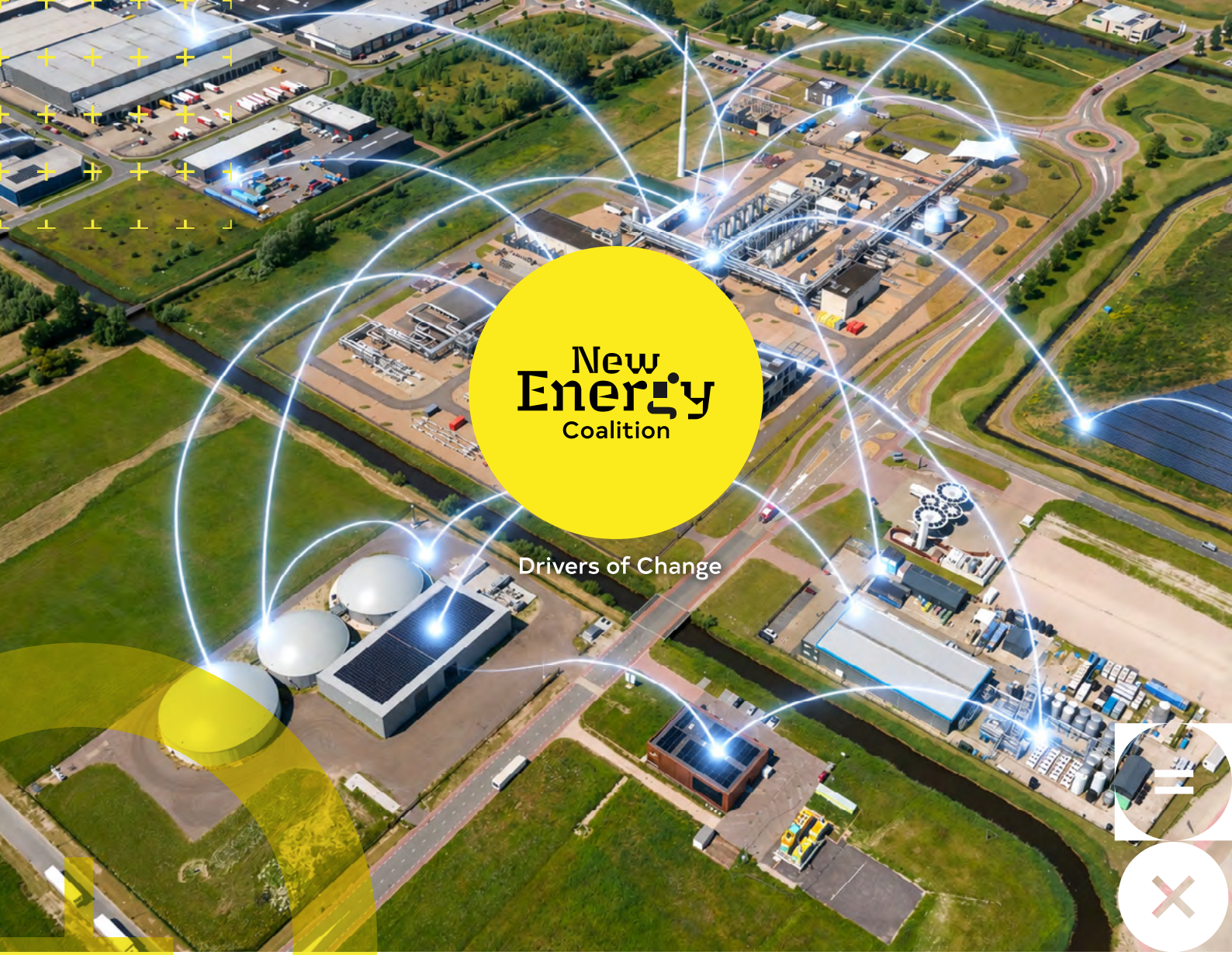

WHITEPAPER

Energy hubs: From Subsidy to Bankability

Collective, practical pathways for financing energy hubs and moving them from public subsidy to commercial finance

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About

This whitepaper examines how energy hubs in the Netherlands can progress from publicly subsidised development to commercially financeable infrastructure.

It draws on structured interviews with five senior representatives of three institutions across the financing landscape as well as New Energy Coalition's experience as an energy hub facilitator.

