

## **Pekela**

### **1. Background**

Pekela is a small municipality located in the northeast of the Netherlands in the province of Groningen. In 2021, it had 12,176 inhabitants (CBS, 2022a). In 2021, Pekela had 5,782 housing units, of which owner-occupied homes constituted about 63%, and rental properties – 37%. Housing associations owned 69% of residential rental properties and private landlords owned the remaining 31% (CBS, 2022b). In terms of the age of the housing stock, 26% of the dwellings were built prior to 1945; 8% – after 2005. In terms of the housing type, 88% were single-family homes, 12% – multi-family homes (CBS, 2022c).

In 2021, 95% of homes in Pekela had an individual natural gas boiler, 2% – electricity (there is no data on the rest of the 3% of homes). There were no homes heated through district heating (CBS, 2022d).

### **2. Heat transition vision**

#### **2.1. Vision development and stakeholder engagement**

According to the Climate Agreement, each municipality in the Netherlands must develop a heat transition vision outlining a strategy for making 20% of all homes in the municipality sustainable by 2030. The municipality of Pekela developed a draft heat transition vision but has not yet finalised the vision (as of November 2022) (ECW, 2022). To develop the vision, the municipality hired external consultants. Consultants at *Witteveen+Bos* have examined the technological feasibility and associated costs of sustainable heating solutions for the municipality calculated by the Dutch Environmental Assessment Agency (*Planbureau voor de Leefomgeving*). Consultants at *Bureau Stroom* have organised the process of stakeholder engagement for drawing up the municipal heat transition approach (Bureau Stroom, 2022a).

Between May-October of 2022, consultants from *Bureau Stroom* coordinated the stakeholder engagement process in the development of the heat transition vision for the municipality. First, Pekela residents were invited to fill out an online questionnaire asking about preferred heat transition approaches for Pekela. Ninety-four residents filled out the survey. In terms of residents' attitudes towards heat transitions, 43% of the respondents expressed a positive opinion towards heat transitions, 37% expressed neither a positive nor a negative opinion, and 17% expressed a negative opinion primarily due to the perceived high costs of transitioning to low-carbon heating solutions (3% of the respondents did not express any opinion). In terms of measures of support, 67% of the respondents said that subsidies would be most helpful to decarbonise home heating, 40% mentioned technical advice, and 29% – a tailored plan for making home heating more sustainable (Bureau Stroom, 2022b).

Second, Bureau Stroom's consultants conducted two 'sprint sessions' to gauge residents' and other stakeholders' views on the municipal heat transition strategy. Stakeholders – municipality officials, Enexis (the gas and electricity network operator), Acantus (the housing association), and the Water Board – emphasised the importance of a clear municipal heat transition trajectory for making future plans, including around investments. Residents emphasised the importance of a clear understanding of costs, available financial support,

technical advice for residents' actions, and the opportunity to share experiences with each other (for example, with the help of an independent resident-ambassador who can help navigate the heat transition) (Bureau Stroom, 2022c). In addition, the consultants held a public meeting to discuss the heat transition vision. Finally, three 'sprint session' participants reviewed the first draft of Pekela's heat transition vision and examined whether the feedback from the public was incorporated into the draft vision (Bureau Stroom, 2022d).

## 2.2. Approach to heat decarbonisation and natural gas phase-out

The municipality of Pekela has not yet chosen a specific approach to heat transitions. The model developed by the Dutch Environmental Assessment Agency evaluated the technological feasibility and costs of different sustainable heating solutions for each district (neighbourhood) in the country. Given the low building density in Pekela, collective heating systems have not been identified as cost-effective. The model suggested that the use of green gas would result in the lowest costs, but the availability of green gas has not been confirmed. Individual air source heat pumps combined with insulation measures (to at least label B) were identified as the most suitable in the absence of green gas.

During the discussions on the heat transition vision, the stakeholders agreed on the main principles of the overall approach, which include the high importance of reducing heating emissions; a focus on insulation and reducing energy demand; the affordability of low-carbon heating; a gradual pace of the transition; and clarity, co-creation, simplicity, and transparency of heat transition approaches (Bureau Stroom, 2022e).

## 3. Heat transition pilots

### 3.1. Boven Pekela and the Doorsneebuurt (grant from Programma Aardgasvrije Wijken (PAW), or the Natural Gas-Free Neighbourhoods Programme)

The PAW grant (€4m) was awarded in 2018 (first round of grants) to pilot heat decarbonisation in the neighbourhood located between Boven Pekela and Doorsneebuurt. A group of residents in Boven Pekela initiated the application process for the PAW grant. The project is called '*Pekela geeft gas!*' translating into English as '*Pekela accelerates*' meaning that Pekela residents' enthusiasm and energy drives the heat transition. The pilot neighbourhood consists of 632 residential and non-residential buildings, 575 of which are owner-occupied detached houses. In the application, the pilot expressed the goal to achieve a 50% reduction in natural gas consumption and develop local green gas generation by 2025 (PAW, n.d.).

