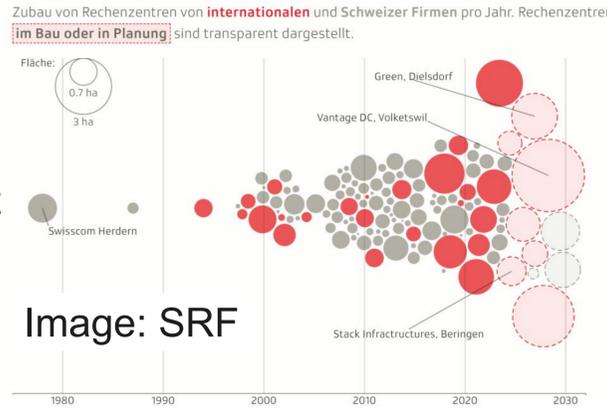*Based on a MSc Thesis by Jonathan Specking*

Excess Heat Recovery of Data Centers: Addressing the Governance Gap

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Problem

Switzerland is an attractive location for (international) data centers, with far-reaching implications for energy systems.

Municipalities and cantons currently do not have the means to adequately govern excess heat integration. We explore **fair, reproducible arrangements**.

Zubau von Rechenzentren von **internationalen** und **Schweizer Firmen** pro Jahr. Rechenzentren **im Bau oder in Planung** sind transparent dargestellt.

Image: SRF

Methods

Eleven **expert interviews** across data center operators, district heating utilities, cantonal authorities, technology providers, and academia.
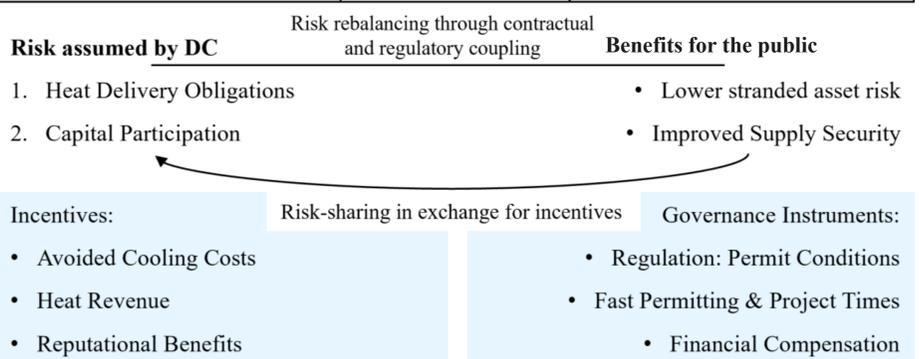
Results

Strategic Solution → / Structural barriers ↓	Regulatory default-setting & transparency	Risk-sharing & co-investment	Proactive spatial & energy planning	Recognition of data centres as energy actors
Spatial & planning misalignment	○	–	●	○
Institutional asymmetry & risk allocation	–	●	–	○
Temporal investment mismatch	○	●	–	–
Knowledge gaps & cognitive lock-ins	●	○	○	●

● Strong effect
○ Moderate / enabling effect
– Limited or indirect effect

Interviews identified **four structural barrier types** for excess heat reuse and **four strategic solutions**.

A fair risk sharing scheme?

	Risk rebalancing through contractual and regulatory coupling	
Risk assumed by DC		**Benefits for the public**
1. Heat Delivery Obligations		• Lower stranded asset risk
2. Capital Participation		• Improved Supply Security

Incentives:
• Avoided Cooling Costs
• Heat Revenue
• Reputational Benefits

Risk-sharing in exchange for incentives

Governance Instruments:
• Regulation: Permit Conditions
• Fast Permitting & Project Times
• Financial Compensation

Proposed risk sharing scheme, taking into account the diverse barriers on the side of data center operators and municipalities / utilities, transforming **one-sided dependency** into a **reciprocal exchange** supported by targeted incentives.

Outlook

Proposed governance measures (risk sharing scheme, planning integration, regulation) will be discussed and refined at a **stakeholder workshop** (foreseen in June 2026).

Impact

Insights were presented at an internal event **attended by ~15 employees of a city utility** (sales engineers, strategic planners).