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Executive summary

Energy hubs, in which neighbouring businesses share a grid connection, coordinate their consumption and invest jointly in flexibility assets, are among the few responses to Dutch grid congestion that can be delivered in years rather than decades. Yet no hub in the Netherlands is presently financed on commercial terms without public support behind it. This paper examines how a hub can make that transition, drawing on interviews with five experts across three financing institutions and on New Energy Coalition's experience as a hub facilitator.

A national mapping study identified roughly 1,200 potential hub locations and estimated that full deployment could relieve up to 3.2 GW of peak load [1]; the government has responded with a €166 million incentive programme for 2024 to 2030 [2]. What remains undefined is how an individual hub moves from that public support to commercial capital.

The sector is at an early stage: more than ninety per cent of initiatives remain in the earliest phases and none is yet commercially self-sustaining. The binding constraint is neither the technology, which works, nor the availability of capital, which exists, but the absence of a revenue structure that a commercial lender can underwrite unaided. The development phase requires subsidy rather than finance: current process support of €50,000 to €60,000 per initiative falls short of the roughly €250,000 needed over the first two years. The harder problem is not financing the hardware but financing the company that operates the hub.

Four revenue streams determine commercial viability: a fixed tenant charge, the backbone that yields the predictable cash flow refinancing requires; internal energy trading as an entry point for business parks; grid cost savings, quantifiable but insufficient alone; and flexibility, peak shaving and congestion-management contracts for long-term viability. Only when combined do these lift earned revenue above the threshold for commercial finance.

To move the sector towards commercial viability, policymakers should increase development-phase subsidy, resolve the question of mutual liability and encourage data sharing; development agencies and funds should build standardised tools for economic evaluation; and practitioners should adopt the fixed-cost model and share their data and success stories where possible.

1. Introduction

Background and purpose

The Netherlands is experiencing grid congestion that is severe by international comparison. Grid constraints are curtailing electrification, limiting business expansion and delaying the energy transition [3]. Energy hubs have emerged as one means of alleviating congestion while enabling continued economic activity.
However, the financial arrangements required to move a hub from publicly funded development to commercially financed operation remain underdeveloped. This paper examines those financial arrangements. It describes the current state of the sector, the emerging revenue models, the principal risks and barriers, and the conditions under which hubs may progress from subsidy-dependent pilots to financeable infrastructure.

Scope

This paper addresses the financing of energy hubs rather than their technical design or regulatory treatment. It considers hubs whose primary purpose is the coordinated management of electricity, and excludes hubs organised around other energy carriers. The analysis is specific to the Netherlands, although several findings may apply more broadly.

Methodology

The findings are drawn from structured interviews conducted with five senior representatives of three institutions. Their principal characteristics are summarised in Table 1. The sample does not constitute an exhaustive survey; additional perspectives would strengthen the evidence base.

Table 1:
Overview of the interviewed institutions, presented in anonymised form.

Institution	Scope	Capital profile	Role in energy hubs
Institution A	Regional (south)	Revolving energy fund; catalytic co-investment	Ecosystem development and greenfield project operation
Institution B	Regional (western metropolitan area)	Transition fund providing equity, loans and project finance	Patient capital for first-of-their-kind operating companies
Institution C	Regional (north)	Revolving energy fund; catalytic co-investment alongside private parties	Patient capital for energy-transition projects and operating companies

2. The grid congestion imperative

Energy hubs and grid congestion

Grid congestion in the Netherlands is exceptional by international comparison. Ninety per cent of Dutch businesses experience direct or indirect consequences of congestion [3]. Approximately 14,000 companies are awaiting a new or expanded connection [4]. Grid operators are investing roughly €8 billion each year [4], [5], yet new high-voltage infrastructure requires eight to twelve years to construct [6].

The situation is compounded by the country's historical reliance on natural gas. Following the discovery of the Groningen gas field in 1959, the Netherlands built a national gas distribution network that connected nearly every home within a decade. As of 2018, gas still heated nine in ten households [7], [8]. As households move from gas to electricity, the IEA has identified the management of this transition as one of the principal challenges facing the Dutch energy system [9]. Peak electricity demand currently stands at approximately 19 GW and is projected to reach between 21.5 and 27 GW by 2030, which will further intensify congestion [10], [11].

The policy response

Energy hubs represent a decentralised response to this challenge: a national mapping study by Royal HaskoningDHV estimated that full deployment could relieve up to 3.2 GW of peak load [1].

