

Asper is a specialist manager of sustainable infrastructure

We focus on private investments in **sustainable real assets**, including renewable power, heat networks and other clean infrastructure

We provide services to **medium to large institutional investors** such as pension funds, sovereigns, insurance and funds-of-funds

Our services include **fund management, specialist advisory, and dedicated investment / portfolio management mandates**

A partner in the Interreg D2Grids project; aiming for European roll of 5G DHC to reach climate goals



Asper District Heating – The Netherlands

1

Fund set-up in 2020 to invest in district heating projects in the Netherlands. Backed by leading financial institution.

2

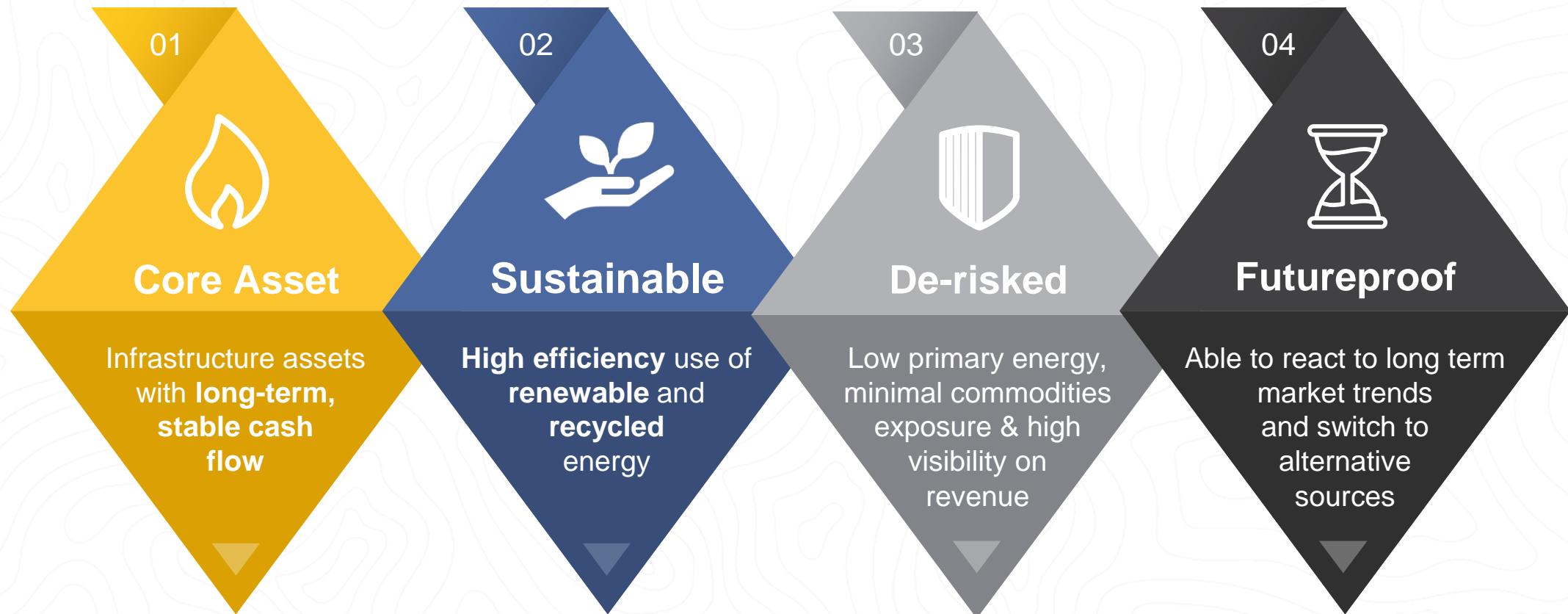
Acquired an established business, MPD Groen Energy and partnered with a local developer to build a leading portfolio of sustainable district heating networks.

