project goes wrong, for whatever reason, and there is no intervention to resolve the problem in good time, the innovation will be rejected by the public along with the project. The poor experiences with heat recovery systems in the Vinexwijk area of Amersfoort in the Netherlands are a good example of this mechanism. This example shows the importance of evaluation, openness and aftercare. If the system had been assessed as good immediately upon delivery and the discovered fault was communicated and resolved, the damage would probably have been a lot less serious.<sup>58</sup>

However when a project is successful, possibly also thanks to client-orientated modifications and the resolution of faults, there is far more chance of the large-scale application of these measures. Good news certainly travels less quickly than bad, but word-of-mouth advertising can exercise a major impact. Evaluating experiences is therefore highly important.

The composition of parties often changes when a project moves from the planning phase to the realization one. Practice has shown that a consequence of this is often that ambitious proposals are stillborn. Considerable attention must thus be paid to the composition of the group of people involved in both the preparatory and realization phases. An *innovation champion*, a party who promotes the innovation, determines to a signifi-

<sup>58</sup> In the United States, where the client already plays a major role, this is a standard working method. In the time I lived there, I discovered that people were seriously astonished over the fact that in the Netherlands we did not automatically set aside an amount to evaluate our products and projects.



cant degree whether and how plans are realized, and plays a major role in the collaboration in this phase of the planning process.

Regulations can sometimes hinder the introduction of innovations in practice. It is important to realize that municipal officials often interpret rules in their own way. Involving such municipal representatives early in the process can help to remove objections up front. If this is not the case and regulations remain an obstacle, it pays to consult the source of the regulations to determine whether reasons can be found to be more flexible with the legislation than is currently happening at the local level. For innovations it can be a hindrance if regulations prescribe objectives in detail rather than in broad outline.

Many arguments could be put forward for why an innovation cannot be applied. However practice has shown that making the attempt is the best teacher. So we argue for overcoming doubt and simply getting started. For those who dare, and who thus are first to innovate: also keep an eye on the interests of people who are less valiant. We see that there is a gulf between those who were called 'innovative leaders' in my inaugural speech (who are prepared to take a chance with something new), and 'concerned partners' (who do certainly perceive the necessity of something, but who also cling fast to what they are familiar with). To promote the large-scale application of innovations, this gulf must be as narrow as possible. Details which seem unimportant at first glance could actually be of decisive significance here. Consider the example mentioned previously which initially looked so much like a horseless carriage. This was not because the technology did not exist for direction indicators, for example. The usual extension of the hand, and the design looking much like a carriage, made the new product more trustworthy for the customer.

### **Passing on good experiences**

The large-scale application of sustainability measures becomes possible through the right party providing the right incentive at the right moment. By the 'right incentive' we don't so much mean a form of subsidy but rather the right story. So the quality of communication is vitally important. Every target group is sensitive to a different story.

But just a good story won't get you there on its own. The person who communicates the message must also be considered to be trustworthy by the target group. It would appear to be logical for instance, to leave information about saving energy to the energy utilities, because they have the right knowledge of it. But this often does not work, because customers do

not trust this party as the messenger: “Why should someone who makes money from my energy consumption, advise me to use less?”

Whether the customer also obtains sufficient certainty about the functioning of the intervention to be chosen, has an influence. For example, can the calculated energy savings actually be guaranteed? It is also important to make it as easy as possible for the customer to achieve application of the chosen measures in practice. But also having a choice is important. So too is the possibility of testing the measures and their effect in advance (for example through excursions). In short: good communication requires the necessary care and attention.

### **In conclusion**

A dream lies at the foundation of the Merger of Interests Perspective: creating something from sustainable innovations that people actually want. As the ‘building team’ of the Centre for Entrepreneurship & Stewardship of Nyenrode Business Universiteit, in which the Centre for Sustainability is accommodated, we focus our dream on the building sector. We want to improve the quality of the built environment by applying sustainability measures in the built environment on a significant scale.

Realizing a dream is not easy. Among other things it requires courage, care and a broad vision. Fortunately we are not the only ones to hold this dream. By working together, many opportunities arise. Countless examples of this can be found by those who look. We will make a start in the next section. There we will describe examples which illuminate the entire breadth of the built environment and which offer an impression of our working methods and activities. The points of attention which occupy us the most are of course also highlighted. These areas are: the existing residential environment (homes and neighborhoods) and buildings with a historic value (including ‘sustainable monument care’).

From dreaming to doing (or from mission to practice); ultimately that is what it is all about for us.

### III. PRACTICAL EXAMPLES

#### **GWL site, Amsterdam<sup>59</sup>**

**The GWL site took shape through high environmental ambitions. Now the neighborhood is particularly popular thanks to its child-friendly character and social cohesion, representing a symbol for positive and unexpected ancillary effects of environmental interventions.**

On the location of the former ‘Gemeentelijk WaterLeidingbedrijf’ or municipal waterworks in the Westerpark section of Amsterdam, 600 environmentally-friendly houses were constructed on a car-free site between December 1996 and November 1998. Those with environmental ambitions living in the vicinity were the motivators of this project. Well-known designers demonstrated that architectural quality was also possible.

#### **Broadened scope**

A car-free eco-neighborhood in the heart of Amsterdam: ‘a daredevil plan’ architect Liesbeth van der Pol called this ambition in a documentary a decade after completion of the area. The newly-elected area authorities did however perceive a future for this unorthodox proposal by enthusiastic residents of the adjacent Staatslieden neighborhood. And five housing associations were also prepared to participate in realizing the plan. The ambitions of the residents were extremely high. So high in fact that the advisors from specialist consultancy ‘Milieukundig Onderzoeks & Adviesbureau BOOM’ occasionally had enormous difficulty convincing the residents that much was indeed possible, but not everything. The fact that virtually all those involved were prepared to think past the usual boundaries formed the foundation for the success.