Policymakers have consequently focused on accelerating the implementation of energy hubs. The Energy Hubs Incentive Programme (Stimuleringsprogramma Energiehubs, or SPEH) allocates €166 million for 2024–2030 [2], [12]. The programme was established by the national government and is coordinated by the Netherlands Enterprise Agency (RVO), which distributes eighty-five per cent of the budget to the twelve provinces [12], [13]. The SPEH is explicitly a process subsidy (procesgeld), funding hub coordinators, advisory services, feasibility studies and legal structuring. It does not fund equipment [12], [13].

A nationally available legal toolkit developed by Invest-NL and law firm Kennedy Van der Laan [14], offers support to companies that wish to collaborate in developing energy hubs. In addition, the new Dutch Energy Act (Energiewet), which entered into force on 1 January 2026 [15], [16], completes the policy framework.

Together these policies and tools prepare the ground for hub formation, but they do not address how a hub is to be financed once subsidy ends.

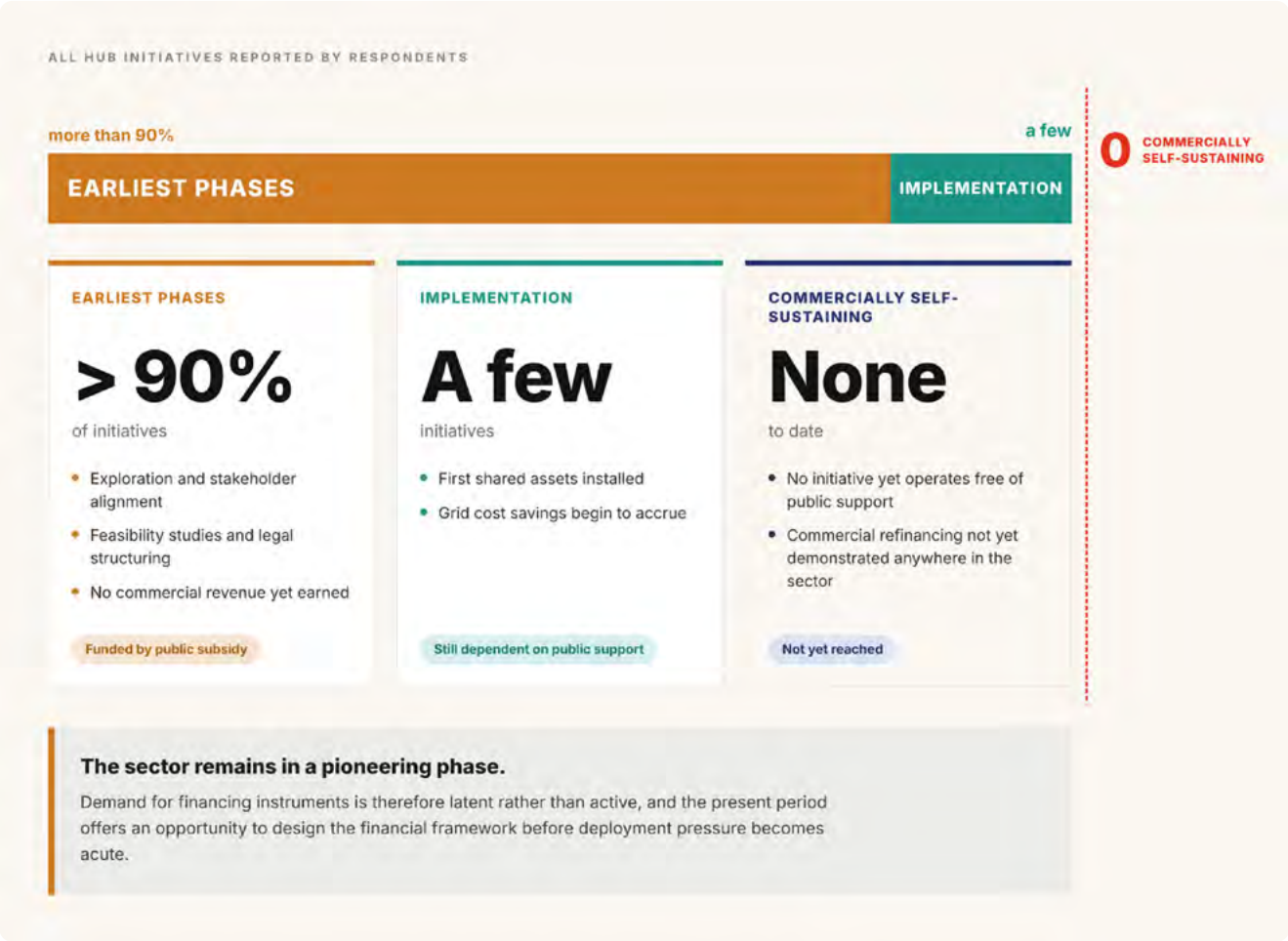
3. The current state of the sector

All respondents reported that more than ninety per cent of hub initiatives remain in the earliest phases. This is consistent with the RVO Handreiking, which described the sector as being in a pioneering phase [12]. Few initiatives have progressed to implementation, and none is yet commercially self-sustaining. Early operational hubs, such as the Pannenweg business park in Nederweert and the Port of Amsterdam hub, remain dependent on public support [17].