3

3G – 5G technology using a mix of sustainable heat sources including heat pumps, biomass and geothermal

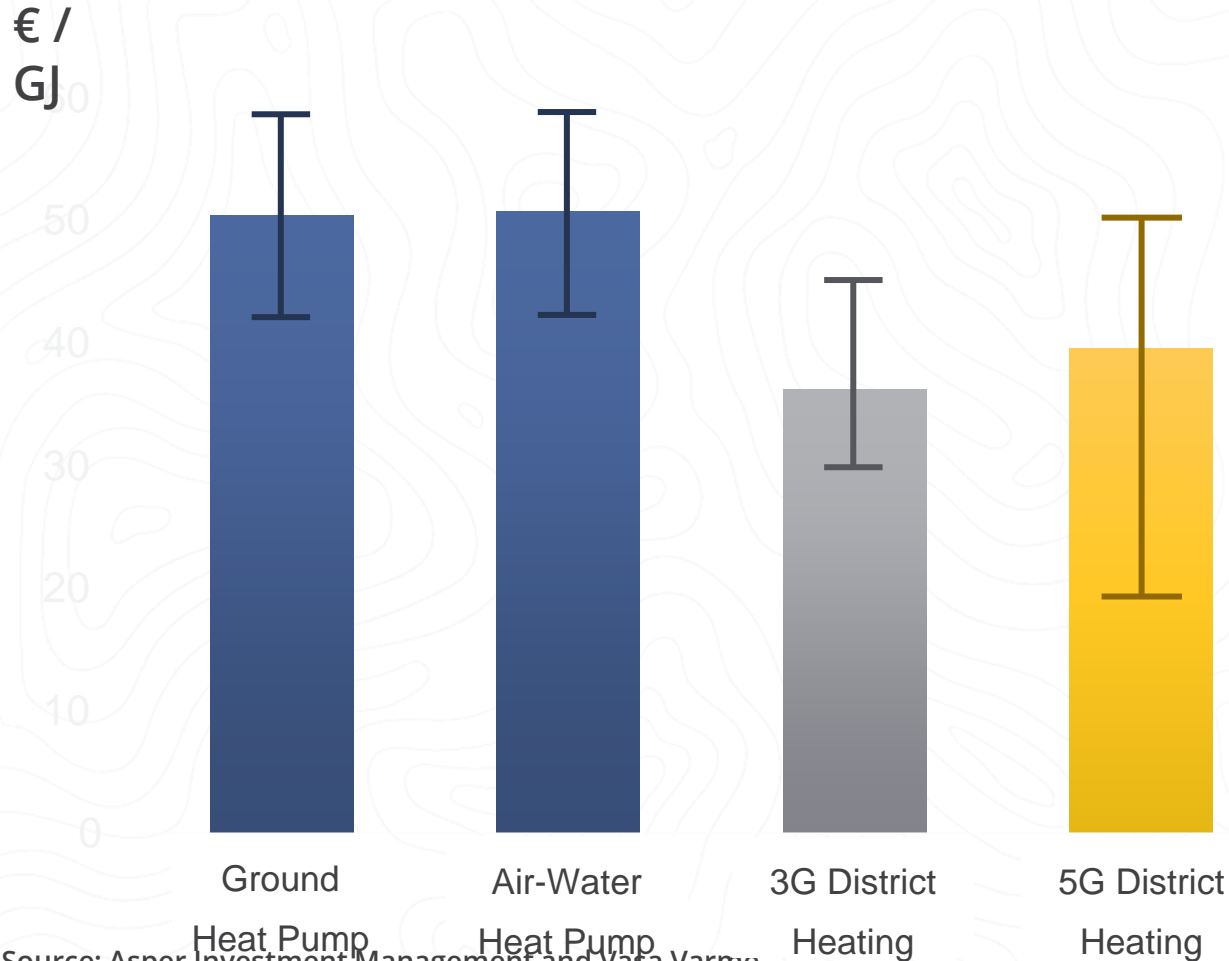


Why we are interested in 5G District Heating & Cooling



Customer Value

District heating is the most competitive way of decarbonising heat and cooling. Cost reductions are still needed for 5G.