<sup>59</sup> Instead of the GWL site, for this publication we could also have chosen EVA-Lanxmeer in Culemborg as an example urban development project. Also a car-free sustainable project, of around 200 homes (developed around a water-collection area), its sustainability ambitions went somewhat further than those of the GWL site, and it has also become popular because of its residential quality. Here too the involvement of the residents was exceptionally high. And here too, experience taught that many environmental interventions – such as communal gardens and a collective heat-pumping system – led to extra residential quality. For heating, the temperature of the pumped drinking water in the water-collection area was used, so that expensive ground collectors were not needed. The system enabled radiator-free living spaces. EVA-Lanxmeer also attracted a great deal of attention from abroad, and the neighborhood played a major positive role in the acceptance of sustainable building in the Netherlands. Given the fact that the GWL site is also part of the personal history described in Part I of this publication, it was however decided to describe the GWL site further. Plenty of information about EVA-Lanxmeer can be found at [www.eva-lanxmeer.nl](http://www.eva-lanxmeer.nl).

### Interests represented

No matter how complicated it also turned out to be in practice to achieve a car-free eco-neighborhood, ultimately the result satisfied virtually everyone. Town planning professional Kees Christiaanse and landscape architect Adriaan Geuze worked with specialists to develop a plan in which a spacious feeling would prevail despite the high density, and where watercourses, vegetable gardens, fruit trees and playgrounds would be given a logical place. Young and talented architects, alongside Liesbeth van der Pol and the Christiaanse agency, along with Meyer en Van Schooten, DKV and Neutelings-Riedijk, designed attractive environmentally-friendly homes with many innovations (for that time). As far as possible the homes had their entrances at ground level to enable contact with the neighborhood.

### Collaboration

The collaboration with the residents made the project particularly unusual. The initiative lay with a number of them, and right from the first moment everyone who wanted to was involved in everything. This involvement of all parties was significant and the cooperation between the many parties was intense. From aldermen to officials, from town planners to housing associations, from architects to advisors: the entire process constituted an inspiring lesson in working together for all of them. Project leader Ineke Karemaker summarized the collaboration in an interview with Nul 20 as follows: “There was a spirit of ‘going for it together.’ I’ve never felt that quite so strongly anywhere else. Typically a case of the right people at the right time in the right place.”

### Achieved win-win situation

Not all the environmental measures, like the compost toilets for instance, withstood the march of time, but the car-free and green aspects and the vegetable gardens<sup>60</sup> did turn out to be successful. Particularly because of the child-friendliness which arose as a result. And because of the significant social cohesion which came about from the meetings in the communal gardens, but also the presence of the neighborhood manager. The fact

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60 At the moment the concept of ‘urban farming’ is taking wings. In particular, fallow areas and the roofs of buildings are being transformed into vegetable gardens, as indeed are even the floors of empty office premises. Urban farming has many benefits and is a typical example of working from the Merger of Interests Perspective: the social cohesion in a neighborhood increases, energy consumption for transportation is kept to a minimum, it promotes the health of residents, it enhances the knowledge of food production among children, and it makes food accessible at low costs to people with a modest purse. A recent source on this subject is, for example, *Farming the city, food as a tool for today’s urbanization* by F. Miazzo and M. Minkjan, published by Trancity\*Valiz, Amsterdam.

that many residents were involved closely in the plan right from the first ideas, also yielded a considerable contribution to the sense of community.

### **Business opportunities**

The GWL project represented a great deal in the Netherlands in terms of acceptance of sustainable building. Before this time, it was still often believed that sustainable or environmentally-aware building equated with unattractiveness and a reduction in quality and comfort. The GWL site was one of the first projects where it became clear that quality and sustainability could coexist on all fronts, and could even enhance each other. This contributed to the business opportunities for the parties who were or would become active in this area.

### **In conclusion**

Via the so-called 'Koepelvereniging' or umbrella association in which all the parties were represented, the residents retained a great deal of influence over neighborhood development. They had a say in maintenance plans and investments.

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- own experiences (see also the Part I of this publication).

## Smart Highway<sup>61</sup>

**Smart Highway, developed by Heijmans and Studio Roosegaarde as a concept for the highway of tomorrow, consists of a combination of sustainable mobility technologies, energy-saving measures and smart materials. The concept is attracting considerable attention, including worldwide. Design and perception determine the success of this concept to a considerable extent.**

The Dutch roads network is one of the most tightly distributed in the world. In 2007 we already had around 135,000 kilometers of public road, including 5,000 kilometers of national roads and 8,000 kilometers of provincial ones. In 2011 we drove around 125 billion kilometers in the Netherlands, equating to around 20 million tons of carbon emissions.

### **Broadened scope**

The design assignment took shape by considering the highway in a different way. Heijmans, a company working with property, housing, utility construction and infrastructure, already regarded the highway in earlier projects as a sustainable landscape element and a source of energy. During its collaboration with artist and modernizer Daan Roosegaarde, founder of the eponymous studio, the vision arose that the user could also view the highway as 'a safe homeward journey' or an 'interactive experience'. From this new viewpoint, together they came up with innovative ideas for a very normal phenomenon.

### **Interests represented**

Interests which were incorporated in the design and product were safety, sustainability and the user experience. This project also integrated the local, provincial and national energy-saving objectives, which for these parties also led to financial benefits through saving energy. With this project the two collaborative parties, Heijmans and Studio Roosegaarde, enhanced their brand familiarity and innovative image, and thereby also their business opportunities.

