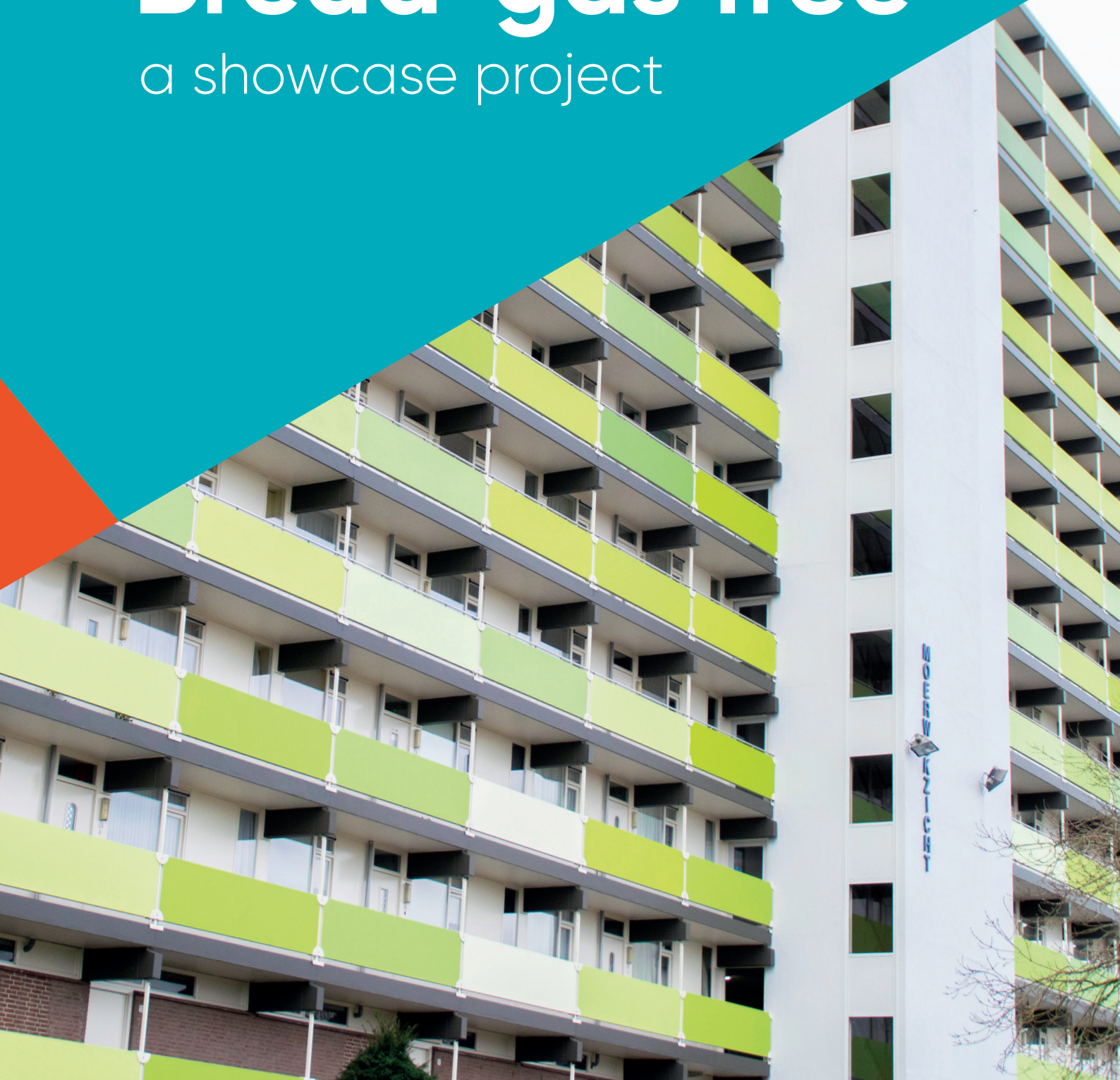




Samen werken aan
wonen en wijken

Moerwijkzicht Breda 'gas free'

a showcase project





Moerwijkzicht Breda 'gas free': a showcase project

In 2017, Moerwijkzicht, one of the largest apartment complexes in Breda with 241 dwellings, underwent a major renovation. Homes were insulated, improving living comfort and reducing energy consumption. The collective connection to the Amer district heating network was replaced by individual connections, whereby actual consumption is now measured with an individual gigajoule meter. Because the residents switched from cooking with gas to cooking on induction, the step to 'gas free' could be made. Moerwijkzicht can therefore be viewed as a pilot: it is the first flat in Breda where this transition has succeeded. Alwel is happy to share its experiences, success factors and improvement points concerning the entire renovation project with other housing corporations and interested parties.