Source: Asper Investment Management and Vasa Varme

Good value for end-users (cheap heat) is already driving the uptake of district heating networks.

5GDHC networks are not yet as competitive as their conventional counterparts, however this is improving:

- **Standardisation** of design, engineering and equipment
- **Falling cost** of heat pumps and maintenance
- **Public support** can drive the final cost of projects down.

At a Glance: The 5GDHC Business Case

Investment
Moderate upfront investment into core infrastructure

Costs
Minimal market exposure & high primary energy efficiency

Other Funding
The role of public funding and customer connection fees in establishing projects



Revenues
Long-term contracted revenues

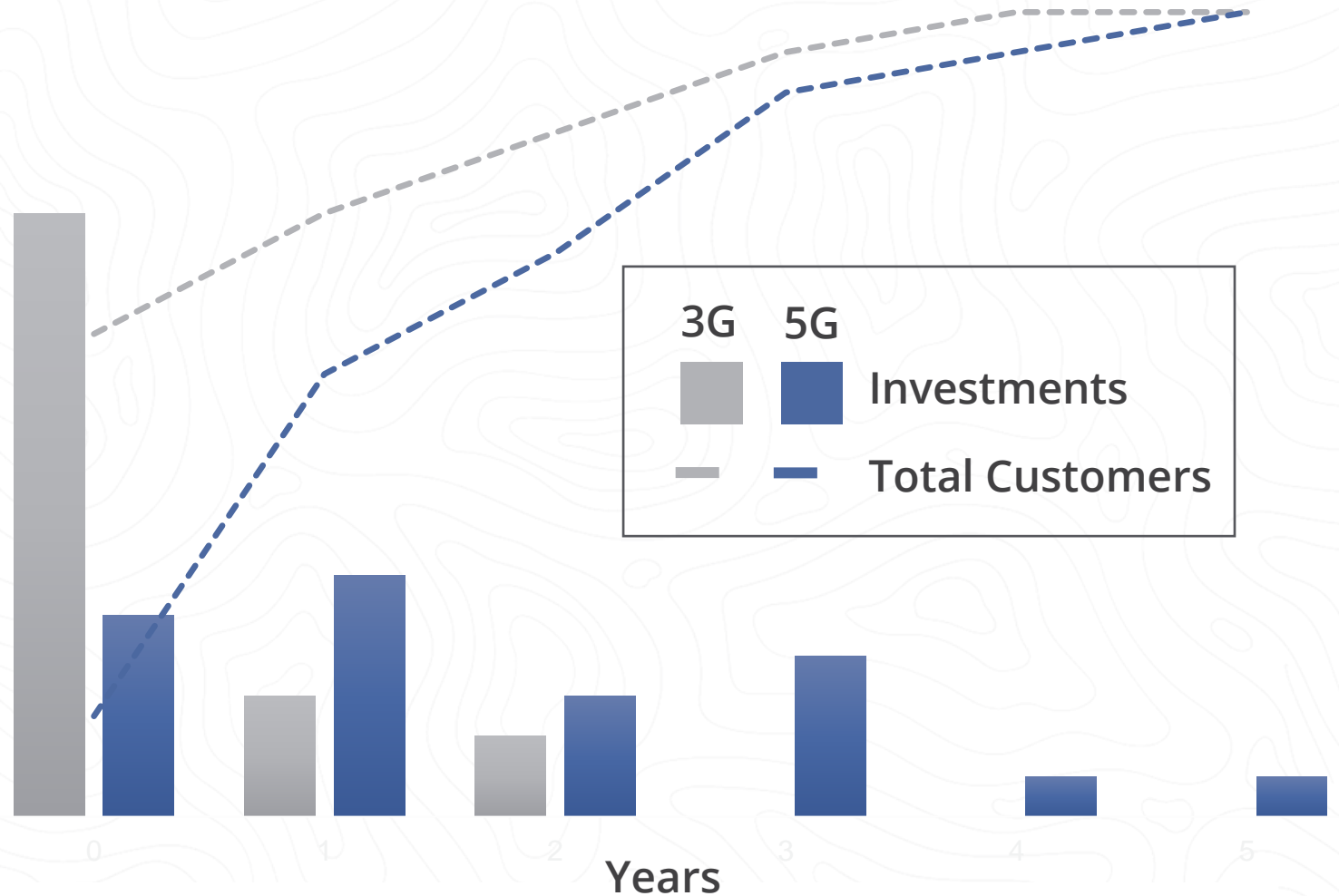
Growth
Further investment for growth not restricted by centralised heat source

