

**'Zero Transition' in housing areas prosper by balancing municipality-control and citizen-participation**

**By bundling of Dutch IKS2 case-study results in a PhD following-up**

Sanders, FC; van Timmeren, A

**Publication date**

2016

**Document Version**

Final published version

**Published in**

SBE16: Sustainable Built Environment - Transition ZERO

**Citation (APA)**

Sanders, FC., & van Timmeren, A. (2016). 'Zero Transition' in housing areas prosper by balancing municipality-control and citizen-participation: By bundling of Dutch IKS2 case-study results in a PhD following-up. In *SBE16: Sustainable Built Environment - Transition ZERO* (pp. 1-7)

**Important note**

To cite this publication, please use the final published version (if applicable).  
Please check the document version above.

**Copyright**

Other than for strictly personal use, it is not permitted to download, forward or distribute the text or part of it, without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license such as Creative Commons.

**Takedown policy**

Please contact us and provide details if you believe this document breaches copyrights.  
We will remove access to the work immediately and investigate your claim.



# ‘Zero Transition’ in housing areas prosper by balancing municipality-control and citizens-participation

*By bundling of Dutch IKS2 case-study results in a PhD following-up.*

Dr. ir. drs. Fred C. Sanders, senior-fellow-research at TSMbs Enschede and quest-researcher at TU Delft Architecture faculty Urbanism Department, [F.C.Sanders@tudelft.nl](mailto:F.C.Sanders@tudelft.nl) +31(0) 654773140.  
Prof. dr. ir. Arjan van Timmeren, promotor of the dissertation and co-reader of this bundling result.

## ABSTRACT

To speed-up climate neutrality of Dutch cities National-government started 4 neighbourhood housing area innovation projects concerning citizen participation (IKS2). The participatory fascination of these projects lays in the gradations of citizen participation being: thinking-along, joining-in and investing-in. The conclusion of analyzing these projects are: 1. The sustainable results of citizen participation are the best in situations of thinking-along and investing-in as long local government manages the control, and 2. Local actors have to be taken along from the start of such municipality projects, because they motivate others.

## 1. INTRODUCTION

### *1.1 The IKS2 Dutch ‘Climate-Neutral City’ innovation program analyzes set-up*

The Dutch 2010 innovation program for speeding-up the transition of cities towards climate neutrality 2010 (IKS) (Ministerie-VROM, 2009) contained 20 projects at the start (IKS1) from which 8 projects ended-up in project realization (IKS2) being innovation project realistic enough for execution. In 2013 the evaluation of the IKS program (Boon et al., 2013) scanned climate neutral activities in 55 of the 400 (2009) municipalities working on climate neutrality. Lessons learned from failures scanned by group-session showed to be: plan a path, arrange enough budget, make the target clear and ‘last but not least’ work together the local citizens included. The final conclusion of this 2013 research is that municipality civil servants and citizens by acting together can make the difference between failure and success.

From these 8 IKS2 realized innovation projects the number of 4 concern citizen participation in neighbourhoods, and these are not evaluated on conditions for successes and failures yet. The other 4 are respectively involved in public transport, young and green entrepreneurs and agricultural development. From the 4 neighbourhood projects can be learned how citizen participation can contribute to climate neutrality of cities. This because these are thematic comparable, started en finished in the same period of time and all concern citizen participation from the beginning to the end.

Unfortunately the sample of these 4 IKS2 innovation projects is little of number. However these concern interesting Dutch examples of ‘Climate neutral’ innovations coupled to citizen initiative for the period that such initiatives started-up at the beginning of this century. Therefore these projects are analyzed in 2015 on the moment that the evaluation report became available. To compensate the poor project availability the dissertation called ‘Sustainable development through resident’s collective initiatives’ (Sanders, 2014) is used as an add-on scientific base.

The research question that fits to this bundle of IKS2 projects and the challenge of climate neutral cities is: *how did the depth of citizen participation contribute to the succes of the first innovative show-case IKS2 projects in the Netherlands.* The casestudy research is done by file-search, key-person interviewing with the the above mentioned dissertation (Sanders, 2014) as the ‘body of knowledge’ for the research methodology, analyzes and conclusion making.





This dissertation ‘body of knowledge’ for the research does include the modelling of citizen participation showing the following hierarchy: thinking-along, joining-in and investing-in all stages of exceeding citizen empowerment, based on literature search among them research concerning societal participation (WRR, 2012) and the relation forms of citizen initiatives with local governments (Tonkens, 2009).