Intensive cooperation with residents

For both the residents and for contractor Dura Vermeer, the transition to gas free is inseparable from the total renovation. Renovating an occupied property puts enormous pressure on the residents. They dreaded 'the hassle', the inconvenience that the renovation would entail and the long-term intrusion on their privacy. That was the biggest barrier to obtaining 70% agreement from the residents. Alwel therefore invested in clear communication with all residents: 241 dwellings, with approximately 25 different nationalities, spread over 12 floors. The aim was to work with residents as closely as possible, informing them and making choices together. To achieve this, around 25 residents applied to become a floor contact person (FCP).

The FCPs played an essential role in communication, went from door to door to inform residents and gave residents in each gallery an impression: what address requires additional attention, where are we dealing with a language barrier, in which cases are social problems or vulnerable people due to factors such as illness? The FCPs developed in their role and became increasingly more involved. Confidential advisors were appointed, for example. A number of FCPs also discussed a social plan, while another committee focused on the pros and cons of connecting to the Amer district heating network.

Collaborating with the residents, where the input from the FCPs was crucial, the way in which communication was given shape and the way in which the residents' participation was achieved, is seen by all parties involved in this project as the great success factor.



FCP member John Sep

Alderman for sustainability municipality of Breda Paul de Beer

"Moerwijkzicht was a huge project, a showcase project for the Municipality of Breda. Nevertheless, Moerwijkzicht represents only a quarter percent of all existing buildings in Breda that have been made sustainable, while the total number is only a few percent. The sustainability challenge is enormous. In addition, we cannot leave sustainability to idealists. Instead, we need to work with the realists to turn the tide together. Working with each other and being bold enough to make mistakes together, brave enough to get bruised."

Cas van de Ven – Alwel neighbourhood consultant

"Moerwijkzicht is almost a village in itself. The multiple nationalities presented an additional challenge. I believe in this approach, in talking and listening to residents: what could be better in your home, would you like to be involved, would you like to contribute something meaningful to other residents? Anything you do well at the start delivers greater satisfaction in the future and fewer complaints. Residents feel heard."

FCP member Guus van Dongen

"By informing the residents in as much detail as possible and answering questions as clearly as possible, they were able to decide for themselves whether or not they stood behind the renovation plans. As an FCP member, we sometimes had to actively get the information ourselves. We also took people to the showcase home, where they could see exactly what the improvements and changes involved."

Success factors

- Collaborating with the residents, whereby the input from the FCP staff was crucial, the intensive communication with and the opportunity for the residents' own input and ideas, created wider acceptance.
- Housing costs remain the same or decrease, despite the rent increase. Calculation models based on actual energy consumption gave insight into the total housing costs.
- The individual connection to the Amer district heating network was presented as an opportunity.
- The way in which Alwel accommodated the residents with allowances, vouchers and replacement equipment.
- The showcase home where the changes and possible alternatives could be viewed. This was also often used as a meeting place.

A rent increase, **but no rise in housing costs**

Residents feared a rise in housing costs. The calculation models that showed that a rent increase was definitely passed on, but that the total housing costs would remain the same and in most cases would even decrease, contributed significantly to the 70% agreement statements of residents. The same applies to the view of the eventual improvements to the home, such as the insulation that would put an end to the complaints about drafts and the temperature and heating costs over which residents would have much more control.

In general, residents had no difficulty in switching from cooking with gas to cooking on induction. However, without the offer of replacement equipment and a new cookware set, there would (probably) have been no support due to the financial consequences. The other allowances and allowances also contributed to a positive decision. A relatively high number of 'vulnerable' people live in Moerwijkzicht. Personal contact, the nursing home, but also the job tickets for additional help and food stamps for the neighbourhood restaurant ONS were certainly very important for these people.

Conditions, responsibilities, liability

The decision to opt for the individual connection to the Amer district heating network instead of the central heating boilers arose when the preparations for the renovation were already at an advanced stage. Partly due to the fact that the starting date was adhered to, this decision had a lot of impact on the contractor: preparation and execution were intermingled, which made the commencement of work chaotic. In this project, insufficient agreements have been made about the consequence of this change, as a result of which various parties have suffered financial loss.