### **Collaboration**

The collaboration between Heijmans and Studio Roosegaarde arose through a conjunction of circumstances. What was unique about the collaboration is the fact that the parties come from different worlds and professional disciplines. As an organization Heijmans has a great deal of

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61 Current information can be found at [www.heijmans.nl/Smart\\_Highway](http://www.heijmans.nl/Smart_Highway).

technical knowledge in-house, and realizes, builds and implements existing and innovative technologies in the built environment. Studio Roosegaarde dubs itself a social design agency<sup>62</sup> and on the basis of conceptual abilities and emotions, creates installations in the built environment which establish a link between art, space, technology and the relationship between and with people. From this collaboration, existing technologies could be considered from a new viewpoint, creating a high-profile innovation combination.

### **Achieved win-win situation**

Smart Highway has a variety of functions, of which serving as a road for vehicular traffic is just one. Among other things the road surface is 'smarter' because it is able to charge a travelling electric vehicle. If roads were constructed this way by default, or often, then smaller batteries would also be needed. This could have positive consequences in weight terms and (therefore) the energy consumption of electric vehicles.

The road surface and street lighting are interactive. The road marking stores light by day and emits it by night. The road surface is temperature-sensitive and 'translates' this into informative images. The lighting reacts to the presence of users. This combined solution of smart materials, energy generation and savings and mobility, all make the highway not only good to drive on, safe and sustainable, but also more attractive in perception.

### **Business opportunities**

The innovations of the smart highway still need to be tested before being rolled out on a larger scale. So at the moment it cannot yet be determined whether the concept will lead to a major corporate success for Heijmans and other possible parties. However there is a good chance that it will, because with this new view of infrastructure – with roads which offer more than just safe traffic – the initiators are anticipating new needs in the market.

### **In conclusion**

Smart Highway has already been crowned with several prizes, like the Dutch Design Award in 2012, and in 2013, one of the Accenture Innovation Awards and the Danish INDEX prize for social design projects.

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62 [www.studio Roosegaarde.net/info](http://www.studio Roosegaarde.net/info).

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## Baima Canal, Fuzhou, China<sup>6364</sup>

**Water purification, recreation, tourism and a healthy living environment: the Baima canal in China embodies a genuine win-win solution which arose through thinking outside the box.**

Fuzhou, a city of six million people, disposes of unpurified household and commercial waste water through an 80-kilometre-long network of canals, into the Minjiang river. The most polluted canal within this network is the 600-metre-long Baima canal. In 2002 this canal was equipped with a natural water purification system. A walking route was created in the middle of the canal and the purification system, also producing a 600-metre-long recreational area in the form of a floating garden.

### Broadened scope

Instead of (as usual) transporting the polluted water through new pipelines to an external waste water purification plant, the city authorities broadened their view and sought alternative solutions. Ultimately they opted for a natural water purification system by John Todd Ecological Design and Ocean Arks International. These companies were both set up by the foremost global specialist in natural water purification, John Todd. Ocean Arks International is still under his leadership and is a non-profit research organization, focused on making the water world sustainable. John Todd Ecological Design is now led by his son Jonathan Todd and develops so-called eco-machines for water purification. For the Baima canal these parties came together to develop a system of 12,000 plants, made of up twenty indigenous types and consisting of a series of linked areas each with a different biophysical quality, so that the waste water is purified effectively.

### Interests represented

Those with the greatest interest in this project are the residents. The annoyance of the smells and the floating waste they had to live with has disappeared, while in addition they now have an attractive recreational area. The interests of the municipality have also been represented, because an attractive alternative has been found at a lower than usual cost.

63 By Niek Stukje (partly on the basis of research material by Pargol Kavandi)

64 Instead of the Baima canal we could also have highlighted the 'High Line' in New York in this publication. Here too, a previously very unattractive part of the city – a former rail route – was transformed into a highly attractive area and tourist magnet. Partly financed by crowdsourcing, the abandoned elevated railroad route was transformed into a green promenade full of indigenous plants. Among the places where information can be found is [www.thehighline.org](http://www.thehighline.org).

The higher quality of the water serves the interests of local fishing. Given that this waste problem is characteristic of major parts of China, it also offers a potential benefit in acquisition terms.

### **Collaboration**

This project is not particularly notable because of any joint venture form. Collaboration occurred between the municipality and the companies/organizations of father and son Todd.

### **Achieved win-win situation**

The water purification system that has been achieved here in combination with a recreational area, leads to win-win situations on many fronts. At lower costs than usual – also in maintenance terms – and in a natural way, water quality has been improved in the Baima canal, but also in adjoining canals. The problem of odors has disappeared and the aesthetic quality of the area has increased markedly, as have the recreational opportunities for residents and tourists. The system has also had a positive effect on the health of the residents.

### **Business opportunities**

The business opportunities arising from this solution are varied. Naturally it offers opportunities for the companies which developed and constructed it. There is a greater chance in China that the system will be used elsewhere. But local business opportunities have also been created. The higher quality of the water promotes local fishing. And because the area has become so attractive, including for tourists, there is an increased chance that more companies will want to establish themselves there.

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## Granville Island, Vancouver

**Granville Island:** a partly abandoned industrial area in Vancouver, situated unattractively under the flyover of a busy highway (but at least alongside the water), has been slowly transformed since the 1970s into a lively place with many facilities and a considerable appeal to a variety of target groups. Sustainability was not a requirement within this evolution, but its sustainability character – including a focus on local organic products – became obvious during the process.

### Broadened scope

At first glance nowhere is quite as unattractive as a desolate industrial area full of empty and neglected industrial sheds below a busy road. That two young developers – later joined by several other professional parties including a liberal minister – spotted potential opportunities in the Granville Island of the 1970s, can certainly be labeled as a broadened scope. They bought a number of buildings and transformed them into what became, among others, the Creek House. This is an old hall full of unusual shops and facilities like galleries and restaurants, which in turn attracted new undertakings to the location.

