



AFE^{cc}o

EMPOWERING OLDER ADULTS TO APPLY AFFORDABLE
ECO- AND AGE-FRIENDLY SOLUTIONS TO AGE IN PLACE

AFECO – National report of The Netherlands

A1 literature review /A2 comparative analysis of barriers and facilitators
/A3 good practices



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About this publication

This report summarises the results of the research activities carried out in The Netherlands, within the Erasmus+ project AFECO – Empowering older adults to apply affordable eco- and age-friendly solutions to age in place (cooperation partnership in adult education, project number: 2022-1-NL01-KA220-ADU-000086242). More information is available at <https://afeco.eu/>.

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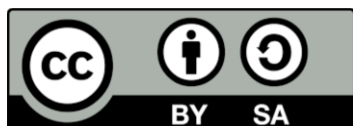
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List of definitions and acronyms

Definition of age-friendly principles

Any practical solutions linked to one or more of the eight domains of the age-friendly cities framework that older adults themselves or with support of others can implement in their own home or community. Any practical solutions linked to one or more of the eight domains of the age-friendly cities framework that in AFECO older adults can implement themselves or with the support of others in their own home or community. The World Health Organization (WHO, 2007, 2016, 2023) developed the age-friendly cities framework to encourage and support active and healthy living by enhancing opportunities for health, participation and security to improve the quality of life of the ageing population. The eight domains of the framework are as follows: outdoor spaces and buildings; transportation; housing; social participation; respect and social inclusion; civic participation and employment; communication and information; and community support and health services.

According to (Menec et al, 2017), Age-friendly principles “(...) support and enable people to age actively (...) with the notion of “active aging” broadly defined in terms of health, participation, and security.”

Definition of eco-friendly principles

Any practical solution that older adults themselves or with support of others can implement in their own home or community to act more sustainable or environmentally friendly. Environmentally friendly means that the practical solutions should aim to reduce, minimise the impact on, or do no harm to ecosystems or the environment (Webster).

According to Ragheb et. al (2016), a building to be considered “green” or “eco-friendly” needs to have:

- Ventilation systems designed for efficient heating and cooling
- Energy-efficient lightning and appliances
- Adaptive reuse of older buildings
- Water-saving plumbing fixtures
- Landscapes planned to maximize passive solar energy
- Minimal harm to the natural habitat
- Alternate power sources such as solar power or wind power
- Non-synthetic, non-toxic materials
- Locally-obtained woods and stone
- Responsibly-harvested woods
- Use of recycled architectural salvage
- Efficient use of space

Introduction

The aim of this report is to give an overview of current state of the art in the occurrence and policies regarding affordable age-friendly and eco-friendly solutions in the partner countries. The report consists of the findings from the literature review, the comparative analysis and the reporting of good practices. It aims for the consortium as a whole to gain an understanding of the state of the art and on affordable age and eco-friendly solutions in partner countries and particularly the home and community fields, and to present that knowledge in the form of a written report.

The literature review, the analysis of barriers and facilitators, and the survey on existing or even planning good practices in the project countries, will help the partners to build and update a strong knowledge base in these fields. To be closer to the practical issues that define the adaptability of eco and age-friendly solutions in community, the consortium decided to use mostly grey literature and websites for tools and advice, such as governmental pages. Common grey literature publication types include reports (annual, research, technical, project, etc.), working papers, government documents, white papers and evaluations, which will help all partners to reach conclusions around the common field between age and eco-friendly developments.

Barriers and facilitators found in each project country will be used for stipulating the right consequence of actions needed, to propose a sound methodology that could – in combination with other actions and stakeholders – promote the implementation of age and eco-friendly principles into the public and private sphere of care for older people.

Finally, the selection of good representative practices by each project country can be the basis for a report, and a publication, that depicts the level of maturity and progress of the notions of age-friendliness and eco-friendliness, as well as their impact on the care of older people.

Results for The Netherlands

Current situation

As of January 2022, The Netherlands counted over 3.5 million people older than 65 years of age. That is 20% of the total population. 54% of them were women. Among people older than 80 years (850,000), 63% of them is female.

About 95% of the Dutch older population lives at home, often with support of community care, or their own networks (CBS 2020, RVS 2022). The other 5% lives in an institution, mainly in nursing homes.

The Netherlands count 8 million houses (CBS, 2021). Half of them are in the provinces Noord-Brabant, North- and South-Holland. 57% of the houses are home-owned. The other houses are rented: 67% social housing and 33% rented houses owned by private parties (CBS, 2023).

According to a research commissioned by the Ministry of Internal Affairs (ABF, 2020), The Netherlands count above 1 million (13%) households of 75 years and older. This number will grow

to 19% in 2035. The same research calculated that 86% of the total housing stock in The Netherlands is or can be made suitable for people with physical impairments. Suitable housing is accessible indoor and outdoor without stairs.

Age-friendly principles in The Netherlands

Age-friendly principles at home or for the individual

Most of the literature focuses on the reforms in elderly care in The Netherlands and their effects. The Pact for Elderly Care was concluded in 2018, from which the 'Longer at Home' programme emerged in the same year (PBL 2019). The programme focuses, among other things, on improving home care, supporting informal carers and making the current housing stock lifelong-proof. To implement this programme, the central government made over 340 million euros available in the period 2018-2021. Their findings confirm the results of the earlier studies: in practice, care and welfare for older people living independently for longer can be better organised; involved parties have too much trouble finding each other.

At the municipal level, the *Social Support Act* (known in Dutch as the WMO 2015) obliges municipalities to help people to live at home for as long as possible. They are responsible for assisting people who are unable to independently arrange the care and support they need. These services include coaching/companionship and day activities and temporary respite for informal carers. Under certain conditions the municipality may award a personal budget (PGB) which can be used to arrange and pay for your own support services. The Social Insurance Bank (SVB) manages the PGB and pays the care provider's bills. However, every municipality arranges access to support in its own way. Some have set up a social support desk (*WMO-loket*). Many have opted for neighbourhood social support teams (*sociale wijkteams*) which people can contact if they need assistance. The tasks of the teams differ from one municipality to another (<https://www.government.nl/topics/care-and-support-at-home/social-support-act-wmo>).