Speed sometimes results in a delay. The ambition to tackle two strands

– 24 dwellings – simultaneously, was not feasible. As soon as it was 'scaled back' to one strand, execution progressed much better and customer satisfaction increased.

The pressure of time also had an effect on heat supplier Ennatuurlijk. Because it became involved with the proposal for sustainable energy at a later date, there was virtually no time for good preparation. The conditions, contracts, and so forth, had not been fully worked out at that stage. The challenge of Ennatuurlijk was to keep two systems running side by side, in order to provide both the residents who were already using the new installation and the residents who were still using the collective heat connection. These two

systems affected each other, causing disruptions. The connection to an existing boiler house therefore deserves extra attention in the future: when is connection to an existing installation feasible and under what conditions and when is it wise to invest in a new supply? In addition, clear agreements must be made in advance about who is responsible and liable until what time, and how and where the follow-up is arranged. Because in the future matters of this kind are already attuned with housing corporations and other partners, Ennatuurlijk developed the program 'Gas off, Heat on'.

Overview of project costs connecting gas free Moerwijkzicht

		ex. vat	ex. vat	incl. vat	incl. vat
Connection to the Amer district heating network	number	per dwelling	total costs	total costs	per dwelling
connection costs (BAK)	241	€ 2,884.00	€ 695,044.00	€ 841,003.24	€ 3,489.64
contribution electric cooking by Ennatuurlijk	241	€ -400.00	€ -96,400.00	€ -116,644.00	€ -484.00
contribution of transition from gas to heat by Ennatuurlijk	241	€ -829.88	€ 200,000.00	€ 242,000.00	€ -1,004.15
coordination fee for contractor	241	€ 96.52	€ 23,261.32	€ 28,146.20	€ 116.79
change construction site by contractor	241	€ 40.54	€ 9,770.14	€ 11,821.87	€ 49.05
total		€ 1,654.12	€ 798,644.00	€ 966,359.24	€ 2,167.33
Adjusting indoor installation dwellings	number	per dwelling	total costs	total costs	per dwelling
replace heating, remove risers	241	€ 4,546.06	€ 1,095,600.46	€ 1,325,676.56	€ 5,500.73
total		€ 4,546.06	€ 1,095,600.46	€ 1,325,676.56	€ 5,500.73
additional contractor costs 7.73%	241	€ 607.57	€ 146,425.10	€ 177,174.37	€ 735.16
total project costs connection to the Amer district heating network and indoor installation replacement	241	€ 6,807.76	€ 2,040,669.56	€ 2,469,210.16	€ 8,403.23

Manja Thiry - COO Ennatuurlijk

"Doing nothing is no longer an option. In order to be able to achieve the climate objectives, we need to utilise all possibilities, all the heating technologies that are currently available. The district heating network in this area was far ahead of its time during construction. The great thing is that now that the infrastructure is there, you can do anything with it. Geothermal energy is also possible."

Costs

At Moerwijkzicht there has been a lot of discussion regarding the Connection Charges Contribution (BAK). These are the costs for connecting an individual house to the Amer district heating network: what is covered by the BAK and what is not included? Who bears which costs? This renovation project has resulted in a better idea of the additional costs: for example, what does a contractor charge for the layout of the site, the project management and coordination costs? How much does it cost to electrify the cooking function? These experiences are summarised in the tables.





FCP member Lydie Koning

Barriers

If housing associations, municipalities, heat suppliers and contractors want to be able to meet the sustainability challenge, they will have to work together intensively and continually submit the barriers and concerns to politicians in The Hague:

- Legislation is hopelessly out of date, it no longer ties in with the goal that we are pursuing together. For example, in new buildings installing a gas connection is still compulsory, while in the case of renovations cancellation of the gas connection is subject to a fine.
- It lacks a clear national vision. In order to achieve sustainability, choices need to be made. There is no point whatsoever in making all residential properties fully electric, while electricity is still supplied by a coal-fired power station.
- The participation scheme is too rigid for housing corporations. Some residents simply cannot be reached, which can obstruct the 70% residents' agreement.
- The available budget for sustainability is insufficient. This is added to by the shortage of manpower and materials: this scarcity has a price-boosting effect.