### Interests represented

The project was developed on the basis of the interests of the parties wanting to establish themselves there. According to Gerben van Straaten of Walas Concepts, which was involved in the project for a considerable period, the development of the area can be regarded as a reversal of the normal run of events. Instead of developing a readymade plan, the municipality sought organic growth and went actively in search of pioneers for the site.<sup>65</sup> They did everything to make it as attractive as possible for entrepreneurs. The success in turn attracted new entrepreneurs. In setting up the public area, the interests of visitors were taken very emphatically into account. All this created an exceptional and very appealing area which not only attracted many visitors, but also investors in the immediate vicinity.

65 At Nyenrode Business Universiteit we were involved in a competition in Almere in 2009/2010, involving the sustainable development of a new metropolitan area. We worked with the Vestia housing association team and chose an approach which could also be characterized as organic growth. Taking account of the possibility that large-scale development would not be possible – before the crisis arose this was not yet obvious – we developed a growth model where each realized part of the plan could become an independent area with a high living and working quality. Unfortunately we did not win – we came second. So our plan was not realized.

### **Collaboration**

Increasing numbers of parties became involved in the project. Democratically, relatively strict agreements were reached for establishing companies. Authorities and entrepreneurs assisted each other in striving to make the site a success.

### **Achieved win-win situation**

Naturally the reassignment of existing industrial premises and optimizing the ecological aspects can be summarized as a sustainable choice. However sustainability did not formally play a major role in realizing the projects on Granville Island, nor in creating the aforementioned establishment conditions. But for the type of people who felt attracted to the location with its small and largely idealistically-oriented entrepreneurs, sustainability was obvious. As a consequence it is difficult to find a product at Granville Island which is not ecologically responsible or organic. According to Brent Toderian, former Vancouver city planner, the strict prioritizing of transportation also contributed to the sustainable character of Granville Island. The 'Vancouver rule' – pedestrians have priority over cyclists, cyclists over public transport and public transport over cars – also applies on Granville Island. The water taxi also plays a major role. The unique character of Granville Island contributed to its sustainable character and vice-versa. A genuine win-win situation.

### **Business opportunities**

Other financial arrangements than normal apply on Vancouver Island. Because an important objective of the users/residents is to keep the location accessible to people with modest purses, the contributions to be paid in rental and other expenses were set to match their means. Those who sold a lot, paid more in percentage terms. Those with lower turnover paid less. This arrangement also made it attractive for niche players in the business world to establish themselves on the island.

### **In conclusion**

Canadian projects can be a significant source of inspiration for the Netherlands, and vice-versa. This is because the national character exhibits marked similarities in terms of mentality and working methods, and there is a struggle with comparable issues. At the same time the context is entirely different, which enhances the possibility of totally new insights. To promote inspiration and collaboration, a joint venture has arisen between the authorities, universities and corporate world in terms of building and sustainable planning: Parallel52, the Dutch Canadian Sustainable Building & Planning Network. Those interested can join through [www.Parallel52.org](http://www.Parallel52.org).

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## **Datacenter under the Uspenski Cathedral, Helsinki<sup>66</sup>**

**A datacenter has been set up in the cellar of the Uspenski Cathedral in Helsinki. The cooling water is used to heat homes in the vicinity. This solution delivers returns for the operators of the historic building and the datacenter, but also for the energy supplier and the residents.**

Around the world there is increasing demand for affordable datacenters, thanks to the rapidly growing volume of information and data being stored online. The servers in traditional datacenters consume a great deal of energy: 1% of the total worldwide electricity usage. Together they produce some 10% of worldwide emissions (by comparison: the aviation sector accounts for 30%). So datacenters involve high energy and environmental costs, but this also means that considerable benefits can be achieved through energy savings and a reduction in the production of harmful emissions.

### **Broadened scope**

A creative solution was found in Helsinki for both the problem of the high energy costs, and the high energy consumption. Not only does the local datacenter profit from this, but also the city as a whole. Helsingin Energia, power utility in Helsinki, installed a 2 MW datacenter from the Finnish IT company Academica thirty meters below the surface: under the Christian orthodox Uspenski Cathedral in the city. This was a space which the city authorities had to protect as an air-raid shelter against bombardments in the Second World War.

The scope of this project was broadened in a number of ways. In terms of location, not only was a new-build location sought for the datacenter to be constructed, but the environs and possibilities within this urban environment were also investigated. A broadening of collaborative partners also occurred, through involving both the Helsinki municipality and Helsingin Energia as active cooperative parties in the project.

### **Interests represented**

In choosing this historic and touristic site to accommodate an innovative datacenter, a number of interests were involved. First the financial interests of the IT company Academica, to reduce the existing energy bills and to realize a suitable, secure and new location for the datacenter. Secondly, the interests of the city of Helsinki in reducing the city's emissions and energy consumption. Thirdly, the interests of Helsingin Energia to intro-

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66 By Niek Stukje (partly on the basis of research material by Pargol Kavandi).

duce a new market for datacenters and their profit motive. And finally those of the surrounding residents: seeking cheaper and in some cases sustainable energy.

### **Collaboration**

In this project the combined interests of all the above were met. The collaborative parties in this were the IT company, the energy supplier and the municipality of Helsinki. And without actually sitting down around the table, those in the vicinity also reaped a (financial) benefit from it.

### **Achieved win-win situation**

The site for the new datacenter – an existing cool cellar with thick walls – is not only favorable from a security viewpoint, but is also very attractive for its energy aspects. The underground situation immediately leads to lower energy consumption than usual.

This choice also ensured that the historic heritage, the Uspenski Cathedral (a tourist attraction) became more viable. The heat produced by the servers in the datacenter was also used to heat homes in the environs, through the existing city heating network.