Each of these stages of participation should be defined as followed:

- Thinking-along : a passive citizenship, citizens reflect and advice by accepting governmental initiatives.
- Joining-in : a passive citizenship, citizens participate in and support government initiatives.
- Investing-in : an active citizenship, citizens take responsibility for initiatives dealing with government.

### 1.2 The IKS innovation program projects concerning citizen participation

Focusing on these 4 neighbourhood sustainability innovation projects (IKS2) these are spread over the Netherland’s country, concern big and small cities, all concerning renewable-energy and neighbourhood integration by citizens participation. Each project with its own targets, neighbourhood context, control action-prospects and results, as given in the following framework and project details:

IKS2 Projects	Sustainability target of the project	Neighbourhood context	Control action-prospects During the project	Results of the project
1. Heerhugowaard 1) ‘De Draai’	* CO2 neutral * 100% renewable energy * passive Houses * no windmills	* 2.700 houses * community setup	* <i>sustainability as part of housing contracted.</i> * <i>facilities due to 1) neighbourhood NGO</i>	* <i>sustainability result for large extent by placing windmills.</i> * <i>green-water areas</i>
2. Rotterdam ‘Heijplaat’	* 2020 climate neutral * social targets, * 100% rewable energy	* residents en enter-prises together * kitchen-garden projects	* monthly meetings * government brought higher education to the neighbourhood	* small household Initiatives * windmills for 80% of The rewable energy
3. Wageningen ‘Solar-energy’	* 2030 climate neutral * focus on solar energy	* collective resident project * solar panels on roof of enterprises	* started a NGO for local solar-energy	* 150% of the target In 2015
4. Zoetermeer ‘Solar-energy’	* 2030 climate neutral * city wide initiatives * wide range of targets	* with residents and * with enterprises.	* subsidizing invest-Ments of residents * lower tax for investing enterprises.	* target 2010 -6% done * startup of solar energy cooperation on roof neighbourhood school

Figure 1, targetting of the 4 Dutch IKS2 neighbourhood housing projects ([www.rwsleefomgeving.nl](http://www.rwsleefomgeving.nl))

1) The ‘De Draai’ development is the delayed copy spin-off project of the ‘City of the sun’ project of Heerhugowaard municipality. Because of the delay results are not available yet. Therefore the results of the ‘City of the sun’ project are filled-in in the two columns to the right concerning ‘control action-prospects and results, both purple cursive given to make this choice visible. The content is taken from the dissertation ‘body of knowledge’ mentioned above.

Information on the 4 IKS2 project situation and details:

1. Heerhugowaard ‘De Draai’ a new planned neighbourhood for 2.700 houses situated à 50 km. North of Amsterdam was planned to become and renewable energy-cost free neighbourhood. Due to the economic crises (2008-2014) the target of the project was changed becoming ‘more or less’ a copy of the former realized sustainable neighbourhood ‘Stad van de Zon’ of Heerhugowaard. Therewith the target becomes CO2 neutrality by solar- and wind-energy. All the investments in renewable energy are brought in a community ownership by the residents as part of their housing contracting.
2. Rotterdam ‘Heijplaat’ in 1904 established neighbourhood counting 1.600 residents was originally built to house shipyard workforce. As a project of ‘Rotterdam Green’ the target for this neighbourhood became climate neutrality in 2020. The project focus was stimulating the residents in a group-process.





3. Wageningen home-city of the University of Agriculture counts 38.000 residents. To reach climate neutrality in 2030 the municipality started stimulating the placement of solar-cells in 2011 targeting the production of 2 MW . The focus of the project was civilian initiative for which a local solar- energy co-operative (NGO) was started. To start progressive the roof of the research institute MARIN would be filled up for solar cells by municipality investments.
4. Zoetermeer city counts 125.000 residents positioned as a suburb of The Hague city since 1962. In 2007 the municipality started a diversity program of sustainability projects to establish 30% CO2 reduction in 2018. In 2010 evaluation proved a result of 8%. In 2011 the city started the lesser successful advanced campaign 'pleasure with energy reduction' with new initiatives (solar energy, isolation, double glass investments) for residents en enterprises. Recently a promising solar-energy cooperation started giving out bonds for placing solar-panels on the roof of schools and other public building.