Demand from companies for commercial financing instruments remains latent by comparison with demand for subsidy. One interviewee noted that no energy hub had approached their institution for financing. The present period, therefore, offers an opportunity to design the financial framework before demand pressure becomes acute.

> **The window in which to design this financial framework thoughtfully is itself a scarce resource.**
>
> — Interviewed expert from financial institution

Figure 1:
Where the sector currently stands: the distribution of hub initiatives across the phases of maturity, and the absence of any commercially self-sustaining case. [19]



4. Financing energy hubs

Energy hub development phases

Every respondent confirmed that the life of an energy hub can be broadly divided into two phases: development and operation. The development phase is taken here to end immediately before construction, and the post-development phase to begin at construction. The two phases have different financing needs and are therefore examined separately.

Financing the development phase

Every respondent confirmed that energy hub project development cannot at present be financed through market instruments. One practitioner observed that this early phase is best covered by subsidy.

Respondents nonetheless reported that the SPEH subsidy available for development costs is not sufficient. For example, in North Holland province, the SPEH provides €50,000–€60,000 per initiative for advisory and coordination support, whereas total development costs typically amount to approximately €250,000 over the first two years [12], [18]. The resulting shortfall must be bridged through provincial programmes, company contributions or in-kind resources. Furthermore, the SPEH does not fund equipment [12], [13].

The development-phase funding gap

€50-60k	≈ €250k	≈ €190k
SPEH PROCESS SUPPORT PER INITIATIVE	TYPICAL DEVELOPMENT COST, FIRST TWO YEARS	SHORTFALL BRIDGED LOCALLY OR IN KIND

Development-phase funding gap per hub initiative in North Holland province, derived from the SPEH handbook and provincial programme guidance [12], [13], [18].

Financing the hub after development

Parts of the post-development phase can be financed commercially: hardware such as batteries is already a familiar proposition for financiers. Respondents nonetheless drew a consistent distinction between financing hardware and financing the operating company. Hardware financing was described as relatively straightforward. The more significant challenge concerns the entity that manages the hub, coordinates participants, enters into contracts with the grid operator and derives revenue from the collective arrangement. Financing this entity is regarded as the difficult part of post-development finance.

> **The financing of the assets is not the difficulty. The financing of the company that manages the hub is.**
>
> — Interviewed institution, financing landscape

5. Energy hub revenue

Revenue models

The fixed-cost model in greenfield developments

The most developed revenue model is the fixed-cost model found in many greenfield developments. Each tenant pays a fixed charge derived from the combined capital and operating expenditure of the shared assets. In one hub cited by a respondent, the approach has proved broadly accurate after five years of operation, with a cost structure that is approximately 90–95 per cent fixed.

The energy trading platform in existing business parks

In existing business parks, some hubs begin with an internal energy trading platform through which participants buy and sell electricity among themselves. This develops trust and organisational capacity and serves as a gateway to the more complex arrangements that produce durable revenue.

The contribution of grid cost savings

Savings on grid costs achieved through capacity sharing are a further source of value, although interviewees were clear that these savings alone are insufficient to sustain a hub.

Flexibility, peak shaving and congestion contracts

Every respondent confirmed that participation in flexibility markets, peak shaving and congestion-management contracts is required for long-term viability.

Table 2 summarises the four models and the part each plays in the progression towards commercial finance.