Capital Investment

5G Networks have a slower investment profile linked to growth in customer base

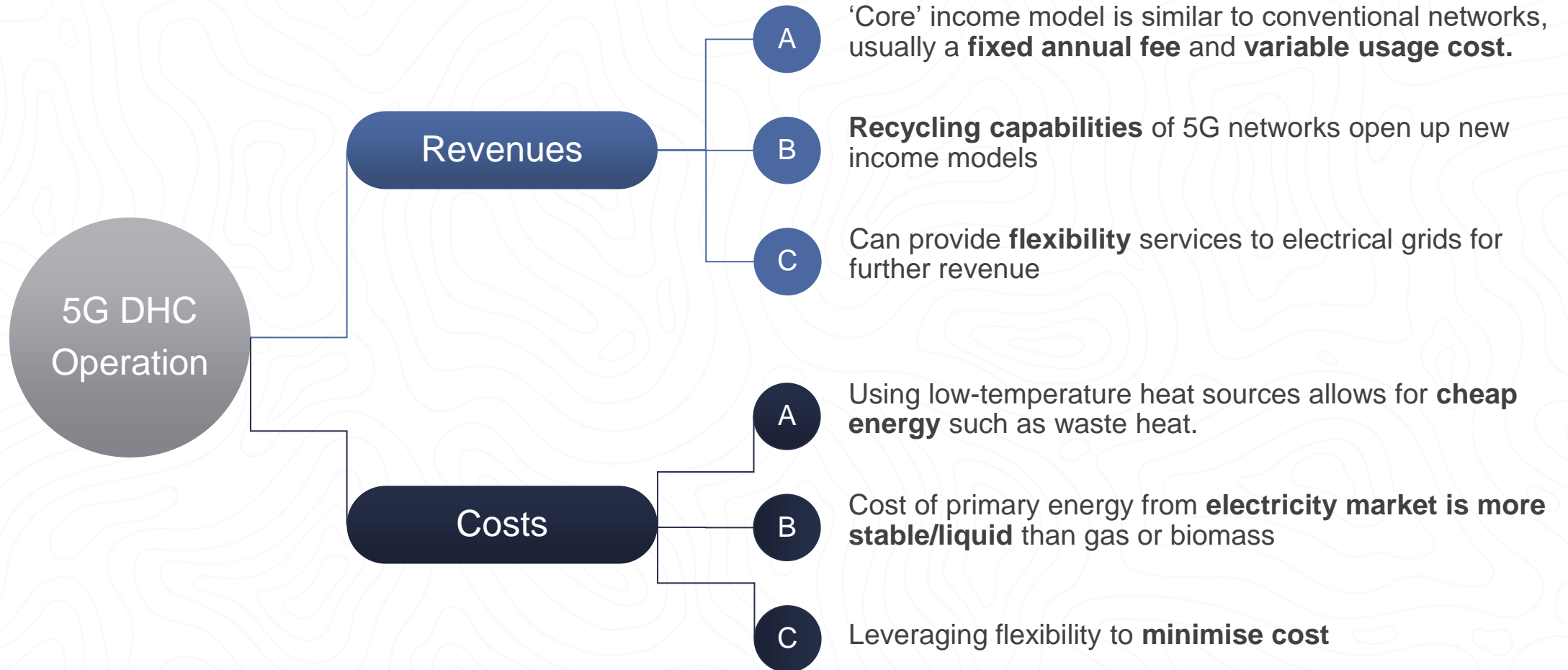
Conventional district heating involves **high upfront investment** into boilers, majority of the network etc.