In terms of age-friendly principles, it has been argued that there are many design features that contribute to a building's accessibility or age-friendliness. Van Hoof et. al. (2021, p. 9), include ramps instead of steps or stairs, wide doorways and passages, stairs that are neither too high nor too steep, and that have railings, and non-slip flooring. Elevators, and, to a lesser extent, escalators, should be accessible by those using wheelchairs or wheeled walkers. For example, elevators in buildings with many older adults could be equipped with foldable seats where people can sit down.

Interestingly, not only the accessibility but also the egressibility of a dwelling is an important consideration. In other words, can an older person lying on a stretcher be quickly taken out of the home by paramedics in cases of emergency? Van Hoof et al (2021, p. 6) also point out that given higher rates of the use of wheeled walkers and mobility scooters, age-friendly housing should be adapted for the use of such devices. Most importantly, they emphasize that most of the home modifications follow the lines of national building codes and practices, as well as architectural preferences, limiting transferability between countries. The universality of "universal" design solutions is thus often limited. The authors suggest to actively involve older people in participatory design activities of housing.

Van Hoof et al (2021, pp. 6-7) point out that next to home modifications, other ‘environmental interventions’ exist which include object modifications, task simplifications, and assistive devices. It is clear however that ‘the home’s design, layout, and materials used dictate the types of modifications that can be conducted in a dwelling. Apart from this, financial restrictions can pose barriers and a lack of cooperation or permission to install modifications from landlords or when renting a place.’ The authors point out that ‘for many older people, especially those with impaired health and physical limitations, maintenance can be a major barrier, which also encompasses garden maintenance. Financial barriers can pose restrictions to maintenance as well.’

Finally, there is a large literature now on assistive devices and technology. As Van Hoof et al (2021, p. 14) point out, these include devices coupled with sensors which can be integrated into one’s home and allowing the resident to have greater control of their home environment by a simple touch of their smartphone screen. However, for many citizens the affordability of internet access, and hardware devices is still an issue, in conjunction with poor infrastructure resulting in poor and/or limited access to the internet in their respective area/region.

In the summary table in the annex, we have identified a number of reports and especially websites that are directed to older adults and that give a host of solutions or ideas for home adaptations, from making thresholds easier to manoeuvre, to placing staircase rails etc. They mostly seem straightforward; the main issue seems to be financial and navigating the jungle of available subsidies from a host of actors.

The role of a housing coach is worth highlighting here (VWS, 2018). This is someone who is well acquainted with the range of housing and care. Together with the elderly, the housing coach maps out the housing and care needs and looks for solutions. The help varies from an exploratory meeting to guidance in finding another home, and options for installing facilities in your own home. The service is free and without obligation.

Age-friendly principles in the community

It seems most logical to focus here on the WHO’s Age-Friendly Cities model, as it is the most significant model for age-friendly cities and communities (AFCC). Van Hoof et al (2021, p. 2) discuss this model, which was first presented in the document *Global Age-Friendly Cities - A Guide*. The model starts from the principle that older people can stay independent and healthy for as long as possible if support is offered in a number of domains that pertain to every aspect of daily living. Based on this notion, the WHO proposed eight domains in which cities would encounter challenges and in which actions are needed. These eight domains are (1) outdoor spaces and buildings; (2) transportation; (3) housing; (4) social participation; (5) respect and social inclusion; (6) civic participation and employment; (7) communication and information; and (8) community support and health services. The accompanying *Checklist of Essential Features of Age-Friendly Cities* contains an extensive overview of features related to these eight domains, which are essential to an AFC. However, an AFC can only result from an integrated approach centred on how older people live. What is needed is the coordination of actions across various domains of city policy and services to enable and facilitate a mutual understanding, reinforcement and take-up. Therefore, each domain of the model should not be treated or considered separately, as collective

approaches and cross-departmental collaboration are encouraged to achieve the goals of the AFCC's agenda.

Community initiatives are often focused on various types of housing. Various reports from the Netherlands mention options for housing. Examples are a mix of housing, both for rent and for sale, as well as cheap and expensive, and with nearby social and commercial facilities with offerings for local residents. We also found a range of care options varying from light home care to more serious 24-hour care (Platform 31, 2021).

In addition, it is worth highlighting new forms of housing for older adults, such as kangaroo homes (intergenerational living) or modern courtyard homes (modelled on medieval historic courtyards originally intended for the less fortunate, single women, elderly people, and others in need, such as the famous *Begijnhof* in Amsterdam). [see ZorgSaamWonen, no date]. A modern example is De Knarrenhof in Zwolle (see VWS 2018). The lockable courtyard focuses on meeting and organising activities together and is based on old-fashioned neighbourly decency and 'noabership', so that its inhabitants are never alone. The communal garden and hobby room provide more meeting opportunities.

According to BeterOud (no date) it is important that facilities are accessible and that the elderly feel safe to go out and meet others. According to the elderly of BeterOud, a senior-friendly neighbourhood has:

1. Facilities such as shops, mailboxes, a general practitioner;
2. Physical and social safety;
3. Affordable activities suitable for the elderly;
4. A central meeting place with an information point.

Findings in Age-friendly City The Hague

The municipalities of The Hague and Amsterdam are members of the *WHO Global Network on Age-Friendly Cities and Communities* since 2015 (WHO Age-friendly World). Being a member of the Network includes a promise to apply a five-year cycle of Plan, Do, Check and Act and to work on the journey towards age-friendliness.

