

Format: *Description of Case Study (concept 7 juli 2015)*

General information	
Title	BUURTzoektWARMTE; sustainable CENTRAL (grid) solutions
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Organisation of responsible person	International Institute for Inclusive Science (Stichting Triple I-S)
Problem description	<p>In the neighbourhood Maldenhof in Amsterdam South-East/Gaasperdam since a few years an active core-group of neighbours (mainly middle-class house owners) co-operate in searching and sharing SMART solutions to live as sustainable as possible. Their houses were built in the early eighties, with an energy label originally around C/D. Many of them already reduced their electricity needs by LED and A++ and generate their own electricity by solar panels. For their heating needs (space heating and hot water for kitchen and shower) and for cooking, some neighbours realised reduction in their gas use by (floor-) isolation, double or triple glass, solar water heater and/or by induction cooking. Moreover, many of them started to energise as 'sustainability ambassadors' their next circle of influence (neighbours with rent houses and with lower socio-economic status with affordable measures, including behavioural change), in order to help them to lower their energy bills.</p> <p>However, the needs for gas in this neighbourhood are still high and the problems in Groningen with gas exploitation as well as geopolitical problems concerned with gas from Russia as an alternative for the Dutch gas are urgent for the core-group. This common felt 'Sense of Urgency' was the motor for common search for sustainable solutions - for themselves, as well as for their whole region - that make the difference. During their exploration for an Energy Cooperation for e.g. collective wood pellets stoves in own management, they found networkprovider Alliander on their way. Since 9 months they explore together whether investing into a new heating network (for 30 years) could a good solution for 100+ households (and even for the whole region of 10.000 households), or not. After the pro's and con's of wood pellet and geothermy, waste heat seemed for the short term economically the best option, with as 'Source' the hospital AMC nearby that has much waste heat from its own power plant. The first steps are being made in this direction, with new neighbours and new Partners like AMC, ASC, NUON, VandeBron and Waternet.</p> <p>At this moment, societal controversies about energy transition strategies and expected revision of the energy legislation and taxes hinder to know from the citizens perspective what's the best strategy for long-term sustainable heating solutions, in terms of sustainability, community and price: (1) decentral solutions, everyone on his own, or (partly) together as neighbours, or (2) central solutions, together as neighbours AND bigger Partner's like the networkprovider Alliander, the waste heat provider AMC, and/or energy providers like NUON or VandeBron, or (3) a combination of (semi-)central and decentral solutions. At this moment the risk of 'lock-in' with central solutions as waste heat, and the wish for 'no-regret' solutions like isolation currently lead to 'standstill'. In the long-term, standstill is a negative outcome for the positive process of energy saving and sustainable generation till now. That's worth to regret; an even more worst-case scenario is that neighbours mutually fall out.</p>
Central research question (overall multidisciplinary question)	How can the energy transition and supply - at the level of a neighbourhood - be optimally solved: central and/or decentral , in terms of 3 P (ecol. sustainability, community and costs), seen from the perspective of the (core-group of) neighbours in this specific neighbourhood with their specific history and possibilities, as well as in the whole region of Gaasperdam?

