Scottish Heat Network Value Chain Map

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Overview

Scotland's heat network sector sits at an early but accelerating stage of development. As of September 2026, networks supply an estimated 1.57 TWh of heat annually, against a Scottish Government target of 3% of heat demand met by networks by 2027, rising to 8% by 2030 (Heat Networks Delivery Plan Review Report 2026). Over 300 potential heat network zones have been identified by local authorities, which could in principle supply around 15.9 TWh a year — equivalent to 23% of Scotland's non-electrical heat demand.

This map sets out the organisations that make up the Scottish heat network value chain — funders, developers, operators, suppliers and users — and traces named projects through four lifecycle stages: pre-capital and under tender, in development or construction, developed and operating, and legacy or lapsed. It draws on Scottish Government quarterly reporting, council and company sources, and sector press, all cited inline. This is a fast-moving market — funding rounds close, joint ventures form and dissolve, and projects move stage — so it is best read as a snapshot rather than a static record, and checked against the primary sources linked throughout before being relied on for a live bid or investment decision.

Policy and regulatory framework

Two regimes now govern Scottish heat networks side by side.

Scotland-specific: the Heat Networks (Scotland) Act 2021. This Act gives local authorities the power to designate heat network zones and requires all 32 councils to produce Local Heat and Energy Efficiency Strategies (LHEES), a duty in place since 2023. Zone designation is moving from strategy to delivery: Glasgow has identified 21 potential zones covering 46% of the city's population, Edinburgh 17 zones representing more than 3.7 million MWh of heat demand, and Fife 46 zones covering around 16% of demand (Inside Housing). Formal zone designations are targeted for 2026/27, at which point a "Zone Coordinator" — the local authority or Scottish Government — can issue connection notices to buildings within a zone, subject to a minimum six-month lead time. A separate, opt-in operator licensing regime is also being finalised: it would apply to companies, SPVs, joint ventures and ESCOs running Scottish networks (one licence per organisation,

however many networks it operates), while Scotland's estimated 1,000-plus small communal schemes are expected to fall outside it. The Scottish Government stopped short of making this licence mandatory, to avoid duplicating Ofgem's GB-wide regime; its consultation on the detail closed on 5 June 2026, with 10–30 initial licence applications expected once the scheme launches (CMS Law). A further Buildings (Heating and Energy Performance) and Heat Networks (Scotland) Bill, still in draft, proposes stronger connection mandates within designated zones.

GB-wide: Ofgem's consumer protection regime. Ofgem's authorisation framework for heat networks came into force in April 2025, and its first substantive rules — covering billing transparency, customer service, complaints handling and protection for vulnerable customers — took effect on 27 January 2026 (Ofgem). Existing operators across Great Britain, Scotland included, must register on Ofgem's digital service from April 2026 and join the Energy Ombudsman's Heat Network Supplier scheme. Ofgem also acts as the licensing authority for Scotland's separate regime, avoiding a second regulator. This closes a long-standing gap: heat network customers previously had no right to switch supplier, limited redress if service failed, and no protection if their operator became insolvent — a gap repeatedly flagged as a barrier to public and investor confidence in the sector (Burness Paull).

Funders and finance

Funder	Type	Role in the Scottish chain
Scotland's Heat Network Fund	Scottish Government capital grant	Around £14.5 million awarded to seven capital projects since 2022; scheme extended to 2030
Heat Network Support Unit	Scottish Government pre-capital support	£3.2 million committed; has supported 55 pre-capital projects across 18 council areas
Low Carbon Infrastructure Transition Programme (LCITP)	Scottish Government capital and pre-capital fund	Earlier capital programme running alongside current arrangements; funded schemes including Glenrothes Energy Network and Queen's Quay