5G DHC has a **slower investment profile**, driven by purchase of heat pumps and extension of network when **new customers connect**



Note: chart is indicative only

Revenue and Costs



Growth and Flexibility

Growth is not limited by centralised heat supply

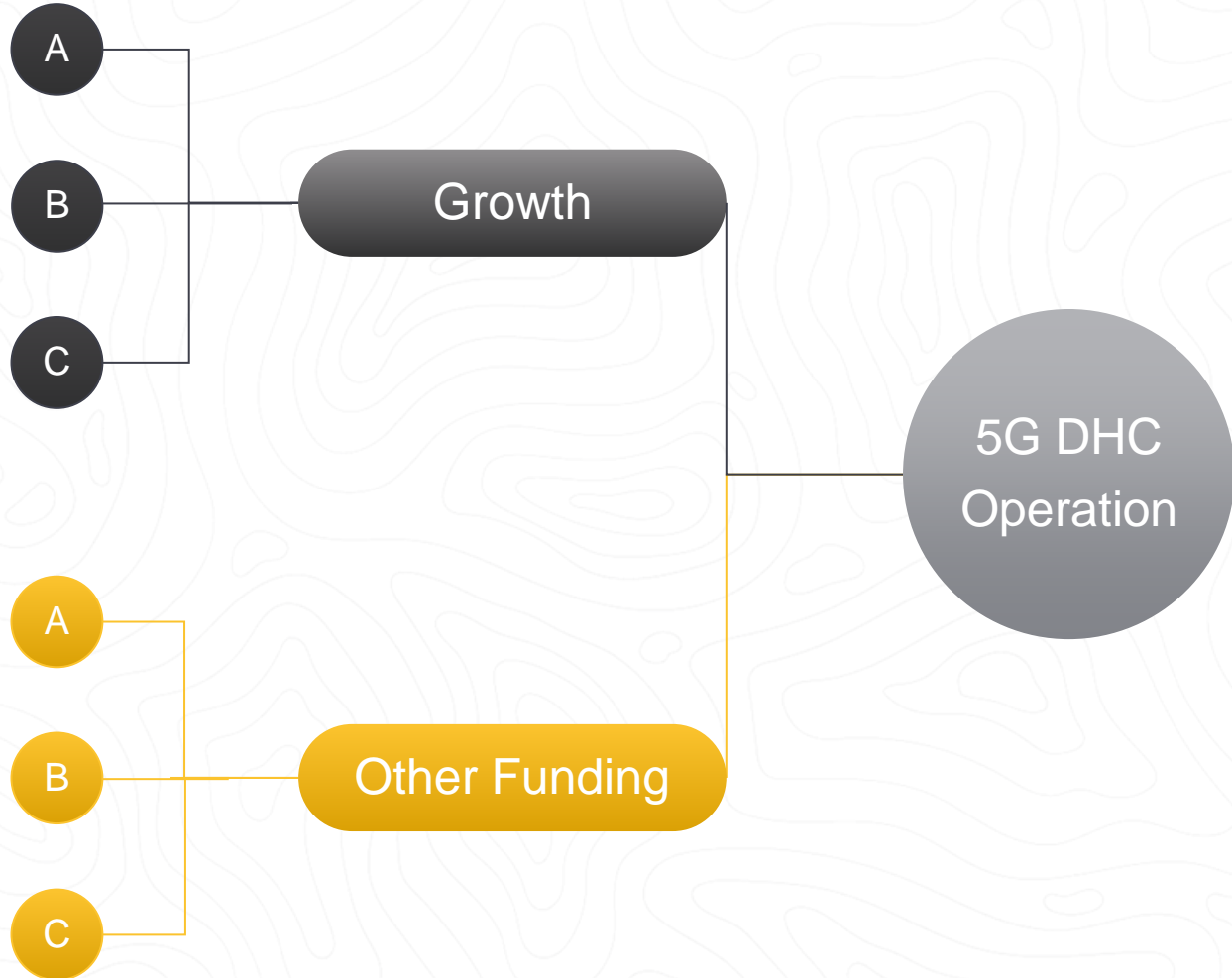
Requires a **high density of both heating and cooling demand** – with some balance!