The servers were cooled with sea-water, saving on purified water. Through the city heating system the heated water delivered heat to around 500 single-family homes. This heat production is roughly equivalent to the output from a large wind turbine. Given that it can be minus twenty degrees Celsius in Helsinki in winter, this yielded a significant reduction in the use of energy sources, and in heating costs for the residents. Once the heat has been extracted by the homes, the water is returned to the servers to act once more as cooling water. Just the datacenter alone saves 80 per cent on its energy bills compared to traditional centers, thanks to this approach.

### **Business opportunities**

The realized datacenter achieves around \$ 561,000 of savings on the annual electricity bill of the Finnish IT company Academica. If more datacenters apply this concept, according to the energy supplier Helsingin Energia this could even ultimately cover a large proportion of the entire capital of Finland. This also means more business opportunities in terms of energy supply.

### **In conclusion**

In 2010 the project was awarded the internationally-renowned Green Enterprise IT Award from the Uptime Institute, the global authority on datacenters.

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## EnergiePlusConcept<sup>67</sup>

**An ‘Energie Plus Haus’ produces more sustainable energy than the occupants/users consume for heating, hot water, lighting, ventilation and household equipment. This provides opportunities for things like charging electric vehicles, for instance. This fact led to a unique collaboration between the building and construction industries.**

The EnergiePlusConcept originated in Germany. The first Energie Plus Häuser (houses) in Germany are already in use. In the EnergiePlusConcept, the required heat is usually generated through a heat pump and solar boilers, and in the summer for instance, it is stored underground for winter use. To be able to use the generated electricity at any time, storage capacities were also needed. The solution was found in high-quality batteries suitable among other things for charging electric cars. So an Energie Plus Haus offers the possibility of its own electrical ‘filling station’ where residents can charge their cars free.

### Broadened scope

Among others, a characteristic of an Energie Plus Haus is the use of large surfaces with solar panels on the roofs and/or walls for generating electricity. More electricity is generated than the occupants/users consume. The excess is returned to the grid or is stored in batteries for use in the home at a later time, or to charge an electric car. In Berlin the ‘Bundesministerium für Verkehr, Bau und Stadtentwicklung (BMVBS)’ had a single-family house built where since 2012 a family has been testing charging various types of car which can make use of this facility. Audi, BMW, Daimler, Opel and VW make a different electric car available for this every three months. The family also has electric bicycles.

The Berlin example has since had a successor. The housing association Nassauische Heimstätten in Frankfurt plans a residential building of four floors, to be built in accordance with this concept in the suburb of Riedberg. The twenty rental homes will meet the standard of the Energie Plus Haus. Housing association ABG would also like to construct an apartment block for rentals in Frankfurt in accordance with the Energie Plus Haus concept. In both projects the excess electricity generated will be used to charge shared electric cars for residents. In Germany a variety of suppliers now offer EnergieplusConcept catalog homes for private principals.

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67 By Birgit Dulski.

### **Interests represented**

The yield from solar panels depends on sunshine, and so is subject to major fluctuations. The electricity generated cannot always be used immediately. Residents can benefit from feeding it back into the grid, or storage for later use. For Dutch households the option for storage for eventual charging of electric cars, for instance, is more attractive than in Germany. Because of the lower feed-in tariffs in the Netherlands, storage is a better option than feeding it to the grid.

For car manufacturers, the first Energie Plus Haus pilot projects offer the possibility of collecting user information for electric vehicles. For example, the Berlin family is maintaining its own blog. The experiences can be used to develop the technology further, taking the interests of the occupants/users into account.

### **Collaboration**

Collaboration with the vehicle industry is unusual for the building sector, certainly when high sustainability ambitions are being sought. Thanks to the collaboration however, a solution has been found for the local storage/usage of any excess of electricity generated, and not only does the home become more sustainable, but so too does transportation.

### **Achieved win-win situation**

A low energy bill in a comfortable home and charging the car for free not only reduces living costs for the occupants, but also the transportation costs. In rental homes with shared electric cars, these can replace the users' privately-owned vehicles. This means saving on fuel costs, but also for example on purchasing, insuring, testing and repairing vehicles.

### **Business opportunities**

Given the rise in energy and fuel prices, living in an Energie Plus Haus is attractive to occupants. Their home produces free transportation. The first examples of the Energie Plus Haus have been new buildings. But possibilities have also now been investigated in the German research program 'Haus der Zukunft' (House of the Future) in the project 'e80<sup>+</sup>-Gebäude' to adapt the concept to existing buildings from the period 1950-1980. This would be achieved using prefabricated roof and wall elements and new installations. German suppliers of catalog homes ('Fertighäuser') have also discovered the Energie Plus Haus. For the corporate world, rolling out the concept offers the possibility of developing new technologies and refining existing ones.

**In conclusion**

Looking over the borders can lead to the discovery of ambitious new concepts, but also the discovery of products which are unknown or little-known in the Netherlands. The products and techniques applied in Energie Plus Häuser can also be suitably applied in the Netherlands, in new-build projects and in many buildings from the period 1950-1980.

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## Sustainable historic buildings<sup>68</sup>

**Energy savings and other types of sustainability; is it possible in national monuments and other historic buildings? It certainly is. There are already many examples of sustainable solutions in historic buildings which promote the interests of the parties involved and maintain the cultural-historic values.**

Historic buildings such as monuments and protected sites (but also other buildings with a cultural-historic value) are both our most precious and at the same time most vulnerable buildings. But energy consumption is often extremely high here, for example because of poor insulation from the outer shell and antiquated installations. Sometimes huge volumes have to be heated, such as in churches or industrial heritage. There may be irregular use, for example only for cultural events or commemorative services. If we want to keep these special buildings in use, then energy bills must be affordable and the comfort must be acceptable.