Table 2:

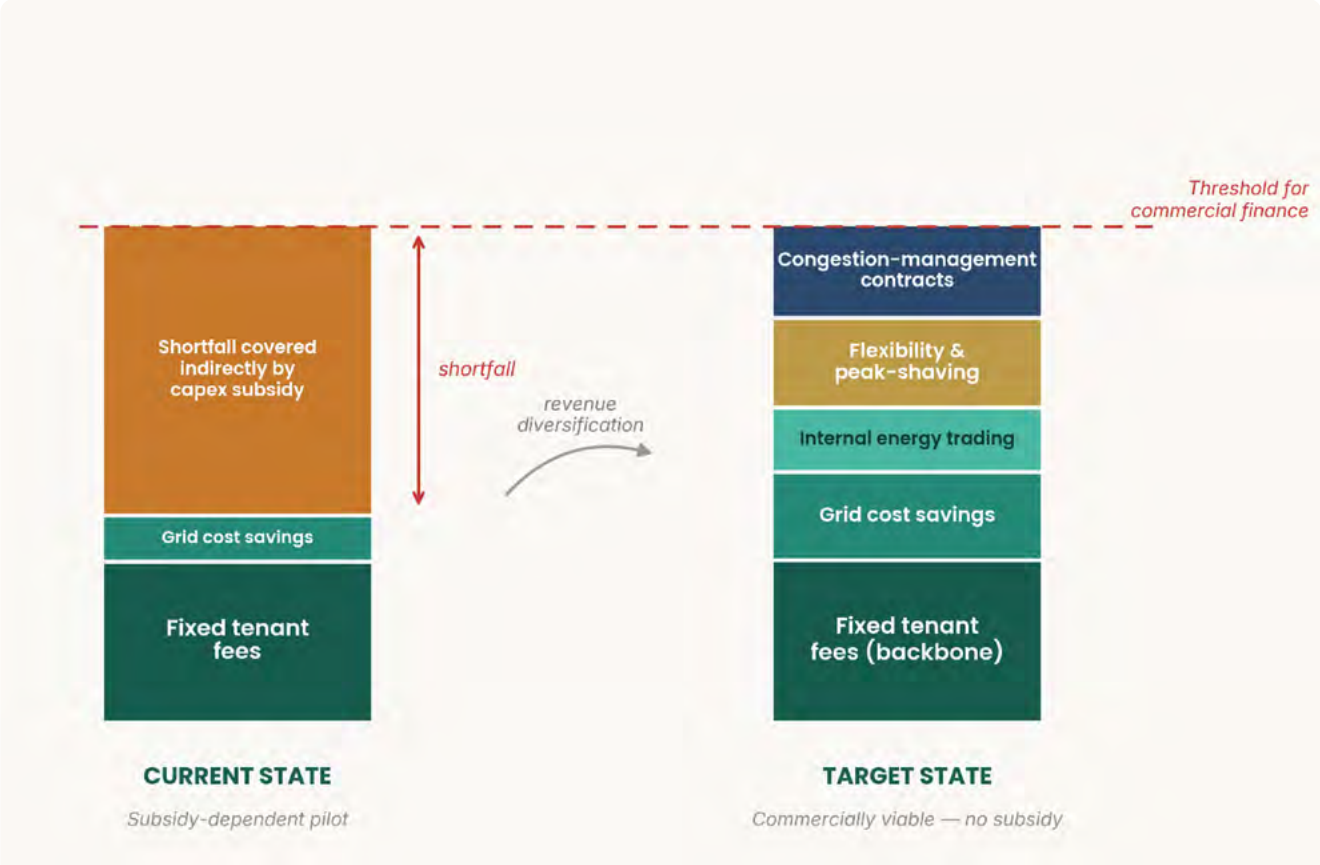
The revenue models identified by respondents, and the part each plays in moving a hub towards commercial finance.

Revenue model	Typical setting	Basis of revenue	Contribution to bankability
Fixed tenant charge	Greenfield business parks	A fixed annual charge per tenant covering the capital and operating expenditure of the shared assets; approximately 90–95 per cent of the cost structure is fixed.	Backbone. Produces the predictable cash flow that commercial refinancing requires.
Internal energy trading	Existing business parks	Margin on electricity bought and sold between participants through an internal platform.	Entry point. Builds trust and organisational capacity before heavier commitments.
Grid cost savings	All hubs	Avoided transport tariffs and a reduced contracted capacity under a group transport agreement.	Quantifiable, but insufficient on its own to sustain the operating company.
Flexibility, peak shaving and congestion contracts	Hubs with an operating history	Payments from grid operators and participation in flexibility markets.	Required for long-term viability; depends on an accumulated record of operational data.

Revenue stacks

Figure 2 presents the revenue stack in two states: the pre-commercial state, in which hubs are not commercially viable, and the target state, in which they are financed principally by commercial capital. In the **current (pre-commercial) state**, earned revenue from fixed tenant fees and grid cost savings falls short of the threshold for commercial finance, and public subsidy given as capex support is required to make the project viable. In the **target (commercial) state**, five diversified revenue streams carry the stack above the threshold: fixed tenant fees, grid cost savings, internal energy trading, flexibility and peak-shaving, and congestion-management contracts.