Since 2020, The Hague performs a two-year check on the perceived age-friendliness (or senior-friendliness) of The Hague by people aged 65 and over. The *Knowledge Platform Monitoring Age-friendly The Hague*, chaired by The Hague University of Applied Sciences and its Research Group on Urban Ageing, in cooperation with other organisations, sends out an online survey, organises offline questionnaires with older people who are illiterate, and enables qualitative research in focus groups with older people. In 2020 the so-called *Age-Friendly Cities and Communities Questionnaire* was developed (Dikken, J. 2020). The survey was repeated in 2022 (results to follow in 2023). Overall, The Hague scored a 7 out of 10 by the older adults in 2020 and 2022 and the conclusion may be drawn that the older citizens are satisfied. Based on certain backgrounds of older people, however, the research team found that those who have less financial possibilities and those who suffer from impairments or mobility issues perceive the city as less age-friendly

than their fellow citizens. The team performed a cluster analysis that led to a clustering of older people in four groups:

1. Poor older people
2. Older people with impairments or mobility issues
3. Older people that are happy
4. Higher echelon

As part of the AFECO project implemented in The Netherlands, whose main component is developing an online learning platform, we aim to mainly focus on the third cluster: empowering these older adults to remain safely and healthy at home, and to prevent them from falling into clusters 1 or 2. We believe that people in clusters 1 and 2 need to be supported by local policy means.

Eco-friendly principles in The Netherlands

Concerning the application of eco-friendly principles in the home and parameters that may affect the application of such principles we can look mostly to research regarding habits and behaviour change. There are various studies that investigated the motivations and intentions of Dutch citizens to change their individual behaviours to be more environmentally friendly. One study showed that about one third of citizens (34 percent) indicate that they are (highly) motivated to make choices within their capabilities that help to combat climate change. This motivation is most closely related to three factors: the conviction that one's own contribution has an effect, that he or she is (partly) the cause of the problem, and that The Netherlands (also) gets something in return for taking climate measures (van der Grient et al., 2019). However, for most people it seems that the environment is often not the most important motivation to live more sustainably. Instead, financial motives often play the biggest role as either a motivating factor or a barrier to implement eco-friendly principles (van der Grient et al., 2019). Another big factor in motivating people to behave sustainably is increased comfort and the ease with which they can be implemented in their daily lives. For example, if something is easy and cheap to do and provides citizens with little hassle but does provide comfort, the threshold for carrying it out is lower.

Eco-friendly principles in the community in The Netherlands

Community initiatives are often focused on making the neighbourhood a more green space and getting citizens involved in creating these green spaces. When looking at the few studies we could find, it became clear that residents often lack knowledge about which measures they can take themselves to make their neighbourhood greener and/or eco-friendly and the necessity and effectiveness of these measures in their community. Moreover, they do not always feel personally responsible for the environment around them (Kreemers et al., 2020). On the other hand, a study which focused on the *Steenbreek* initiative showed that when trying to implement community initiatives, it is important to focus on providing information to raise awareness on the role of the community in becoming more climate resilient, get local government to support your initiative, get a significant number of neighbours involved and to provide actual hands-on support (Stobbelaar, van der Knaap, & Spijker, 2021). This last notion is also supported by for example the *energiefixers071* initiative (www.energiefixers071.nl) in which local volunteers supported 100

low-income households in applying measures to insulate their house and make sure their energy costs were reduced. The most influential factor in this initiative's success was that they, along with information to raise awareness, provided hands-on support in the community to apply the principles.

Other parameters that may influence the engagement of citizens in their community are the fact that activities to improve the neighbourhood should not cost too much time and that the activity is seen as the responsibility of citizens (such as clearing snow or reporting trash in the neighbourhood; see <https://kenniskaarten.hetgroenebrein.nl/kenniskaart-leefomgeving/hoekrijg-ik-mijn-buurt-schoner-en-veiliger/>).

Age- and eco-friendly principles in The Netherlands

The combination of both principles have not been found in the Netherlands. There are some studies on using nature-based adult day services (ADSs) for people with dementia (PwD), but these seem to be mostly therapy forms. They include city farms and community gardens, where people with dementia participate in outdoor activities, such as gardening and caring for animals (Hassink et al 2019).

Challenges

- Both age- and eco-friendly principles or solutions often focus too much on the richer part of the population such as home owners. It is not always clear who is responsible in the case of people who rent their home. Subsidies are available for solar panels, but only for homeowners, for example.
- Eco-friendly principles often do not specify older adults.
- Online platforms often miss the hands-on approach that seniors may need to apply the eco-friendly principles.
- More generally, as summarized by Van Hoof et al (2021, p. 18), the barriers, challenges and obstacles to implementing AFCC programmes include: first, the impact of financial cuts on social programmes; second, the shift towards the privatisation of urban space; third, political barriers; and fourth, the prevalence of implicit and explicit ageist attitudes and stereotypes in the design of AFCs.
- These may be illustrated by the fact that while green spaces in a city could be age-friendly, there can be barriers preventing older people from using such green spaces. Such barriers include poor maintenance, littering, and perceived safety issues. There may be concerns about inadequate toilet facilities, lack of seating, and shelter from weather conditions (ibid, p. 9).

Gaps

- We found a gap in the literature about behavioural changes or incentives that are needed for older adults actually to use or apply the available solutions. This also has to do with the different profiles of older adults; we have not yet seen evidence that the policy makers

and service providers are aware of these different profiles which require tailor-made approaches.

- What do older adults need to apply simple but effective eco-friendly principles such as ventilating, using sun blocking measures, making the neighbourhood greener, using simple water saving measures or applying other cost saving principles in their own home?
- While we have found mention of coaches (*ouderenconsulent* in Dutch, or housing coaches, climate coaches) to make your home more age-friendly, we haven't yet found much accessible information about how to make your home more eco-friendly. So how can older adults find out about the possibilities for coaching on both principles?
- We also miss a comprehensive discussion or calculation tools regarding the costs involved to make the individual homes age- and eco-friendly and the support needed for older adults to make such calculations and a financial plan.
- A related point is about how to become eligible for new forms of elderly housing and how to make an informed decision – we haven't yet found much concrete information about this.

Education

Life long learning is promoted in The Netherlands by the Dutch government. Dedicated training for older people exist in many varieties, such as university courses for people above 50 years, training in public libraries (digital skills, writing, calculation, application) and learning and training on the job. Since the rise of energy prices, The Netherlands has additional training and courses for energy saving measures and eco-friendly behaviour.