Funder	Type	Role in the Scottish chain
Scotland's Public Sector Clean Heat Development Fund	Scottish Government grant	Supports public bodies developing clean heat and network feasibility work
Home Energy Scotland Grant and Loan	Scottish Government domestic scheme	Up to £9,000 per homeowner for connections and low-carbon heat at individual-building level
UK Green Heat Network Fund (DESNZ)	UK Government capital grant	GB-wide competitive fund, open to Scottish schemes alongside the Scottish Government's own fund
Scottish National Investment Bank	Mission-led public investor	Has backed supply-chain firms (Sunamp, Indinature) and says it is seeking equity and debt opportunities in new and expanded heat networks
SP Energy Networks Green Economy Fund	Regulated network operator grant	Provided £2.1 million of the £6.1 million Dalmarnock scheme
Local authority capital and borrowing	Public sector own funds/PWLB	Underpins most council-led schemes (Aberdeen, West Dunbartonshire, Fife, Dundee, Glasgow)
Vattenfall Heat UK	Private infrastructure investor/developer	Entered the market via the Midlothian joint venture, but in 2025 put its UK heat network and independent distribution network operator (IDNO) portfolio under strategic review for possible sale — a sign of how early-stage investor commitment still is (New Power)

The financing picture is still described as immature by independent analysts: ClimateXChange's review of funding and financing found that most Scottish schemes remain dependent on grant funding rather than private capital, with commercial investment constrained until 2026 by the absence of a settled regulatory and consumer-protection framework.

Developers

Development activity splits broadly into four models.

Local authority-led. Most current Scottish schemes originate with a council acting as developer: Aberdeen City Council, West Dunbartonshire Council (Queen's Quay), Glasgow City Council (Polmadie/Gorbals), Dundee City Council, and Fife Council (Glenrothes), with the City of Edinburgh, Renfrewshire, East Dunbartonshire, Clackmannanshire, South Lanarkshire, Highland, Perth & Kinross, Scottish Borders, Moray and Dumfries & Galloway councils progressing feasibility or outline business case work behind them, largely through the Heat Network Support Unit.

ESCO/private joint ventures. Vattenfall Heat UK entered a joint venture with Midlothian Council in 2023, Midlothian Energy Limited, to develop a network intended to supply low-carbon heat to more than 3,000 new homes — its only confirmed Scottish project to date.

Regeneration agencies. Clyde Gateway, the Glasgow/South Lanarkshire regeneration body, developed the Dalmarnock scheme jointly with Scottish Water Horizons, drawing on SP Energy Networks grant funding.

Anchor institutions as self-developers. Several universities and public bodies are developing networks primarily to serve their own estates: the University of Strathclyde (Climate Neutral Innovation District), the University of Glasgow, the University of St Andrews, the University of Stirling, Abertay University, Edinburgh College, NHS Lothian (Edinburgh BioQuarter), Edinburgh Airport Ltd and National Museums Scotland. A small number of private landowners, such as Hargreaves Land at the new Blindwells settlement in East Lothian, are also developing networks as part of wider site masterplans.

Operators

Once built, Scottish networks are run by a narrower set of organisations than develop them.

Aberdeen Heat and Power stands out as the sector's most established operator: a not-for-profit ESCO that has run district heating in the city for more than 20 years, now operating seven separate networks — Stockethill (2005), Hazlehead (2006), Seaton (2007), Tillydrone (2015), Wellheads (2020), Torry (2023) and Sillerton Lane (2025) — serving thousands of council and housing association homes plus public buildings including Hazlehead Academy, the Beach Ballroom and the Aberdeen Sports Village.

West Dunbartonshire Council operates the original Queen's Quay network in Clydebank, built around the largest water-source heat pump of its kind in Scotland at the time, supplied by Star Renewable Energy. West Whitlawburn Housing Co-operative operates its own biomass-fed communal heating system directly, as landlord and energy supplier combined. Viridor co-operates the £154 million Glasgow Recycling and Renewable Energy Centre, which supplies waste-derived heat into the emerging Polmadie network, while MVV Environment (a subsidiary of Germany's MVV Energie group) operates the Baldovie energy-from-waste CHP plant in Dundee. Scottish Water Horizons operates the waste-water heat recovery plant underpinning the Dalmarnock scheme, alongside Clyde Gateway. Vattenfall Heat UK operates under a developer-operator model in principle, but its 2025 strategic review of its UK heat network and IDNO assets means its long-term role as a Scottish operator is currently unsettled.