A 'Quick-Fit' approach was developed to reduce gas consumption through insulation measures and the installation of hybrid heat pumps that are used in combination with a central heating boiler (for example, during very cold days). As part of the PAW project, the residents are offered a free-of-charge hybrid heat pump implementation plan that includes advice on the necessary insulation measures and advice on solar panel installation. The second part of the plan was to use locally generated green gas. Initially the project intended to collaborate with *Bareau*, a company based in the northern part of the Netherlands (Heerenveen, Friesland), to produce green gas from wastewater. However, this collaboration ended due to the business case not working. The search for other opportunities to locally produce green gas continued, but in October 2022 the Pekela City Council decided to stop the search and shift €2m initially allocated to the green gas project to insulation measures and hybrid heat pump installation (Pekela Geeft Gas, 2022a).

There are several ways to financially support the reduction of natural gas consumption in the living lab. First, the PAW funding and the national investment subsidies for sustainable energy and energy saving (ISDE) can be used to assist the residents of Boven Pekela and Doorsneebuurt in implementing insulation measures and purchasing and installing heat pumps and solar panels (up to €5,000 per household). The residents can also apply for low-interest loans from the municipality of Pekela and the national government (Pekela Geeft Gas, 2022b). However, very few people in the living lab applied for these financial support measures to take action in decarbonising home heating (23 people participated by the beginning of 2022). That said, the Russian invasion of Ukraine and the energy crisis in Europe have made many more people interested in participating<sup>1</sup>.

## References

- Bureau Stroom. (2022a). *Achtergrondinformatie*. Online: <https://transitievisie-warmte-gemeente-pekela-bureau-stroom.hub.arcgis.com/pages/achtergrondinformatie> [Accessed 12.12.2022].
- Bureau Stroom. (2022b). *Resultaten vragenlijst transitievisie warmte gemeente Pekela*. Online: <https://transitievisie-warmte-gemeente-pekela-bureau-stroom.hub.arcgis.com/documents/98301c214bf94ab0b5be5c382860b22d/explore> [Accessed 12.12.2022].
- Bureau Stroom. (2022c). *Sfeerverslag sprintsessie 2*. Online: <https://transitievisie-warmte-gemeente-pekela-bureau-stroom.hub.arcgis.com/documents/8b219037a1d54636bcccb3416ca28915/explore> [Accessed 12.12.2022].
- Bureau Stroom. (2022d). *Planning*. Online: <https://transitievisie-warmte-gemeente-pekela-bureau-stroom.hub.arcgis.com/pages/planning> [Accessed 12.12.2022].
- Bureau Stroom. (2022e). *Gezamenlijke uitgangspunten*. Online: <https://transitievisie-warmte-gemeente-pekela-bureau-stroom.hub.arcgis.com/documents/d6d8b662e8934230bbdded421a98a26/explore> [Accessed 14.12.2022].
- CBS. (2022a). *Bevolkingsontwikkeling; levend geboren, overleden en migratie per regio*. Online: <https://opendata.cbs.nl/#/CBS/nl/dataset/37259ned/table?ts=1669808751916> [Accessed 12.12.2022].
- CBS. (2022b). *Voorraad woningen; eigendom, type verhuurder, bewoning, regio*. Online: <https://opendata.cbs.nl/#/CBS/nl/dataset/82900NED/table?ts=1669807561475> [Accessed 12.12.2022].
- CBS. (2022c). *Voorraad woningen; gemiddeld oppervlak; woningtype, bouwjaarklasse, regio*. Online: <https://opendata.cbs.nl/#/CBS/nl/dataset/82550NED/table?ts=1669808291523> [Accessed 12.12.2022].

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<sup>1</sup> Interview with a representative of the local energy co-operative Pekela Duurzaam.

CBS. (2022d). *Woningen; hoofdverwarmingsinstallaties, wijken en buurten, 2021*. Online: <https://opendata.cbs.nl/#/CBS/nl/dataset/85337NED/table?ts=1669816082339> [Accessed 12.12.2022].

Expertise Centrum Warmte. (ECW). (2022). *Database transitievisie warmte*. Online: <https://www.expertisecentrumwarmte.nl/themas/regie+en+organisatie/database+transitievise+warmte/default.aspx> [Accessed 06.01.2023].

PAW. (n.d.). *Boven Pekela en de Doorsnee buurt, Pekela*. Online: <https://ez.maps.arcgis.com/apps/webappviewer/index.html?id=0547956574a5451285d6f48668b2ba07> [Accessed 12.12.2022].

Pekela Geeft Gas. (2022a). *Gemeenteraad zet streep door deelproject groen gas*. Online: <https://www.pekelageeftgas.nl/gemeenteraad-zet-streep-door-deelproject-groen-gas/> [Accessed 14.12.2022].

Pekela Geeft Gas. (2022b). *Financiën*. Online: <https://www.pekelageeftgas.nl/financiering/> [Accessed 14.12.2022].