## 2. RESEARCH

### 2.1 The four IKS citizen focused projects on citizen participation unraveled

The four IKS2 projects show to have quite similar targets, initiatives of the projects are all neighbourhood coupled, and solar-energy is the primarily choice into renewable-energy. The differences lay in the organization of collaboration of the initiatives. First the initiators show to be professionals in all of these project cases. In the Heerhugowaard the complete project was set-up by civil-servants. In the Zoetermeer and Wageningen projects civil servants started-up an NGO with local professionals. In the Rotterdam situation local government contracted the energy-company to take the initiative. In all of these four projects the citizens were invited to join one of more of the initiatives inside the project, to have a personal contribution, create own organizations for their activities, or even to take-over initiatives or the project. For the results and what led to these, and the 'here for so-called' depth of participation see figure 2.

IKS2 Projects	Involvement of the citizens	Sustainability by citizens	Organizational citizens choices	Depth of citizen participation
Heerhugowaard 1) 'Stad van de Zon'	<i>* the solar/cogeneration are owned by residents by house contracting</i> <i>* the residents ass. influence public space and societal facilities</i>	<i>* result on energy bill due to relatively passive participation into 5MW solar energy</i>	<i>* no choices in energy solar/cogeneration</i> <i>* windmills placed unless resistance</i> <i>* influence on Societal facilities</i>	Joining-in
Rotterdam 'Heijplaat'	* the residents being consumers in a community program by energy compagny.	* minor results: energy displays in the houses	* residents ass. got influence on the community program not on the products.	Thinking-along
Wageningen 'Solar-energy'	* citizens were invited To participate in solar Investment strategies	* citizens participated in network stimulating others taking initiative	* citizen groups were free in organizational choices	Investing-in
Zoetermeer 'Solar-energy'	* initiative taken by citizens after that the local governmental program clashed.	* the citizens were invited into growdfunding for solar-energy	* the growdfunding organized financing of a cooperation that took the initiatives.	Investing-in

Figure 2, choices with citizens made in the 4 Dutch IKS2 neighbourhood projects.

The results of these 4 Dutch IKS2 climate neutral projects according to citizen participation are:

1. Heerhugowaard 'Stad van de Zon' (City of the Sun: [www.heerhugowaardstadvandezon.nl](http://www.heerhugowaardstadvandezon.nl)) being the expected blueprint for 'De Draai' project, contracted all the sustainability investments as part of the house contracting. Therewith the house-owners (individual house buyers and social housing companies) became community- shareholder in a neighbourhood energy-plant included total of solar-panels placed on their own houses complete with a cogeneration fabric. The production of solar-energy with 5 MWp is à 50% more than locally needed, the residual energy is delivered to the next-door municipali-





- ties Alkmaar and Langedijk. Unless the residents had less choice in their sustainability participation, the results got many awards and some spin-off project are still in development: in spring 2015 a 200 household started scouting new sustainability innovations ([www.energiekoplopers.nl](http://www.energiekoplopers.nl)).
2. Rotterdam municipality in 2010 invited an energy-company to bring the isolated neighbourhood 'Heijlplaat' by participation of the residents sustainable, this consistent with the Rotterdam 'Green agenda' (Eneco, 2012). The target was to sell a 100% renewable-energy contracts to the households and transform the old shipping wharf into a place for schooling and start-ups. One of the stimulating actions was the introduction of energy-displays in the houses. The evaluations of 2014 showed that unless some results, the activation of the residents failed (Damen, 2014) (wijkbewoners, 2014).
  3. Wageningen 'Solar-energy' project in 2014 reached the result of 2,6 MWp à 30% beyond the target of 2 MWp (Botman, 2010), and another 3,0 MWp is in preparation (Coenraads, 2014). From this 2,6 MWp the largest part of 65% concerns individual household investments, four times more than predicted. Social-housing corporations reached 0,5 MWp almost 20% of the result in cooperation with their tenants. Recently in 2015 a local solar-energy cooperation started with placing 722 solar-panels for delivering 0,2 MWp on the roof of MARIN research institute and filling-up a number of roofs of the university is in planning. Local Government's expectation is that this cooperation will realize 2,2 MWp on roofs and free land-space in the coming years The result will be that the citizens of Wageningen will be the factor for making the municipality climate neutral, individually (65% in 2014 what still means 30% of 5,6 MWp ) and cooperative (20% in 2015 and 50% of the 5,6 MWp). The initiative of the local municipality to work together with sustainability driven key-people from-out university, enterprises and society facilitating individual and cooperative initiatives of businesses and citizens show to be very successful in 2014 and beyond based on the plans that have started-up ([www.zonne-energie-wageningen.nl/29-juli-cooperatief-zonne-energieproject-op-dak-marin](http://www.zonne-energie-wageningen.nl/29-juli-cooperatief-zonne-energieproject-op-dak-marin))
  4. Zoetermeer IKS2 has been stopped before it started. The municipality was confronted with local enterprises that showed not home, wind turbines showed to be conflicting the new wood-planting in the surroundings of the municipality, and the social housing companies their housing being high-rises (6.000 social rental houses) mostly seem to be no much suitable for placing solar-panels. As a result of all these blockades a group of locals started the 'Duurzame Energie Coöperatie' (sustainable energy cooperation: [www.dexo.eu](http://www.dexo.eu)) with 100 solar-panels on the roof of a second-hand shopping complex, and other expansion projects are in planning. In this concept citizens participate financially by buying bonds into crowdfunding.