Figure 2:
The revenue stack of an energy hub. Left: the subsidy-dependent current state. Right: the commercially viable target state.



6. Barriers to commercial financing

Mutual liability in group transport contracts

A group transport agreement requires all participants to accept mutual responsibility for compliance with the collectively contracted capacity limit [17]. No insurance product currently exists for this risk, principally because insurers lack the data to price it. The fines associated with exceeding the contracted capacity have never been imposed, leaving no enforcement history from which to draw.

The difficulty of demonstrating economic value

For an individual company considering participation, the costs are tangible and immediate while the benefits are diffuse and difficult to quantify in advance. The absence of standardised evaluation tools is itself a significant obstacle.

Differences in the perception of risk

There is a notable divergence among stakeholders in the perception of financial and operational risk. Many financiers and companies regard these risks as high and imperfectly understood, while practitioners regard them as manageable. The most effective means of reducing perceived risk is the generation and dissemination of operational data.

IN SUMMARY

The three barriers and what would relieve them

Mutual liability	An institutional backstop, or an insurance product priced on real loss data. Neither can be constructed until hubs have operated long enough to establish how often the contracted capacity is exceeded and at what cost.
Unproven economic value	Standardised modelling and business-case tools that allow an individual company to see its own position before it commits, rather than relying on collective benefits it cannot verify.
Divergent perceptions of risk	Published operational data from the hubs already running, which converts perceived risk into priced risk and narrows the gap between practitioners and investors.

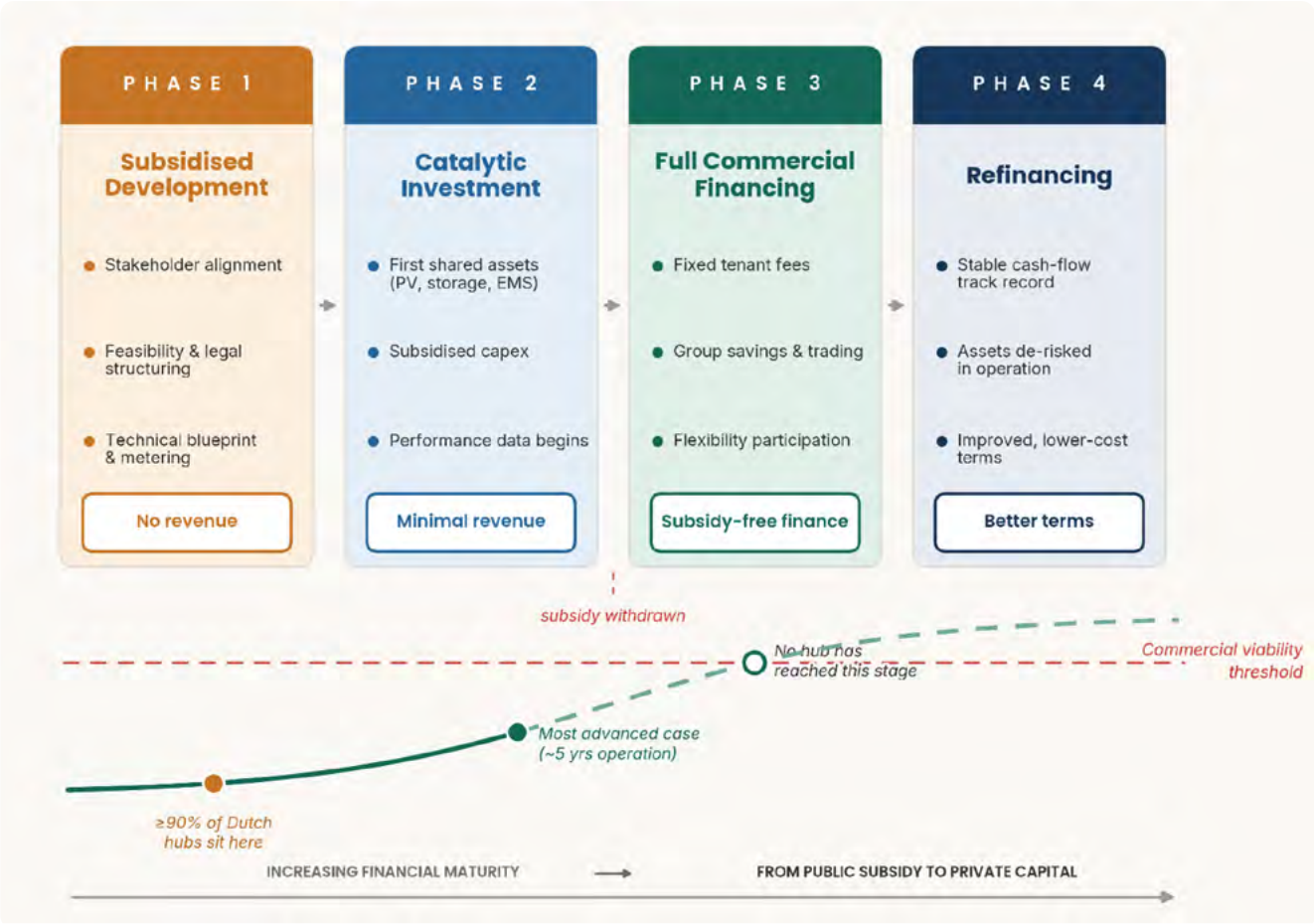
The common thread is information. Each of the three barriers is a data problem before it is a financial one, which is why the collection and publication of operational data recurs in every set of recommendations in Section 8.