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Annex: Overview Table

Age-friendly solutions					
Individual	Title	Authors and Year	Summary	Link	Quality of the study/report (give a number between 1 –5)
	Demografische Krimp en ouder worden in eigen huis	Wilbert Steenhuus & Kaspar Huppelschoten 2014	<p>Suitable for life cycle is the simple adaptability of a home to a situation in which a resident has to deal with functional limitations. To realize a suitable home for the entire human life cycle we have developed a concept in which homes are renovated and preventively get a built-in connection option in the facade. On this it is easy to connect a module that makes a home suitable for residents with disabilities. Such as sanitary and transportation modules. The modules are interchangeable, housings can be used during the life cycle of the resident to continue to be adapted to his or her disability, temporarily or chronic. This makes it possible to let residents stay in their own homes for longer living.</p> <p>The report also states possibilities for existing housing to make them suitable for elderly. They differentiate five types of housing:</p> <ul style="list-style-type: none"> • Standard house • Zero steps house • Rollator Suitable home • Wheelchair-accessible home • 24-hour care suitable home <p>For this, a matrix was created. The matrix should make it easier to see the possibilities of the homes</p>	adoc-public-demografische-krimp-en-ouderworden-in-eigen-huis.pdf (sharepoint.com)	

		in a planning area, for example by assessing to what extent category a house belongs to and with what adjustment the house to a more suitable life-course category could climb.	
De kweekvijver van AAL	ZonMw 2017	<p>In the European Active & Assisted Living (AAL) incentive programme, governments, companies and organizations invest together in ICT solutions that support self-reliance promotion of the elderly. The commitment: supporting the elderly to maintain their independence, even with increasing physical or mental limitations.</p> <p>The Netherlands is involved in dozens of AAL projects that contribute to this. They make the connection between the daily lives of the elderly and the increasing technological possibilities.</p> <p>In this publication, AAL shows what the program has delivered so far for the Netherlands. It is mainly the people involved who have their say. From the elderly who think along about new ICT solutions, to companies who bring specific products and services to the market. Their stories give one inspiring glimpse into the future living environment of the elderly.</p> <p>ICT solutions at home such as digital assistance (Anne), Sensara homecare, HOMEdotOLD, VictoryaHome. Care@Home; See www.ouderenombudsman.nl, www.zonmw.nl/careathome and www.zonmw.nl/zodichtbij</p>	DE KWE EKVIJ VER VAN AAL (sharepoint.com)
Zelfstandig thuis op hoge leeftijd	Femke Daalhuizen, Frank van Dam, Carola de Groot, Frans Schilder	<p>This seems to be a key publication in terms of policy background and challenges facing the sector, so good for NL context.</p> <p>The Pact for Elderly Care was concluded in 2018, from which the 'Longer at Home' programme emerged in the same year. The programme focuses, among other things, on improving home care, supporting informal carers and making the current housing stock lifelong-proof. To implement this programme, the central government made over 340 million</p>	https://themasites.pbl.nl/o/zelfstandig-thuis-hoge-leeftijd

	<p>en Marieke van der Staak, Planbureau voor de Leefomgeving (PBL) 2019</p>	<p>euros available in the period 2018-2021. This publication addresses the questions: What is needed for longer independent living? What bottlenecks are there? And how do the policies deployed in the care domain interact with other policy domains related to longer independent living, such as housing and spatial planning? Our findings confirm the results of the earlier studies: in practice, care and welfare for older people living independently for longer can be better organised; involved parties have too much trouble finding each other.</p>	<p>leeftijd/</p>
<p>Heatwaves and vulnerable populations: Mapping their needs in The Hague. Final report, February 2022</p>	<p>Bergh, S.I., Longman, A. R., and E. van Tuijl (2022) The Hague: Centre of Expertise on Global Governance, The Hague University of Applied Sciences</p>	<p>This report contains a section on simple and affordable solutions that older adults can use to protect themselves from the heat. See pp. 25 – 30 and appendix D p. 46ff where all the products are listed</p>	<p>Heat waves and vulnerable populations: Mapping their needs in The Hague. Final report, February 2022</p>
<p>How can technology support ageing in place in</p>	<p>Ollevier et al. Public Health Reviews (2020) 41:26</p>	<p>Although not focused on the NL in particular, it is a useful article. It finds that Literature concerning technology to support ageing, based on controlled trials and research performed in authentic home situations, is scarce. Thus, there is a need to investigate the subject in depth. The use of a neurofeedback headband, an accessible computer system, a</p>	<p>https://doi.org/10.1186/s40985-020-</p>

	<p>healthy older adults? A systematic review</p>		<p>wristband with pedometer, a biofeedback device and an online video platform for physical exercises can bring added value to ageing in place for healthy older adults. A patient-centred approach for developing, implementing and evaluating technology benefits ageing in place.</p>	<p>00143-4</p>	
	<p>Technology for Aging 2023 Market Overview January 2023</p>	<p>Laurie M. Orlov Principal Analyst Aging and Health Technology Watch</p>	<p>Although this is from a US market research consultancy, I found this report useful as it gives an overview of tech categories (p. 12) and highlights the growing use of AI. Products are listed on p. 22ff.</p>	<p>https://www.ageinplace.com/page/technology-marketing-overview-2023</p>	
<p>Community</p>	<p>Woonvarianten voor senioren</p>	<p>Platform31 - Anita van Hezik (Platform31) en Jasper Klapwijk (Kantelingen), 2021</p>	<p>Based on practical experience collected from frontrunners who have already developed housing variants, we have drawn up business cases for three housing variants:</p> <ul style="list-style-type: none"> – Housing mix: a mix of housing, both for rent and for sale, as well as cheap and expensive. Owner-occupied homes and more expensive rental homes contribute to the feasibility of the concept. When realizing social rental homes, strict laws and regulations with regard to rent levels and allocation must be taken into account. – Neighborhood function: social and commercial facilities with offerings for local residents. Funding for this can be gathered from various sources. Income from the rental of commercial spaces, from subsidies from the municipality, province or central government 	<p>Woonvarianten voor senioren-stappenplan.pdf (sharepoint.com)</p>	