### **Broadened scope**

That a broadened scope offers new opportunities can be seen in the project 'De Groene Bocht' (The Green Bend) in Amsterdam. This historic state monument on Amsterdam's Keizersgracht had been rented out to a company. When the company declined a new lease at the beginning of the economic crisis, the owner was unable to find a new tenant or buyer at a market-related price despite the excellent location. Several young entrepreneurs came up with an unusual proposal: they offered to rent the premises, but at a rental charge which was lower than usual for the first five years. They would invest the rental-price difference in energy-saving measures and sustainable energy generation. The owner accepted this proposal.

After five years the tenants will still pay the market-related rental, but by then the energy bills will be so low that the total outlay will be no higher than at the beginning of their rental period. For the owner this represents an increase in value in his premises as a consequence of the comfort improvement and reduced energy bills. He has broadened his scope by taking a long-term perspective into account. By accepting a lower rental now, he is investing. But organizing the execution of the measures (often a complicated trajectory for historic buildings, requiring a great deal of footwork) is taken off his hands completely.

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68 By Birgit Dulski.

### Interests represented

If housing associations wish to renovate their rental homes and incorporate these costs into the rental, then at least 70% of the tenants must agree. Obtaining this agreement in practice is not always easy, certainly for historic buildings where implementation must generally occur in the interior and thus produces considerable inconvenience. The chance of agreement is higher if the interests of the tenants are taken into account. In Amsterdam the housing blocks in the so-called 19th-century Ring are often small, as in the 'Gordel '20-'40'. In the renovation of a housing block in Pieter Vlamingsstraat/Dapperstaat, housing association De Key not only introduced energy-saving measures, but also installed new roof structures. These are not visible from the street, and so despite the image-sensitive character of the housing block, were nevertheless acceptable from a welfare and monument-preservation aspect. For the residents this intervention meant a significant increase in their living space. Because energy-saving measures were introduced at the same time, despite the larger volume, energy bills were not expected to be higher, or only slightly higher, than prior to the intervention.

### Collaboration

It frequently happens that a potential user 'falls in love' with an empty historic building. This happened to Baud Schoenmaeckers among others, director of the company Synergos Communication, with the Seinwezen, an old railway building in Haarlem. He bought the state monument from BOEI (Nationale Maatschappij tot Behoud Ontwikkeling en Exploitatie van Industrieel Erfgoed, the body charged with safeguarding industrial heritage). A foundation was set up to fund the purchase and renovation, where investors provided finance at an agreed interest rate. Where these investors were initially only friends and family, people in the vicinity later joined.

However the role of the neighbors was not restricted to investing: the Seinwezen grew to become a text-book example of neighborhood participation. In numerous meetings the wishes of those living in the area were listed, and working groups were set up to translate these into practice. Not only did this lead to the building being renovated sustainably, but it also yielded plans for the rest of the site. Thus the 'Zaaiwezen' working group placed plant-pots on the site (because of soil pollution this was the most obvious solution for 'greening' the site), while another working group was occupied with the collective purchasing of solar panels for Seinwezen and the homes in the area. The neighborhood participation was formalized in March 2013 with the founding of a neighborhood cooperative which also led to more social cohesion in the area.

The Seinwezen has since been renovated sustainably and has been taken into use by Synergos, but is also used as a meeting area for the neighborhood cooperative and is rented to external parties for meetings. There are also work areas for freelancers, which has also led to a variety of new collective local initiatives.

### **Achieved win-win situation**

Sixteenth-century farm De Balije is in De Meern, on the edge of Utrecht's Leidsche Rijn new-build location. After standing empty for some years, the farm was bought by Stadsherstel Utrecht, which renovated the premises sustainably and repurposed it as a children's day-care center/extramural center. A pancake restaurant was established in the adjacent summer cottage. An ideal reassignment, from which numerous young families in the neighboring areas have benefitted. The children now have an unusual care center which also offers the possibility of playing outdoors, gardening etc.

### **Business opportunities**

Historic buildings are often cherished because a relationship is established with the area's history, and the building thus contributes to the environment's identity. According to Professor Joks Janssen (WUR) the repurposing/redevelopment of built and countryside heritage can lead to an increase in property values. As an example of this he quotes the revitalization of industrial heritage locations which can lead not just to new values for the site itself, but also for the buildings in the vicinity. A well-known Dutch example is the Westergasfabriek (gas factory) in Amsterdam, where the redevelopment of the site into a 'Cultural Park' increased the number of well-educated residents in the adjacent areas, with rising purchasing power as a consequence.<sup>69</sup>

### **In conclusion**

Sustainable solutions for historic buildings require tailor-made work. What may be a good solution for one building may be entirely unacceptable for another. Close collaboration between the disciplines of sustainability and historic building preservation is thus essential.

<sup>69</sup> The Westergasfabriek is one of the best-known of these, but is not the only example. Outside the Netherlands, the IBA Emscher Park is a well-known example in the German 'Ruhrgebiet'. The Netherlands is currently also seeing a growing number of initiatives for sustainable area development involving industrial heritage. The Seinwezen is a recent example of this, as is Meesters Buiten involving the former Cereal Fabriek (factory) in the Utrecht neighborhood Oog in Al.

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## Sustainably-built commercial and industrial construction<sup>70</sup>

**A broader perspective on sustainable building can be perceived in newly-built commercial and industrial construction. Renewal is necessary, among other things because of an increase in environmental awareness and reduced funding possibilities. Not only does this lead to new techniques, but also to alternative forms of collaboration and financing. Below are a few examples.**

The renewal in the building sector is highly visible in newly-built commercial and industrial construction. By considering the building, its use and its demolition as an integrated whole, and by working together with more unusual partners, new business opportunities and splendid win-win situations arise in this formerly traditional sector.

### **Broadened scope**

In sustainable building in recent years, the main focus has been on building in an energy-efficient way. In current newly-built commercial and industrial construction however, the scope of sustainable building is clearly being widened increasingly. A good example of this is the design for the sustainable *'Hotel Amstel quarter'* in Amsterdam. Architectenbureau Paul de Ruiter and Mulderblauw Architecten were commissioned by Amstelside BV to create 'the first LEED Platinum-certified hotel in Europe'. The hotel will feature all the luxury and comfort a 21<sup>st</sup>-century hotel guest might expect, without this being to the detriment of the environment.