## 2.2 The IKS Action-Prospects concerning citizen participation extracted

The sustainability results (norm: the quantity of MWp renewable energy produced on the location) of these 4 IKS2 projects show to be the best at Wageningen 'Solar energy' projects and Heerhugowaard 'Stad van de Zon' (substitute for 'De Draai' project) and, the lesser scores the Zoetermeer energy-cooperation. The Rotterdam 'Heijlplaat' and the worst is the result of the Rotterdam 'Heijlplaat' project. For the results follow the 'green line' of figure 3.

For each of these counts that it's the municipality that took the first initiative, after which citizens joined or reacted and in 3 out of 4 of these IKS2 projects by taking initiative(s) themselves. Notable thereby is that the Rotterdam 'Heijlplaat' initiative by which the municipality laid the initiative to the local energy-company for inviting and stimulating the citizens (for joining-in) to start-up initiatives, did not succeed well. The only sustainability results of the 'Heijlplaat' project came from local government investments solely, by solar panels on the roof of the old wharf mainly and wind-mills nearby in the green field. The citizens remained in the consumer position in which they acted little to none. Thereby the control situation of this project became diffuse, did not laid by government and was not with the citizens.

For the other 3 projects concerning the cities Heerhugowaard, Wageningen and Zoetermeer, it was from the start-off clear that the control function laid by government. In the Heerhugowaard situation the citizens participated by reflecting and advising (thinking-along), they never had influence on the major choices. In the Zoetermeer and Wageningen projects the municipality managed clarity too, the municipality man-





aged the control function by making clear that not the municipality though only citizens and citizen group would be with making the initiatives by investing themselves (investing-in). The coupling of these 'stages of participation' with the sustainable results of the project are showed in figure 3 too, by adding these to the horizontal axis of 'citizens invited to take more initiative'.

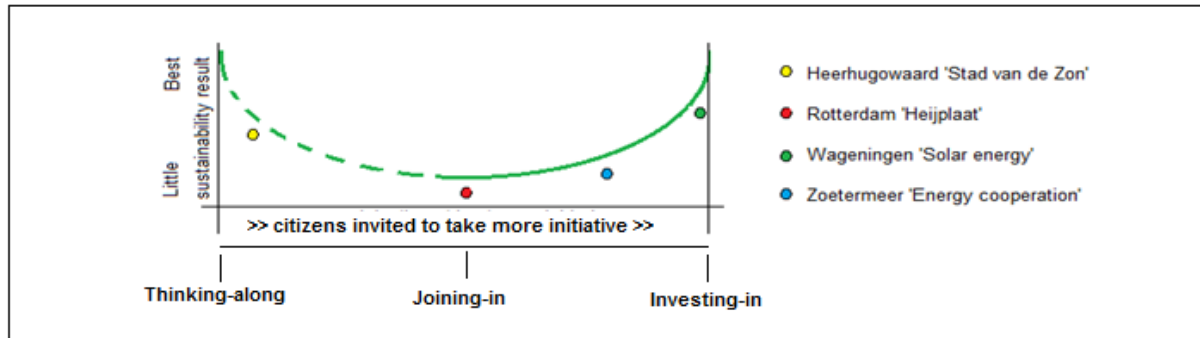


Figure 3, Square diagram of the 4 IKS2 project .