		<p>for the social spaces and at certain times from the commercial rental of the social spaces.</p> <p>– Care concept: range of care for residents varying from light home care to more serious 24-hour care. Additional rooms may be available in the complex that can be rented out for a short period of time for, for example, respite care, a district nurse for primary care stays, accommodation for informal caregivers or temporary accommodation for people in rehabilitation. However, these are uncertain revenues as they depend on demand. A health center in the complex does provide reliable, long-term rental income.</p> <p>Best practices are also mentioned: Hart van Austerlitz, Krachtstation Kanaleneiland, Knarrenhof & het Ouden Huis.</p>		
Aanpassen of verkassen? Langer zelfstandig in een geschikte woning Project Langer Zelfstandig Wonen van Ouderen	No author mentioned, only Planbureau voor de Leefomgeving (PBL) 2019	This is a part of the PBL research programme on ‘Zelfstandig thuis op hoge leeftijd’ (Independently at home in old age; also called ‘Langer Zelfstandig Wonen van Ouderen’)) and gives useful statistics on the NL context, as well as a good summary of the various types of housing that is possible for the elderly.	https://themasites.pbl.nl/o/aanpassen-of-verkassen/	
Catalogus woonvormen voor	Companen, Kantelingen en platform	The Catalog provides information about the different types of housing for seniors that are currently available in the Netherlands and gives one or more examples per type. Six types have been described: informal care home, small-scale living, residential group, Residential	Catalogus woonvormen voor	

	senior n	ZorgSaamWonen met ondersteuning van VWS (no date)	<p>community, modern courtyard and residential complex. By type there is a general description that elaborates on the intent of the form of housing and which provides a SWOT analysis. The examples give in-depth information about residents, homes, complex, facilities in and around the complex, communality in the housing, financial aspects and floor plans.</p> <p>Examples like; kangaroo homes, life-resistant home, informal care home, living in a courtyard, dotted living, residential care complexes, small-scale living, (care) cooperatives, mixed living, butterfly effect, caring neighborhoods and many other experiments are underway.</p>	senior ren V2.p df (share point t.co m)	
	Progra mma langer thuis	VWS (Ministry of Health) 2018	<p>The aim of the Langer Thuis program is for elderly people to grow old independently in their own familiar environment and enjoying a good quality of life. The program revolves around improving three important preconditions that contribute to the quality of life: good support and care at home, support for informal carers and volunteers, and a suitable living situation.</p> <p>Best practices:</p> <p>De Knarrenhof is an initiative based on the courtyards of the past. The lockable courtyard focuses on meeting and organizing activities together. The courtyard is based on old-fashioned neighborly decency and 'noabership', so that its inhabitants are never alone. The communal garden and hobby room provide more meeting opportunities. The first Knarrenhof was completed in Zwolle in 2017.</p> <p>The Residential Coach for Seniors is carried out by professionals and volunteers with knowledge of housing and care. They are well acquainted with the range of housing and care in Lopik and the surrounding area. Together with the elderly, the housing coach maps out the housing and care needs and looks for solutions. The help varies from an exploratory</p>	progr amm a- lange r- thuis. pdf (share point t.co m)	

		<p>meeting to guidance in finding another home. You can also look at options for installing facilities in your own home. Everything with the aim that seniors can live and live comfortably again. The service is free and without obligation.</p> <p>Relocation scheme for the elderly. The municipality of Haarlem, Elan Wonen, Pré Wonen and Ymere have a new joint scheme: 'Getting older & living comfortably'. This scheme offers advantages for Haarlem tenants aged 65 or older. This arrangement allows them to live independently for longer and more comfortably. Through the new 65+ scheme, the parties want to jointly encourage their tenants to think about their future at an earlier stage and to take the first step(s). If people do this in time, they will have more choice. They are more likely to find a new home that better meets their housing needs.</p>		
Generaties huizen samen veelbelovende woonprojecten voor jong en oud	<p>Aedes-Actiz</p> <p>Kenniscentrum Wonen-Zorg, Leyden Academy on Vitality and Ageing en Vereniging Het Zonnehuis (no date)</p>	<p>Various best practices; intergenerational living, such as Eikpunt. Living together young and old, new construction project with 56 homes for all ages</p>	<p>Generaties = huizen samen woonprojecten voor jong en oud.pdf (leydenacademy.nl)</p>	
Wat vinden ouderen	<p>BeterOud (no date)</p>	<p>Living in a social and safe neighborhood. What a neighborhood is and who belongs to the neighborhood differs from person to person. For some, this is their own street; for others, the</p>	<p>PCO-18.00 51-Beter</p>	

	<p>belangrijk bij wonen, welzijn en zorg? Toetsingskader</p>		<p>district or the entire municipality. It is important for the elderly to feel at home. Because it is their old trusted neighborhood where they have their network, because their children live there and/or because there are facilities. It is important that there are homes in which the elderly would like to live.</p> <p>A good project entices the elderly to become part of the neighborhood if there is a desire to do so. It is important that facilities are accessible, and that the elderly feel safe to go out and meet others.</p> <p>According to the elderly of BeterOud, a senior-friendly neighborhood has:</p> <ol style="list-style-type: none"> 1. Facilities such as shops, mailboxes, a general practitioner; 2. Physical and social safety; 3. Affordable activities suitable for the elderly; 4. A central meeting place with an information point. 	<p>Oud-Toetsingskader-A4-#7.indd (sharepoint.com)</p>	
	<p>De beleidsparadox van het langer zelfstandig huiswonen van ouderen – Onderzoek naar de mogelijkheden van een (sociale) wijkgezondheidsclub voor het langer zelfstandig</p>	<p>Anoeshka de Moes, TU Delft Thesis, 2020</p>	<p>This BA thesis on ‘The policy paradox of elderly people living longer independently in their own social environment: Research to identify the possibilities of a community healthcare centre aimed to encourage longer independently living of older people’ shows that the Dutch governmental financial-economic perspective of privatization and market mechanism in healthcare seems to have a negative effect on the quality of life of elderly living independently with increasing limitations, and thereby it undermines rather than it stimulates the participation society. The thesis presents the community healthcare hub that was introduced in the UK. The Bromely by Bow Centre in London is a community healthcare centre that was established by the residents of the neighbouring areas. For various reasons, the model of the Bromely by Bow Center cannot serve as a model for the development of a community healthcare center in the Netherlands, but a social place such as a ‘community healthcare center’ in the social and familiar environment of elderly people can</p>		