Networks can **combine** or **connect to conventional systems** to recycle return pipe wasted heat

Grants and subsidies are often available to projects from **local or national public bodies**

Customer contributions can make up a **significant part of the investment cost**

Less reliance as costs fall and the concept is standardised



Financing Projects



How we can help

Asper believes that district heating has a major role to play in the decarbonisation of heat. The 5G concept can accelerate this transition and enable a wider uptake.

1

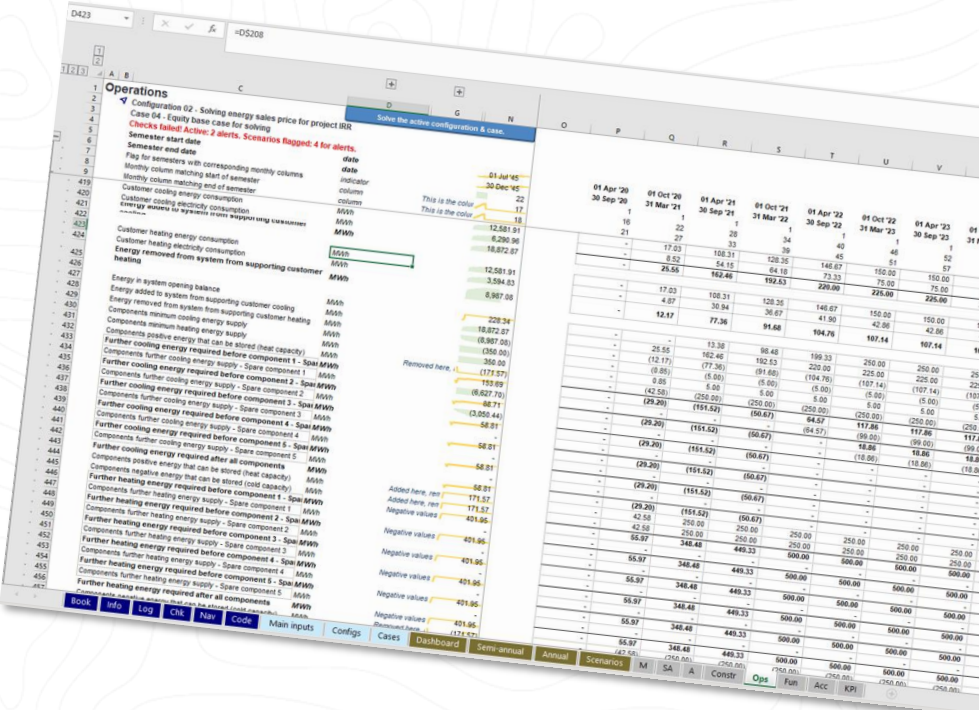
We are always open to innovative ideas, new projects and honest discussion. Reach out to us!

2

Asper is developing a financial model to help developers understand the risk/return profile of their projects – this will be publicly available.

3

The D2Grids partnership is developing a wide range of resources on technology, financing, and project delivery – all to be publicly available.



Any Questions?

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