Tonny van de Ven – director of Alwel

"If we want to achieve the climate target, Alwel needs to tackle 700 homes per year. We are now halfway and also need to catch up with the backlog of recent years. The costs are enormous, however, and can be as much as a hundred thousand euros for each dwelling, which means that the total investment runs into millions! That needs to come from somewhere."



Overview project costs electrify cooking function

		excl btw	excl btw	incl btw	incl btw
Adjust electricity connection to electric cooking	number	per dwelling	total costs	total costs	per dwelling
increase 1x25 -> 3x25A connection	200	€ 171.70	€ 34.340,00	€ 41.551,40	€ 207,76
adjust meter cupboard 3 phases + earthing + WCD (Perilex 3 ph.)	200	€ 426.59	€ 85.318,00	€ 103.234,78	€ 516,17
total		€ 598.29	€ 119.658,00	€ 144.786,18	€ 723,93
Removal of gas connection by Enexis	number	per dwelling	total costs	total costs	per dwelling
remove low pressure gas (incidentally applicable)	19	€ 285.89	€ 5.431,91	€ 6.572,61	€ 345.93
remove gas meter	215	€ 62.52	€ 13.441,80	€ 16.264,58	€ 75.65
total (based on most common amount)		€ 348.41	€ 18.873,71	€ 22.837,19	€ 75.65
Facilitate induction cooker	number	per dwelling	total costs	total costs	per dwelling
hob induction	205	€ 595.00	€ 121,975.00	€ 147,589.75	€ 719.95
cooker induction	22	€ 295.00	€ 6,490.00	€ 7,852.90	€ 356.95
mounting plate induction	8	€ 295.00	€ 2,360.00	€ 2,855.60	€ 356.95
ceramic cooker	1	€ 394.00	€ 394.00	€ 476.74	€ 476.74
connection plug and hob	236	€ 61.79	€ 14,582.44	€ 17,644.75	€ 74.77
storage, waste, return	236	€ 16.52	€ 3,898.72	€ 4,717.45	€ 19.99
outflow, connection	236	€ 69.99	€ 16,517.64	€ 19,986.34	€ 84.69
total (based on most popular appliance)		€ 595.00	€ 131,219.00	€ 158,774.99	€ 899.39
Facilitate cookware set	number	per dwelling	total costs	total costs	per dwelling
cookware set basic	238	€ 63.91	€ 15,210.58	€ 18,404.80	€ 77.33
cookware set option	219	€ 29.50	€ 6,460.50	€ 7,817.21	€ 35.70
cookware set option	45	€ 27.50	€ 1,237.50	€ 1,497.38	€ 33.28
total (based on the most popular combination)		€ 120.91	€ 22,908.58	€ 27,719.38	€ 113.03
additional contractor costs 7.73%	241	€ 93.87	€ 22,622.56	€ 27,373.30	€ 113.58
total project costs electrify cooking function, cooker, cookware set and gas connection removal	241	€ 1,756.48	€ 315,281.85	€ 381,491.04	€ 1,925.58
total project costs individual heating connection, renew indoor installation, electrify cooking function and making the dwelling gas-free	241	€ 8,564.24	€ 2,355,951.41	€ 2,850,701.21	€ 10,328.81



Alwel supervisor Peter van der Straten (left) and Ben Farla of heating survey contractor Dura Vermeer (right)

**Martin Beukeboom,
director of Dura Vermeer:**

"I hope that the regulatory burden diminishes, that we have the courage to opt for cooperation and that we will move away from tendering."

Points for improvement

- Involve heat supplier at an earlier stage. This makes it possible to offer residents a complete renovation and sustainable energy package.
- Clear cooperation agreements must be made for future projects, especially where a UAV-GC contract is concerned. Identify consequences of potential changes: content, financial and planning.
- Connecting a new installation to an existing boiler house requires clear insight into feasibility and good agreements about conditions, responsibilities, liability and the method of notification in the event of malfunctions and activities.
- Implementation: taking more time for preparation and interim evaluations. *Outengineering* exceptions at an early stage.
- Visualizing information for residents in as much detail as possible.



For queries please contact:

Perry van Happen

Advisor Strategy & Value Control at Alwel

PO Box 1491
4700 BL Roosendaal

06 46 25 27 86
p.vanhappen@alwel.nl

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alwel.nl