	<p>dig thuis wonen van ouderen</p>	<p>certainly be an addition to the elderly who live longer independently with good quality of life, in their own homes and social environment.</p>		
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Websites or initiatives that give practical information to citizens about age-friendly solutions

Website/initiative	Goal
<p>Beter Oud</p>	<p>Living at home longer for the elderly requires adjustments in the living environment. Because even in an adapted home it is not nice to sit alone at home. The elderly want facilities nearby (such as AAA: Albert Heijn or Aldi, Arts, and Apotheek/Pharmacy), that it is safe, that there are transport and walking options, and that there are meeting places.</p> <p>https://www.beteroud.nl/thema-s/zelfstandig-wonen/top-10-seniorfriendly-living-environment/</p>
<p>Langer Thuis in eigen huis</p>	<p>More and more seniors are living longer in their own homes, while the demand for care and the need for an adapted home is increasing. How can you increase their living comfort? What is possible, how far-reaching is it and what does it cost? The project group 'Longer at home in your own home' asked architects and healthcare specialists to devise smart adjustments for existing homes and the immediate surroundings.</p> <p>The research was initiated by BNA Research and the Architects' Shop Breda, and supported substantively and financially by the Province of Brabant, Platform 31, the municipality of Breda and Living with Ease.</p> <p>Solutions by housing type Langer thuis in eigen huis – Oplossingen per woningtype</p> <p>People are not standard and neither are houses; in order to be able to offer tailor-made solutions, we have made a distinction between the most common post-war housing types. Are you considering adapting your home for more comfort and safety? Click through for more inspiration: use the filters per home to see what the possibilities are.</p>
<p>Government website for seniors</p>	<p>This website gives information about the housing market and the elderly, and care issues. https://www.rijksoverheid.nl/onderwerpen/seniorenwoningen they also have a dedicated Q&A page for how you can adapt your house so that you can live longer at home: https://www.rijksoverheid.nl/onderwerpen/seniorenwoningen/vraag-en-antwoord/woning-toekomstbestendig-maken</p>
<p>Government website about practical matters for adapting your home</p>	<p>This website gives some examples of adaptations in the house, and gives information about how you can get subsidies/refunds for the costs required to adapt your home https://www.regelhulp.nl/onderwerpen/wonen/woningaanpassingen</p>

<p>Website made for the government about solutions/products for elderly</p>	<p>This website was made by Vilans, the national knowledge center for long-term care and support, paid for by the Ministry of Health. It presents more than 600 solutions/tools for seniors. This is done in a clear way with big pictures etc. https://hulpmiddelenwijzer.nl/hulpmiddelen/bij/wonen</p>
<p>Langer thuis in huis</p>	<p>This seems to be a private (for profit?) website set up by professionals who have worked in the sectors related to the topic of staying longer in your own house. They give lots of tips and present products: https://langerthuisinhuis.nl/levensloopbestendige-woning/ They also have an article about domotica for seniors, where they present an apartment that was opened near Rotterdam (Overschie) with more than 70 technical innovations. https://langerthuisinhuis.nl/test-domotica-ouderen/</p>
<p>iZi-model home in The Hague and places to borrow technology/innovations</p>	<p>iZi-Ervaarwoning. In this 'model home', an initiative of the municipality of The Hague, some ninety technological and digital tools can be viewed that can help people continue to live at home for longer. The website also guides elderly to products and places where products can be borrowed to try out at home. https://technologievoorthuis.nl/testen-en-lenen/</p> <p>The iZi-pilot has been evaluated by Leiden University Medical Centre and the municipality of The Hague in 2020, see: https://technologievoorthuis.nl/wp-content/uploads/2020/12/LUMC-Campus-rapport-Gezond-Lang-Thuis-wonen-def3.pdf</p> <p>The main conclusion is: Older people are open to new technology if properly introduced and supported in its use. Crucial in matching with technology are connecting to the needs and taking into account the individual context in which older people live. Digital technology in particular needs attention in matching and use. The simpler in design and use, the greater the chance of structural use. Good support can remove many potential barriers, such as wrong expectations and limited skills. Cost remains a concern.</p> <p>Three findings emerge from the impact evaluation:</p> <ul style="list-style-type: none"> - There is a smaller decrease in perceived physical quality of life in participants in the iZi group than in the control group. - An association between use of more technology and less decrease in perceived physical health. - In fact, when using 3 pieces of technology or more, a slight increase in perceived physical quality of life.

	<p>NB: In the NL-team, we already discussed the idea of making this model home part of the e-learning tool so that people could also learn in a hybrid way.</p>
<p>Interreg project (4.3mio€, from 2018-2022) called AGE'IN with partners in UK, France, Belgium and The Netherlands (the WAC Zeeuws-Vlaanderen)</p>	<p>https://www.ageindependently.eu/</p> <p>The AGE'IN project is developing actions so that older people can improve their quality of life and stay at home longer, thanks to housing and public space adaptation and also social isolation prevention.</p> <p>https://www.ageindependently.eu/publications</p> <p>This seems to be a very relevant project and we should get in touch with them to find out what works and what doesn't.</p> <p>They have developed a screening methodology called 'The housing enabler'. Partners have been trained in order to use the tool and 100 houses and flats have been screened in Belgium and the NL to use the same tool. Maybe this is relevant for care givers or family members, not so much for the elderly people themselves.</p> <p>There is a Bachelor thesis by two ergotherapy students at the Vives Katholieke Hogeschool who used the Housing Enabler in Zeeuws-Vlaanderen. Among 50 Zeeuws-Vlaanderen over-55s, a quantitative descriptive survey using the Housing Enabler was conducted. The results of the screenings were linked to four functional profiles representing large groups of future elderly people. Data analysis was done using the Housing Enabler software and SPSS statistics. Results: the majority of homes show barriers regardless of housing type and year of construction, the accessibility problem score increases as the functional impairment increases. The Zeeland-Flemish dwellings have a higher score compared to the West Flemish dwellings. The top 10 shows which barriers carry the most weight. Discussion and conclusion: the Zeeuws-Vlaanderen dwellings do not meet the concept of ageing in place. Awareness-raising among the future elderly regarding housing adaptations in the context of ageing in place is recommended. Moreover, the collaboration between occupational therapist and architect should be further explored. Adapting and translating the Housing Enabler into Dutch would add value to the use of the measuring instrument in practice.</p> <p>https://www.langer-thuis-wonen.eu/s/Onderzoek-Jessie-Vercnocke-en-Lien-Van-de-Beek.pdf</p>