The architects dedicated themselves to completing the cycles in terms of energy, water, waste and material usage. The architectural shell, with an adaptive façade, ensures significant energy savings. The hotel itself will generate the rest of the required energy, partly using biomass. Water will also be used economically. The toilets will be flushed with gray water, and rainwater will feed the plants in a greenhouse on the roof. The plants will also use CO<sub>2</sub> from extracted ventilation air, and will then serve as ingredients for the hotel's restaurant. In this way various cycles in the building will be completed.

In addition to completing cycles, the scope in this building concept has been broadened by also involving the city in the hotel. The immediate environs will feature a varied image, because the façade is dynamic and changes depending on the hotel guest, the weather and the time. A specific relationship with the city has been sought in all its spaces. The hotel is aiming for social solidarity with the area, and is using local materials and products wherever possible.

<sup>70</sup> By Alexandra de Jong.



**Interests represented**

Another project also demonstrates that representing the interests of users, builders and future generations can also link well, and can lead to an exceptional result: the extension to *Brummen's town hall*. The municipality needed an extension to the existing municipal offices, a national monument, but because of the anticipated demographic shrinkage in the area it was immediately apparent that this need was only of a temporary nature. Architect Thomas Rau and BAM thus produced a temporary, removable extension. The premises around the historic town hall are expected to be used for at least 20 years. After that the valuable raw materials and building elements (90% of the building) will be taken back by their suppliers and reused. Rau calls this the Turntoo concept. Not only does this approach prevent any demolition waste, but it also guarantees that the national monument section of the town hall will remain in its original state as far as possible during and after the extension to the building. So not only are the interests of the current generation of users fulfilled, but so are those of future generations.

**Collaboration**

The Brummen project is also exemplary in terms of collaboration. The innovative building concept is the result of close cooperation between user, architect and producers. The architect actively sought collaboration with local producers. That the chance of innovation increases further when unusual parties are also involved, can be seen in various aspects of the building. Thus for example the cardboard counter of the town hall was produced by a local paper manufacturer, an extremely unusual partner in the traditional building process.

Unique forms of collaboration can also be found in the realization of other new-build projects in commercial and industrial construction, such as in financing. An example of this is discussed under the Business Opportunities heading.

**Achieved win-win situation**

The close collaboration with producers in Brummen ensured a win-win situation for the user, the producer and the environment. The foundation for the Turntoo concept applied in the town hall was established with the so-called 'Pay per lux' test, a joint project between Rau and Philips in Rau's own office premises. 'Pay-per-lux' means that the user pays for the quantity of light used; in other words not for the installation itself, the maintenance and the energy used. Thus the user enjoys optimum use of the innovations to reduce the energy consumption of lighting. At the end of the contract period Philips would take the lighting products back into the production process. As a result no unnecessary waste is produced, and

recycling raw materials is optimized. So 'Pay-per-lux' is a good example of a win-win situation for all parties, and is also the basis for the concept of Turntoo, aimed at many more sustainability themes.

### **Business opportunities**

That new business opportunities can also arise in times of crisis is also apparent from yet another project: the *Noorderparkbar*. The Noorderparkbar is part of the Noorderparkkamer, a cultural meeting-place in the north of Amsterdam. The pavilion is 100% constructed from materials acquired on Marktplaats.nl, the Dutch eBay-like site for buying and selling second-hand goods. A statement: it is also entirely possible to put up a building with architectural qualities, using secondhand items. The Noorderparkbar is a design by the young architectural agency SLA and Overtreders-W, a (spatial) design agency. Together they assumed responsibility for the entire process: from casting the foundations through to realization. The young designers showed that exceptional architecture is also possible without a principal with deep pockets. The bar came about thanks to a small subsidy from the Ymere housing association, but mainly through crowdfunding. Neighborhood residents and visitors made financial contributions to the project through the website [www.voordekunst.nl](http://www.voordekunst.nl). The previously mentioned Marktplaats site contributed to the realization of this exceptional pavilion. The returns from the bar are ultimately used to finance cultural activities in the Noorderparkkamer.

### **In conclusion**

A great deal of renewal can also be found in commercial and industrial construction, from new techniques which can complete the cycle of energy and water in a building, to alternative small-scale types of financing and the search for value creation. The involvement of innovative principals, designers, builders and users produces exceptional buildings, which not only save energy, but are also highly sustainable at an economic and social level.

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## Sustainable housing and neighborhood transformation<sup>71</sup>

One of the spearheads of Nyenrode's 'building team' is to improve the quality of existing homes and neighborhoods (naturally) in a sustainable manner. This is currently an extremely topical subject in the Dutch building sector. But when the focus of the sector was primarily on new construction, even then inspiring renovation projects were achieved. Some of these projects were text-book examples of the Merger of Interests approach.

Right from the 1980s there has been political consideration – sometimes more, sometimes less – of making housing sustainable, while techniques have been available for this along with, occasionally, financial support. But with only a focus on techniques and funding it would not be possible to make the existing housing stock sustainable, we had learned over the past thirty years. So what are in fact the keys to success?

### Broadened scope

That a broadened scope could lead to greater added value was demonstrated by the *Wallisblok project* in the Spangen area of Rotterdam. The 95 apartments in this pre-war housing block were in fact ready for demolition. Because no-one wanted to invest in demolition and reconstruction, architect Ineke Hulshof developed an alternative approach with the municipality. The municipality invested in the decayed foundations. And the homes were offered free nationally, with the possibility of merging. New residents were however required to invest. Among other things the houses would have to meet the requirements of the so-called green mortgage at the time.