Involved disciplines			
Suitable for students from track:	yes/no	Disciplinary (track-specific) research questions	Suggestions on research methods and State-of-the-Art literature reviews
A. Energy & Resources	yes	1. What are expectations about the technical (and financial feasible) possibilities and consequences in the nearby future (1-1-2020) for transition from central <u>fossile</u> waste heat supply towards central <u>sustainable</u> heating, (a) for <u>the Source</u> (AMC as well as for the broader context of sources: the Amstel III region), as well as (b) directly for <u>the End-user</u> (e.g., <u>geothermy</u> in the neighbourhood itself)?	<ul style="list-style-type: none"> • Interviews with experts from Heat Sources: AMC and Amstel III, as well as with Cofely (concerning geothermy), Greenspread • Literature analysis
B. Global change & Ecosystems	yes	1. What is the <u>impact</u> for the environment in the next 30 years for the whole neighbourhood, in which - in any case the next five years - 100% waste heat of fossile fuels will be used, in case of a new heating network for 150 households in Maldenhof, and in the future for a potential of 1.000-10.000 households in Gaasperdam? And in the case of <u>geothermy</u> , in the neighbourhood itself?	<ul style="list-style-type: none"> • Literature analysis • Interviews • Methods of LCA, MKBA and scenario studies
C. Policy & Management	yes	<ol style="list-style-type: none"> 1. How can the current 'force field' (the main players, the playing field, the rules, and especially the role of citizens as passive consumer or as active co-producer) in the world of central waste heat supply for households be described? 2. What can be learned from 'classical' waste heat networks with their flaws (Stadswarmte 1.0), in terms of New Business Models (NBMs, according to Jan Jonker et al): how 'fair' is the pricing, how 'free' are the consumers: what about e.g. connection fees or cut-off costs? What could be the role of the ACM (Autoriteit Consumenten markt) in these, and in the future? 3. Which possibilities are there - like in the past for the gas infra structure - for the government to bear the costs for the new infrastructure (heating tubes), instead of off-loading these now on the local citizens? 	<ul style="list-style-type: none"> • Analysis of NBM, in theory • Case studies (the practice): exploration of current waste heat projects in Amsterdam and Nijmegen, and new initiatives in the MRA (Metropole Region Amsterdam), the city Utrecht, Z-H • Interviews with key figures, including groups of (critical) citizens from Amsterdam (IJburg, Nautilus) and elsewhere (Reeshof, Oegstgeest)
D. International Development	yes	1. What are good examples of central <u>alternative</u> heat supply (from a technical, financial and organisational point of view, e.g. in coops) by neighbours themselves, within The Netherlands and outside	<ul style="list-style-type: none"> • Interviews/Visits to Coops in the Netherlands (e.g. Thermo Bello and Hoonhorst) and outside (e.g. Genossenschaft Emstal)

	<p>(http://www.energiegenossenschaft-emstal.de/), which can be of help for the 'case' Maldenhof, and - in broader sense - for Gaasperdam as a whole?</p>	
<p>Additional remarks</p>	<p>This Transdisciplinary case study project must be seen in the wider context of SLIMwonenGaasperdam (2014-2015; Letter of Intent with big Partners as well as the Citizens representation, in the form of Wij Krijgen Kippen'; see http://www.wijkrijgenkippen.nl) and Besmettelijke BUURTKracht (citizens in reciprocity since 2012; see www.slimwonengaasperdam.nl; https://youtu.be/grw_XhTZS8Q BUURTzoektWARMTE in Maldenhof; https://youtu.be/EDi8u49i1c8 Buurtwarmtenet Maldenhof.</p> <p>The project BUURTzoektWARMTE is honoured in April 2015 with the P-NUTS-price 2015 Best Idea. At the same time - unexpected by us as neighbours in Maldenhof - important policy changes took place: (1) the 'Nationale Warmtevisie' of Minister Kamp was presented, as well as (2) an important Cooperation Agreement was signed by 25 Partners in the Metropole Region Amsterdam to work on a regional heating Network for 400.000 households and industries (230.000 in Amsterdam). Very recently in The Netherlands Urgenda won the Climate lawsuit. In Utrecht, very recently a process has been started in which the municipality and citizen together work on waste heat waste solutions. So, waste heat and its controversies are really HOT!</p> <p>The Heat-case has been split into two cases: (1) a route of exploration concerning a <u>central grid solution</u> and its consequences, and (2) a route of exploration concerning a <u>decentral, off-grid solution</u> and its consequences. It is expected that a combination of both would be the most effective in terms of overall sustainability. Therefore, in the last weeks of the project both cases should be integrated into overall-conclusions/advices for Maldenhoffers as well as for all Gaasperdammers !</p>	