Explanation of the figure: The project results are sketchy given position in a square with vertical the sustainability results and horizontal the stages of citizen participation: thinking-along, joining-in and investing-in as they were managed in these project by the municipalities concerned. Therewith the Heerhugowaard project 'Stad van de Zon' project with second best results with thinking-along participation is positioned highly to the left. On the right high positioned is the Wageningen 'Solar energy' project with the best sustainable results by which the citizens were invited to invest and organize themselves. To the right with lesser results Zoetermeer 'Energy cooperation' is positioned. In the center with little result in a joining-in situation the Rotterdam 'Heijplaat' project finds its place. The green line in the figure accentuates the trend-line from which the line to the left is interrupted because of lacking data.

### 3. CONCLUSIONS

The Wageningen, Heerhugowaard and Zoetermeer IKS2 innovation sustainability projects show-off that the best results are managed in situations where the collaboration of the local government with the citizens is clearly organized, and practically it's the municipality that starts-up the projects context settings. Although the model of collaboration from the municipalities point of view was different in the Wageningen, Zoetermeer versus Heerhugowaard situation, respectively a thinking-along and investment-in concerning the citizens way of participation. The Rotterdam 'Heijplaat' case showed that a diffuse situation of control from-out the municipality as by joining-in participation is a worse base for success. A conclusion that can be confirmed by the first 'blocking dilemma' out of the dissertation mentioned (Sanders, 2014): 'citizens do not take sustainability initiative from-out themselves easily. The corresponding dissertation's action-prospect to this conclusion is: 'that municipalities should know the citizen's pull-motivations to stimulate sustainability initiatives'. Apparently the Wageningen, Heerhugowaard and Zoetermeer conceived the motivating factors of the citizens participating well. In the Wageningen and Zoetermeer situation they municipalities invited their citizens to invest in solar-panels mainly, which was embraced actively. In the Heerhugowaard situation all the choices of sustainability were made by the municipality on forehand, before the houses were given in sale or rent. Still the citizens were free of choice searching a house in this neighbourhood 'City of the sun', the clearness of having less-choice apparently spoke to their motivation. Citizens need clarity of their situation that is the general conclusion from these 4 IKS2 projects.

Secondly these 4 IKS2 cases show that the best results develop in situations where the local municipality takes the first initiative, to facilitate local actors. The successful Wageningen and Heerhugowaard projects





show to the most that seeking collaboration with citizens starts by finding and motivating local actors. These actors can be civil servants, citizens and local entrepreneurs all. From the dissertation mentioned we can learn that these actors generally act in and around places: in a street, a condominium, in a neighbourhood, from-out a community building or a school as can be said in 'small urban areas'. In the Wageningen case with the best sustainability performance as example: the municipality started-up a collaborative network with local actors, citizens and local entrepreneurs, what stimulated many other citizens for placing solar-panels on houses and buildings. The Heerhugowaard and Wageningen cases and the Zoetermeer case thereby confirm the in the dissertation mentioned second action-prospect: that local actors organizing 'joint citizen initiatives' called 'frontrunners' are not only citizens, are professionals too.

Finally we can learn from this 4 IKS2 sustainability innovation projects in city neighbourhoods, that motivating citizens to take sustainability initiatives asks more than motivating alone, its necessary that the context of the project is showed to be under control and local actors are needed for multiplying results.

## SOURCES ACCORDING TO THE 4 IKS2 PROJECTS

1. Heerhugowaard 'Stad van de Zon': interviewing the former alderman R.J. Piet and chairman of the neighbourhood resident association as part of the FC. Sanders dissertation (2014)
2. Rotterdam 'Heijplaat': 2011 evaluation session with representatives of the municipality, the energy-company and residents of Heijplaat, as part of the FC. Sanders dissertation (2014)
3. Wageningen 'Solar-energy': 2015 contacting I. Botman and R. Coenraads of the municipality.
4. Zoetermeer 'Solar-energy': 2015 contacting J. Lako of the municipality.