Thanks to this approach it was possible for young families to live sparsely and affordably. Their arrival also led to a major quality stimulus for the area, because it attracted other young residents and new small businesses. Ultimately the project formed the basis for the concept of 'Kluswoningen' or literally group homes; similar concepts have since been applied elsewhere in the Netherlands.

<sup>71</sup> The Merger of Interests approach and the six examples mentioned here, were described between 14 September to 26 October 2013 in a series of seven weekly articles led by journalist Marc Doodeman in the Dutch building trade newspaper, Cobouw.

### **Interests represented**

A fine example of rectifying the violated interests of residents optimally in a sustainable manner, is the *Blueprint homes* project in Heerhugowaard. Soon after delivery of these privately-owned homes for people with lower incomes the contractor, the façade manufacturer and the insurer all went bankrupt. And all this while the homes were already exhibiting major damp problems. Contractors calculated that repairs would cost three million euros – an unaffordable amount for the owners. However the Verbouwshop in Tilburg, specializing in sustainability and prefabrication, came up with a solution which could certainly be put on the table. In one day the company replaced the troublesome facades – also detested by many for aesthetic reasons – with properly-functioning new ones which residents did indeed consider to be attractive (and which also enhanced values).

### **Collaboration**

That joining forces can achieve an effect was apparent among others in the Tytsjerksteradiel municipality. There a joint venture between twelve companies, two banks and the municipality undertook the initiative of the so-called '*Energie(k)loket*', a play on the word energetic and energy counter. Here home-owners were informed actively and expertly on the possibilities for reducing their gas consumption. The approach appeared to be highly successful. Around three hundred homes within the municipality have now been made more sustainable and the initiative is being broadened.

The parties reached common cause on the aspiration to improve the standard housing developed in the 1960s and 1970s intrinsically, while occupied. This occurred within the *Slim & Snel* (Smart & Speedy) network initiated by Nyenrode. This was the concrete motivation for the national *EnergieSprong* program to develop a practical program *Slim & Snel* in collaboration with the aforementioned network.

### **Achieved win-win situation**

Over time many housing associations have sold their homes. These are often very poor houses in terms of energy. This means in principle that the owners of former rental homes become responsible for making these homes sustainable. In practice this is often difficult to achieve. But when these occupants can hitch a ride on the back of association sustainability projects, a genuine win-win situation may arise, because the entire neighborhood then improves significantly.

In Amersfoort an active *Vereniging van Eigenaren* (VvE or owners' association) in Surinamelaan sought collaboration successfully with the former owner of the homes, the Alliantie housing association. Together they sought a solution to make these homes more energy-efficient at an ac-

ceptable price. Thanks to cooperation with the municipality, province and a local bank, ultimately this proved to be possible. This project opened the way for many more linked housing association-VvE renovations.

### **Business opportunities**

Director Henk Veerman of housing association Wonion in Ulft ensured a break in corporate world trends some years ago. He dared to be the first at the time to let market parties decide for themselves how a renovation should be effected. That gave them the scope to come up with a solution which was not only favorable for the association, but which also enhanced their own business opportunities. This updated approach to tendering turned out to be highly successful. In his new role as program director for the national *EnergieSprong* program, Jan-Willem van de Groep, who developed this approach together with Veerman, thus continued this approach within the practical program *Slim & Snel* (Smart & Speedy). With some modification based on experience, this approach has now gained a place within the covenant called *De Stroomversnelling*, or the power acceleration. This is linked to the ambitious plan to free 111,000 homes in the Netherlands from any energy bills over the coming years.

### **In conclusion**

Emotions play a significant role in existing housing construction, because for many people the home and the home environment exercise a major influence on their feeling of happiness. Awareness of the emotions and the knowledge to deal with them – among other things to be found within the behavioral sciences – enhance the possibilities of success among far-reaching renovation projects. Certainly when these occur in an occupied state.

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## CV



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In 1989 she graduated with honours at the Department of Architecture of the Delft University of Technology. For four years, she worked for the municipality of Delft in the capacity of Employee Sustainable Building, and was as such responsible for the sustainable building policy of the municipality and involved in a number of demonstration projects. From 1993 to 1996 she worked as a senior consultant for the environmental research and design firm BOOM in Delft. In this capacity too, she was closely involved in different demonstration projects in the field of sustainable building.

In October 2000 she obtained her doctorate on a thesis titled 'Beyond the demonstration project, the diffusion of environmental innovations in housing'.

During her studies she combined her technical work with journalistic activities. In 1995 she and a number of colleagues started the technical journal Sustainable Building (Duurzaam Bouwen). Until September 2005 she was chief editor of this journal, which was later named Pure Building (Puur Bouwen). She was the chief editor of the biannual consumer magazine Pure Living (Puur Wonen) and co-initiator/organizer of the annual Pure Living Relay (Puur Wonen Estafette). She worked as an editor at the internationally oriented English technical journal Sustainable Building.

From September 2000 till November 2007 Anke van Hal worked for her own agency that aimed to bridge the gap between building and consumers. The main goal of this firm was to use market demand to promote environmentally friendly and healthy building and housing products. In 2001 she left for the East coast of the United States to conduct research into the market opportunities for sustainable house-building. Since her return in the summer of 2002 till the moment she started working at the universities, she worked for government agencies (both municipal and federal), educational and research institutes, publishers, architects,

project developers, realtors, housing associations, congress organizations and private customers.

As a professor she developed a sustainable business approach (the Merger of Interests) which covers most of her work. Her main interest is the challenge of a (sustainable) transformation of existing dwellings and neighbourhoods.

Anke van Hal is a member of the board of the Dutch Green Building Council and initiator, together with Annemarie van Doorn, of Parallel52, the Dutch Canadian Sustainable Building & Planning network. She wrote several books and many articles.