7. A proposed maturation framework

Figure 3 sets out a general model of how the financing of energy hubs is expected to evolve. It describes the sector rather than any individual hub, which appears only as the unit that advances through the phases. The model is analytical rather than prescriptive, and its shape is consistent with the paths taken by district heating, fibre-optic networks and offshore wind as they moved from public support to private finance [9].

The phases are financing states, not stages of construction. What separates one from the next is the accumulation of evidence: as assets are installed, performance data is gathered and cash flow is demonstrated, the associated risk becomes legible to more conventional sources of capital. The decisive transition occurs between the second and third phases, where public support is withdrawn and the hub is financed for the first time on its own earned revenue.

Figure 3:
The proposed maturation framework for the financing of energy hubs. The markers indicate the position of the sector.



Phase 1	**Subsidised development** Funded through public subsidy and company contributions. Activities include stakeholder engagement, feasibility analysis, legal structuring and the procurement of metering equipment. More than ninety per cent of hub initiatives are currently at this stage.
Phase 2	**Catalytic investment** Public or semi-public capital assumes first-mover risk and funds the first shared assets, including photovoltaic generation, storage and energy-management systems, on subsidised capex. Revenue is minimal. This is the final phase at which public support is present; it is withdrawn in full at its conclusion.
Phase 3	**Full commercial financing** The hub is financed entirely on its own earned revenue, without subsidy, drawing on fixed tenant fees, group savings and trading, and participation in flexibility markets. This is the point at which the hub crosses the commercial viability threshold and becomes a standalone financeable asset.
Phase 4	**Commercial refinancing** With the assets now operating on a demonstrated commercial footing, and their risk correspondingly reduced, the hub refinances its commercial debt on improved terms. This phase introduces no new funding and replaces no public money; it optimises an existing commercial structure.

Most Dutch energy hubs remain at the outset; the most advanced case, after approximately five years of operation, has reached only the middle of the curve; and no hub has yet secured subsidy-free commercial financing. The value of the framework lies not in its completion but in defining the conditions that completion will require.

8. Recommendations

For policymakers

- Restructure the development-phase subsidy to cover the full period of hub formation at realistic cost levels.
- Establish an institutional solution to mutual liability in group transport contracts.
- Require the collection and sharing of operational data as a public good where possible.

For development agencies and investment funds

- Invest in standardised tools for financial modelling and business-case preparation.
- Develop evaluation criteria specific to operating companies.

For hub practitioners

- Adopt the fixed-cost model as the core revenue structure during the early years of operation.
- Explore the use of an internal energy trading platform as the point of entry in existing business parks where relevant.
- Collect and share operational data and success stories.

9. Conclusion

This paper set out to establish how an energy hub might move from publicly subsidised development to commercially financed infrastructure. The case for making that move is not in question: congestion affects nine in ten Dutch businesses, 14,000 companies await a connection, and new high-voltage infrastructure takes eight to twelve years to build [3], [4], [6]. Hubs are one of the few responses that can be delivered on a shorter horizon.

The evidence here describes a sector still at its beginning. More than ninety per cent of initiatives remain in the earliest phases, a handful have reached implementation, and none is commercially self-sustaining. Demand for financing instruments is correspondingly latent: none of the institutions interviewed had yet been approached by a hub seeking finance.