Eco-friendly solutions					
Individual	Title	Authors and Year	Summary	Link	Quality of the study/report (give a number between 1 –5)
	Gedraganalyse huishoudelijk afval	Mulder, M., Groote Schaarsberg, N., Faddegon K, & Kappers C. (2021), Hogeschool van Amsterdam	The aim of the study is to understand how people living in apartments can be stimulated to recycle. This study is going on, but the study till now shows that knowledge about the issue is important, why it is useful to do and that some things ask for new ways to collect. For example, waste collection that combines the recycling of different types of waste in one. Other solutions may focus on supporting citizens in not only separating their waste, but also make it more easy for them to then get rid of their waste in close proximity to their living environment.	https://pure.hva.nl/ws/portalfiles/portal/23422383/Rapport_Gedraganalyse_Huishoudelijk_Afval_Analysefase_BASSTA.pdf	4
	Handreiking hitte in de bestaande woningen: een hulpmiddel en overzicht voor gemeenten en woningbouwcorporaties	van der Strate, E., de Groot, M., Mesdaghi, B., Kluck, J., de Vries, S., Solcerova, A., Corpel, L., van Walsum, R., Goetgeluk, R., Damen, M., de Nijs, T., &	In this report from the HvA it is concluded that measures to alleviate heat in summer that are effective include sunblocking, ventilating and neighbourhood green. In the report they focus on solutions that individuals can take themselves such as installing sunblocking	https://pure.hva.nl/ws/files/24428998/handreiking_hitte_in_bestaande_woningen.pdf?_ga=2.262998220.1920264156.1678780720-881458199.1678780720	4

	<p>oraties bij het aanpakken van hitte in woningen</p>	<p>Hagens, W. (2022). Nationaal Kennis- en innovatieprogramma Water en Klimaat</p>	<p>measures such as heavy curtains or effective ways of ventilating their house.</p>	
	<p>Waterbesparing door burgers: welke maatregelen zijn mogelijk en hoe overtuig je mensen?</p>	<p>Stijn Brouwer, Nicolien van Aalderen, Stef Koop (KWR), (2020)</p>	<p>Article based on research how to convince people to adopt water-saving behaviour. 65% of the participants are convinced that water saving is necessary. Changing behaviour is difficult however. People think that they already save a lot of water but in reality, they do not. Knowledge about their behaviour helps, technical innovations needed. Changing behaviour through economic or legal measures will be hard of difficult.</p>	<p>https://www.h2owaternetwerk.nl/vakartikelen/waterbesparing-door-burgers-welke-maatregelen-zijn-mogelijk-en-hoe-overtuig-je-mensen</p> <p>3</p>
	<p>Woningverduurzaming: willen en kunnen betekenen nog niet doen - Drijfveren en ervaren barrières bij woningeigenaren. In: Den Haag</p>	<p>Steenbekkers, A., Fransman, R., de Kluizenaar, Y., & Flore, P. (2021). Sociaal en Cultureel Planbureau.</p>	<p>This study showed that in 2019 most homeowners had not yet taken concrete steps to make their house more environmentally friendly. Most important barriers to taking these steps where the financial costs associated with applying solar panels or insulation. In addition, people indicated that they expect that the costs will drop in the</p>	<p>https://www.scp.nl/publicaties/publicaties/2021/04/29/woningverduurzaming</p> <p>4</p>

			coming years and that they would want to wait until that moment. A second big barrier mentioned in this study was that homeowners stated that they did not know until when they would live in their respective homes. This prevented them from investing in their current house		
	Klimaatverandering en energietransitie: opvattingen en gedrag van Nederlanders in 2020	Kloosterman, R., Akkermans, M., Reep, C., Wingen, M., Molnár - In 't Veld, H., & van Beuningen, J. (2021).	This publication Climate change and energy transition: views and behavior of the Dutch in 2020 focuses on what residents of the Netherlands think and do in relation to climate change and the energy transition. The findings are based on the CBS Perceptions survey, which was devoted entirely to this theme in 2020. A total of 3,648 persons aged 18 or older participated in the study. In addition, other sources of information from inside and outside Statistics Netherlands were used.	https://www.cbs.nl/nl-longread/rapportages/2021/klimaatverandering-en-energietransitie-opvattingen-en-gedrag-van-nederlanders-in-2020?onepage=true	4
	Publieksmonitor klimaat en energie	VAN DER GRIENT, R., KAMPHUIS, A. & DE VOS, M. 2019.	To gain insight into citizens' perspectives on the themes of energy and climate, the Ministry of Economic Affairs and Climate periodically	https://www.rijksoverheid.nl/documenten/rapporten/2020/01/16/publieksmonitor-klimaat-en-energie-2019-motivaction	4

			<p>commissions a public survey. The 2019 Climate and Energy Public Monitor was carried out by research agency Motivaction and focuses on the knowledge, attitude and behavior of citizens in the field of the climate and energy transition. The research offers starting points for government communication and policy.</p>		
	<p>GRIJZE HAREN, GROENE HUIZEN - Over waarom langer zelfstandig wonende ouderen hun woning (niet) verduurzamen</p>	<p>Frans Schilder, Juni 2019, PBL Planbureau voor de Leefomgeving</p>	<p>This is a comprehensive background report about why older adults do not make their homes more sustainable against the policy context in NL; includes findings from 33 in-depth interviews with older adults. The main conclusions from this report state that older adults often feel they do not have the financial means, even if they own their own home, to invest in sustainable measures. They also define four types of older adults based on their motivation to adapt their own homes to be more sustainable and age-friendly.</p>	<p>https://www.pbl.nl/publicaties/grijze-haren-groene-huizen</p>	<p>4</p>