## REFERENCES

- BOON, F., ROODENRIJS, J. & STIJKEL, A. 2013. Kennisdelen over Klimaatneutraal, we gaan samen voor goud. Rijkswaterstaat
- BOTMAN, I. 2010. Wat krijg ik nou op mijn dak, doorbraak zonne-energie bestaande bouw Wageningen (Plan van aanpak).
- COENRAADS, R. 2014. Doorbraak zonne-energie in de bestaande bouw in Wageningen (Eindrapportage IKS2 project).
- DAMEN, E. 2014. Evaluatie Klimaatneutrale steden
- ENECO 2012. Heijplaat Energieneutraal. *Eneco Nieuwsbrief*.
- MINISTERIE-VROM 2009. Innovatieprogramma Klimaatneutrale Steden. Den Haag: Rijksoverheid.
- SANDERS, F. 2014. *Duurzame Ontwikkeling door Collectief Bewonersinitiatief (Sustainable Development through Resident's Collective Initiatives): 'leidraad voor professionals om bewonersgroepen aan de duurzaamheidsopgave te verbinden.'* TU Delft, Delft University of Technology.
- TONKENS, E. H. 2009. *Tussen onderschatten en overvragen: actief burgerschap en activerende organisaties in de wijk*, Haarlem, SUN Trancity.
- WIJKBEWONERS, H. V. 2014. Groot Heijplaat, een duurzame verandering 20135.
- WRR 2012. Vertrouwen in burgers. Den Haag: Wetenschappelijke Raad voor het Regeringsbeleid.





SBE16 Sustainable Built Environment 2016 – Transition ZERO  
7-8 April 2016 – Utrecht (the Netherlands)



**Name** Dr. Sanders, Frederik Christiaan, MSc MBA Senior-Fellow Research  
**Place of birth** March 14<sup>th</sup> of 1956 at Utrecht in The Netherlands  
**Address** De Herkulis 27, Wormer  
**Mobile phone** +31 654773140

- TSM (MBA) Business School related to Dutch Twente University of Technology
- Delft University of Technology, Architecture, Urbanism and Sustainability



*Education*

- **2008 to 2014:** Delft Un. of Technology Fac. Arch.-Urbanism, 'Sustainable community development by collective civilian initiative, Promotor: Prof. dr. A. van Timmeren MSc.
- **2003 to 2007:** IMD Lausanne, High Performance Leadership and Orchestra Winning Performance.
- **1991 to 1993:** NOVAM, financial program for RE developments, for area en location developments.
- **1985 to 1986:** MBA at Erasmus University at Rotterdam, included organizational development.
- **1974 to 1982:** Civil Engineering at Delft Un. of Technology, Coastal Eng. Incl. project management

*University experience*

- **From 2014 on:** Researcher (quest) at TU Delft Arch.-Urbanism: EU and NL research programs.
- **From 2014 on:** Senior Lecturer at TSM Business School / Dutch Twente University of Technology.

*Working experience*

- **From 2015 on:** thematic counselor water-counsel HHNK North-Holland region.
- **From 2014 on:** president of SKV, Foundation stimulating Dutch Entrepreneurial collectives.
- **From 2014 on:** counselor at Wormerland city community.
- **From 2013 on:** coaching Jane Jacobs walks in The Netherlands.
- **From 2008 on:** president of CPO-NL, Foundation stimulating Dutch civilian housing (re)building.
- **From 2008 on:** Cognitum Ltd / Procorp, governance control for Social Housing NGO's
- **From 2008 on:** director of Yourpace Ltd supporting 'community developments'.
- **2008 to 2009:** director for RE city developments at ASR insurances company.
- **1996 to 2007:** chairman of ZVH, a Social Housing Foundation at Zaandam The Netherlands
- **1994 to 1995:** RE manager at the Ministry for Civil Works included the water defense system.
- **1986 to 1994:** senior project manager at RGD, the governmental RE development department
- **1983 to 1986:** project manager at the Dutch Royal Marines RE department.
- **1982 to 1986:** writing the PBNA lessons voor home-schooling on the subject of Coastal Engineering.

*Additional positions*

- **From 2015 on:** commissioner-ship at 'Eigen Huis' representing housing owners in The Netherlands.
- **From 2010 on:** chairman of the financial control commission for the Counsel of Wormerland
- **From 2010 on:** advising Rambler, foundation to design clothing with homeless youngsters
- **2005 to 2008:** chairman of the taskforce 'Housing' for the foundation of Delta Metropolis dev.
- **2000 to 2007:** commissioner-ships for a RE broker, societal RE dev. and contractor in social housing.
- **1998 to 2000:** chairman of the Federation of social housing companies in the Zaandam region.
- **1995 to 1996:** chairman of the IPMA Europeans Seminar 'Quality in project management'.
- **1990 to 1998:** chairman of the entrepreneurs dep. of KIVI, the Dutch Engineering branch org.