The financing problem divides cleanly in two. Development cannot be carried by the market and depends on a subsidy that is currently too small: some €50,000 to €60,000 against costs nearer €250,000. After construction, the hardware is a familiar proposition for lenders; the operating company is not. Its viability rests on the four revenue streams identified here: the fixed tenant charge as backbone, internal trading as an entry point, grid cost savings as a partial contribution, and flexibility and congestion contracts for the long term. Only when these are stacked does earned revenue rise above the threshold for commercial finance.

Three barriers stand in the way: mutual liability under group transport agreements, the difficulty of demonstrating economic value to an individual participant, and the distance between how practitioners and financiers perceive risk. Each is an information problem before it is a financial one, and operational evidence is also what carries a hub through the maturation framework proposed here. None of this waits on a technological breakthrough: it requires subsidy sized to the real cost of hub formation, an institutional answer to mutual liability, standardised evaluation tools, and a sector willing to publish what it learns.

> **The task at hand is to establish the financial framework while the opportunity to do so remains.**

References

[1] Royal HaskoningDHV, “De families van Energy Hubs in Nederland,” Topsector Energie and Netherlands Enterprise Agency (RVO), The Netherlands, Jul. 2024. [Online]. Available: https://topsectorenergie.nl/documents/1237/20240708_Eindrapport_Families_Energy_Hubs_PDF.pdf

[2] Ministry of Economic Affairs and Climate Policy, “Kamerbrief over Stimuleringsprogramma energiehubs,” Government of the Netherlands, The Hague, The Netherlands, Jun. 5, 2024. [Online]. Available:https://rijksoverheid.nl/ministeries/ministerie-van-economische-zaken-en-klimaat/documenten/kamerstukken/2024/06/05/stimuleringsprogramma-energiehubs

[3] Landelijk Actieprogramma Netcongestie, “Tweede voortgangsrapportage,” LAN, The Netherlands, Mar. 2025. [Online]. Available: https://actieprogrammanetcongestie.nl/

[4] DutchNews.nl, “14,000 companies wait for a new Dutch power grid connection,” DutchNews.nl, Oct. 6, 2025. [Online]. Available: https://www.dutchnews.nl/2025/10/14000-companies-waiting-to-connect-to-dutch-power-grid

[5] TenneT, “Electricity grid under further pressure,” TenneT Holding B.V., Arnhem, The Netherlands, 2023.

[6] Stibbe, “Parliamentary letter on grid congestion,” Stibbe, Amsterdam, The Netherlands, 2026.

[7] Nesta, “From natural gas to a green transition,” Nesta, London, U.K., 2020.

[8] Strategic Energy Europe, “From natural gas to renewable energies,” Strategic Energy Europe, 2025.

[9] International Energy Agency, “The Netherlands 2024: Energy policy review,” IEA, Paris, France, 2025. [Online]. Available: https://www.iea.org/reports/the-netherlands-2024

[10] Rabobank, “The Dutch electricity sector — part 3,” RaboResearch, Utrecht, The Netherlands, 2024.

[11] Common Futures, “Dispatchable power generation capacity in the Netherlands,” Common Futures, The Netherlands, 2025.

[12] Netherlands Enterprise Agency (RVO), “Handreiking provinciale aanpak: Stimuleringsprogramma Energiehubs 2024,” RVO, The Hague, The Netherlands, Sep. 2024. [Online]. Available: https://www.rvo.nl/sites/default/files/2024-10/Handreiking-Stimuleringsprogramma-Energiehubs-2024.pdf

[13] Common Futures, “Subsidies voor energiehubs als een investering in ons energiesysteem,” Common Futures, The Netherlands, 2026.

[14] Invest-NL and Kennedy Van der Laan, “Legal toolkit for energy hubs with a group transport agreement,” Invest-NL, Amsterdam, The Netherlands, Jan. 26, 2026. [Online]. Available: https://invest-nl.nl/en/insights-and-publications/legal-toolkit-for-energy-hubs-with-gto

[15] QGM Law, “Dutch Energy Act passed by the Senate,” QGM Law, The Netherlands, 2024.

[16] Fieldfisher, “The new Dutch Energy Act,” Fieldfisher, Amsterdam, The Netherlands, 2026.

[17] WithTheGrid, “Energy hubs explained,” WithTheGrid, The Netherlands, 2024.

[18] Subsidiewijzer.ai, “Stimuleringsprogramma Energiehubs Noord-Holland,” Subsidiewijzer.ai, The Netherlands, 2026.

[19] Hauptmeijer, P. (2025). Vooruitblik ontwikkeling van energiehubs. ROM InWest.