Suppliers

The technology and delivery supply chain behind these networks is dominated by a handful of specialist firms.

Design and build contractors. Vital Energi is the most active engineering, procurement and construction contractor in the Scottish market, with delivery credits including the Torry Heat Network and the Queen's Quay network design (with Aberdeen City Council and West Dunbartonshire Council respectively), the Wyndford Estate network in Glasgow, the Glenrothes Energy Network, and the NHS Tayside low-carbon heat and power scheme; the firm has said it is expanding its Scottish operation to support around £300 million of anticipated green heat investment (Net Zero Edinburgh).

Heat source technology. Star Renewable Energy (the heat pump arm of Glasgow-headquartered Star Refrigeration) manufactures the large-scale ammonia water-source heat pumps used at Queen's Quay and Clydebank, marketed as Scotland's largest of their kind; Kensa supplied the ground-source heat pump system for the Fountainbridge development in Edinburgh, delivered for the Lar Housing Trust.

Biomass and waste-derived heat. RWE Generation supplied and operates the biomass energy centre at Glenrothes. Viridor and MVV Environment both supply heat as a by-product of energy-from-waste operations (Polmadie and Baldovie respectively) — a model likely to recur as more Scottish cities look to existing EfW infrastructure as a low-marginal-cost heat source.

Technical advisory. QMPF, an engineering consultancy, has advised on the Glenrothes and Dundee City Council schemes. The wider market also draws on UK-wide heat network engineering, metering and heat-interface-unit suppliers not yet named at project level in Scottish public reporting — a gap this map cannot close from public sources alone.

Users and off-takers

Domestic demand remains concentrated in social housing: Aberdeen Heat and Power's networks serve council and housing association tenants across Stockethill, Hazlehead, Seaton, Tillydrone, Wellheads, Torry and Sillerton Lane; Glasgow's Wyndford Estate and West Whitlawburn Housing Co-operative serve their own tenant bases directly. New-build housing is emerging as a second and growing customer segment, led by the Midlothian Energy Limited network (targeting more than 3,000 new homes) and Hargreaves Land's Blindwells development.

Public sector anchor loads matter both as guaranteed baseline demand and as co-funders: schools (Hazlehead Academy), leisure and cultural facilities (Aberdeen Sports Village, the Aquatic Centre, the Beach Ballroom, Linx Ice Arena), the NHS (NHS Tayside at Ninewells, NHS Lothian at the Edinburgh BioQuarter), and a growing list of universities that are simultaneously developer and end-user of their own networks (Strathclyde, Glasgow, St Andrews, Stirling, Abertay, Edinburgh College), alongside National Museums Scotland.

Commercial and mixed-use off-takers are still a minority but include the EastWorks office building at Dalmarnock and Edinburgh Airport, with further town-centre commercial connections envisaged as schemes in Perth, Dumfries, Elgin and Paisley move from feasibility to construction.

Full project lifecycle map

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flowchart LR
    A[Pre-capital / under tender] --> B[In development / construction]
    B --> C[Developed & operating]
    C -.-> D[Legacy / lapsed]
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Pre-capital and under tender. The Scottish Government's September 2025 quarterly reporting lists more than two dozen projects at feasibility or outline business case stage, led mainly by local authorities and universities (Heat Network quarterly report, September 2025):

Location	Lead organisation	Stage
Dundee Caird Park	Dundee City Council	Detailed feasibility complete
Inverness West Bank & Inverness Castle	The Highland Council	Detailed feasibility complete
Perth City Centre	Perth and Kinross Council	Detailed feasibility complete
Glasgow Polmadie	Glasgow City Council	Detailed feasibility complete
Blindwells	Hargreaves Land	Detailed feasibility complete
Eastwood Park	East Renfrewshire Council	Detailed feasibility complete
University of St Andrews	University of St Andrews	Detailed feasibility study
Dundee Baldovie (expansion)	MVV Environment Baldovie Ltd	Detailed feasibility complete
Callendar Park	Falkirk Council	Detailed feasibility study
Tweedbank	Scottish Borders Council	Detailed feasibility study
The Crichton Trust	The Crichton Trust	Detailed feasibility study
University of Stirling	University of Stirling	Detailed feasibility study