Community	<p>Samen naar een klimaatbestendige omgeving - Burgerparticipatie bij klimaataaptatie in Hollands Noorderkwartier</p>	<p>Loes M, Kreemers, Joyce van Brecht, Tabitha Bakker, Reint Jan Renes (2020), Hogeschool van Amsterdam</p>	<p>The conversations with residents showed that they are aware that the weather is becoming more extreme. It is also foreseen that damage will be associated with more extreme weather conditions, but there is little concern about this damage. It is believed that damage from extreme weather is preventable and generally the residents do not see a clear role for itself in making the environment climate-resilient. There is insufficient knowledge among residents about which measures they can take themselves and the necessity and effectiveness of these measures. They also do not feel personally responsible. Water management is seen as the responsibility of the water boards, central government and municipality: "I pay taxes, don't I?" .</p>	<p>https://pure.hva.nl/ws/files/7134073/20200422EindrapportageBurgerparticipatieKlimaatadaptatieHvAPure.pdf?ga=2.59458797.1169487988.1610431662-389873242.1610431662</p>	4
	<p>Greening the City: How to Get Rid of Garden Pavement! The 'Steenbr</p>	<p>Stobbelaar, D.J.; van der Knaap, W.; Spijker, J. Sustainability 2021, 13, 3117.</p>	<p>The Steenbreek program is a private Dutch program which aims to involve citizens, municipalities and other stakeholders in replacing pavement with vegetation in</p>	<p>https://doi.org/10.3390/su13063117</p>	5

	<p>Example</p>		<p>private gardens. The Dutch approach is characterized by minimal governmental incentives or policy, which leaves a niche for private initiatives like Steenbreek, that mainly work on behavioural change.</p>		
	<p>Groen catalogus Prettig Groen Wonen overzicht document</p>	<p>Wageningen University (no date)</p>	<p>Most social rental homes and outdoor spaces are not climate-proof. For example, they cannot withstand the increasing heat and drought. Because homes are not heat-resistant, residents are more likely to experience heat stress. Furthermore, there is often little greenery around the houses. And the green that is there dries out quickly during warm periods or even dies. This is because the greenery is not very varied and the quality is often low. The green thus hardly contributes to cooling and reducing flooding. In combination with the loss of biodiversity, pests, such as rats, gulls, mosquitoes and the oak processionary caterpillar, also have a greater chance.</p> <p>The document then states a list of</p>	<p>https://library.wur.nl/WebQuery/wurpubs/594946</p>	<p>4</p>

			building interventions for making social housing and the areas around it more green and able to withstand heavy rains and droughts.		
	Handreiking hitte in de bestaande woningen: een hulpmiddel en overzicht voor gemeenten en woningbouwcorporaties bij het aanpakken van hitte in woningen. Nationaal Kennis- en innovatieprogramma Water en Klimaat.	van der Strate, E., de Groot, M., Mesdaghi, B., Kluck, J., de Vries, S., Solcerova, A., Corpel, L., van Walsum, R., Goetgeluk, R., Damen, M., de Nijs, T., & Hagens, W. (2022).	In this report from the HvA it is concluded that measures to alleviate heat in summer that are effective include sunblocking, ventilating and neighbourhood green. Some of the community measures discussed in this report mostly relate to creating outside green spaces in the neighbourhood as these spaces mitigate extreme droughts as well as heavy rain.	https://pure.hva.nl/ws/files/24428998/handreiking_hitte_in_bestaande_woningen.pdf?ga=2.262998220.1920264156.1678780720-881458199.1678780720	4

Websites or initiatives that give practical information to citizens about eco-friendly solutions

Website/initiative	Goal
www.milieucentraal.nl	The first initiative is milieucentraal.nl . This online platform comprises of a practical guide for sustainable tips and advice for people living in the Netherlands. They give information on a broad selection of topics such as insulating, flying or meat consumption. In general, they try to give mostly

	information about what you as a citizen can do to combat climate change and act in a more sustainable matter.
www.ivn.nl	IVN Nature Education connects people and nature. The organisation aims to let young and old experience how fun, healthy, and important nature is. They do this with nature activities, courses, projects, and campaigns. IVN also has a course about climate change in which they teach people about climate change, the impacts and what you as a person can do to combat climate change.
www.klimaatgesprekken.nl	Climate Conversations is a service provider in the field of climate coaching. The core product is a six-part workshop series, delivered by an in-house trained climate coach. They also offer an e-course and organize inspiration sessions. Climate Conversations coach groups of people and gives them tools to live within the boundaries of a planet, and shows participants how to have a good, effective, and positive climate conversation with others. They base the course on insights from climate psychology and specifically the question: how is it possible that we have known what climate change is for decades, but that we have not yet acted?
www.gagoed.nl	Besides projects initiated by organisations or citizens most municipalities also have campaigns to promote behaviour change amongst their population. Municipality Leiden for example has the GaGoed campaign. The GaGoed campaign promotes sustainable behaviour through information, subsidies, and activities.
www.duurzaamdenhaag.nl	Similar platform to gagoed but then for the city of The Hague. They support citizens in implementing eco-friendly solutions both in their house as well as in their community.
www.energiefixers071.nl	Under the motto “Neighborhood up, energy bill down” Energiefixers071 organizes actions for and by local residents in neighbourhoods. These actions are aimed at reducing energy stress and strengthening the networks in the street, neighborhood or district.
https://kenniskaarten.hetgroenebrein.nl/kenniskaart-leefomgeving/hoe-werken-aan-meer-groen-buurt/	Website with accessible information about how to start a neighbourhood initiative to green your neighbourhood.
https://www.duurzaamgebouwd.nl/artikel/20190917-sensoren-in-woningen-om-ouderen-langer-thuis-te-laten-wonen	Both eco and age-friendly