Location	Lead organisation	Stage
Greenock (River Clyde Homes)	River Clyde Homes	Detailed feasibility study
Elgin Town Centre	Moray Council	Detailed feasibility study
Dumfries Town Centre	Dumfries and Galloway Council	Detailed feasibility study
Paisley Central & Paisley North (AMIDS)	Renfrewshire Council	Outline business case
Edinburgh Airport	Edinburgh Airport Ltd	Outline business case complete
Edinburgh BioQuarter	NHS Lothian	Outline business case
Granton Waterfront	City of Edinburgh Council	Commercialisation
Abertay University	Abertay University	Outline business case drafted
Old Town Edinburgh / University of Glasgow	City of Edinburgh Council / University of Glasgow	Detailed feasibility ongoing
Kirkintilloch, Alloa Forthbank, Edinburgh College, National Museums Scotland, Almada Street (Hamilton), Forthside (Stirling), Dalmarnock Village	East Dunbartonshire, Clackmannanshire, Edinburgh College, National Museums Scotland, South Lanarkshire, Stirling and Glasgow City Councils respectively	Feasibility reports due March 2026

In development and construction. The Queen's Quay Extension (West Dunbartonshire Council) has completed its outline business case and moved into commercialisation; Midlothian Energy Limited, Vattenfall Heat UK's joint venture with Midlothian Council, is developing its network toward more than 3,000 new homes; and Glasgow's Polmadie-to-Gorbals scheme has a completed outline business case for a £40 million first phase running to 2030 (Invest Glasgow).

Developed and operating. Aberdeen Heat and Power's seven networks (2005–2025); the original Queen's Quay network in Clydebank, built around its Star Renewable Energy water-source heat pump; the Glenrothes Energy Network, a £24 million RWE biomass-fed scheme; the Dalmarnock scheme, completed November 2021 by Clyde Gateway and

Scottish Water Horizons; the Wyndford Estate network in Glasgow; Aberdeen's Torry Heat Network (2023), fed by the Tullos energy-from-waste plant; NHS Tayside's combined heat and power scheme at Ninewells; and the Baldovie energy-from-waste CHP plant supplying heat in Dundee.

Legacy and lapsed. West Whitlawburn Housing Co-operative's biomass-fired communal heating system has operated since well before the current programme of support existed, and stands as an example of a long-running scheme built and run entirely outside today's funding and regulatory architecture. More broadly, many of Scotland's older communal and CHP heating installations in 1960s–1980s multi-storey housing were built with no consumer protection, metering standards or licensing requirements at all — precisely the gap that the Heat Networks (Scotland) Act 2021 and Ofgem's 2026 regime were designed to close. At the level of the market rather than a single site, Vattenfall's 2025 decision to put its UK heat network and IDNO portfolio under strategic review is the clearest current instance of a developer/operator drawing back from the sector, and is worth tracking as a signal of how settled private investor commitment still is.

A note on the Vattenfall divestment. Vattenfall's own March 2025 statement frames the review as a capital-allocation choice rather than a comment on UK heat market viability: it says it must "prioritise its projects carefully" against competing calls on capital, including "fossil-free electricity generation like wind and nuclear, as well as distribution and storage solutions," and describes the exercise as part of "continuous portfolio evaluation" following its earlier disposal of Vattenfall Heat Berlin (Vattenfall). It has committed to keep growing Vattenfall Heat UK and Vattenfall IDNO "in line with existing business plans" while a buyer is sought, and says its onshore and offshore wind business is unaffected. The two disposals are proceeding on separate tracks: the IDNO (electricity distribution) business was agreed for sale to Eclipse Power Group on 10 November 2025, expected to complete by the end of 2025 (Eclipse Power Group); no equivalent outcome had been reported for the heat network business, including the Midlothian Energy Limited joint venture, as at this map's research date. Read as a supply-side signal, this points to capital reallocation within a large integrated utility rather than doubts about UK heat network economics specifically — but it does mean one of Scotland's few heat-network joint-venture developers currently has an unresolved future owner.

Sources

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