Local Village Heating in a Smart Energy Context

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Outline

1. Introduction

2. What about future heating in rural areas

3. Smart ways of designing a local grid for the heat supply

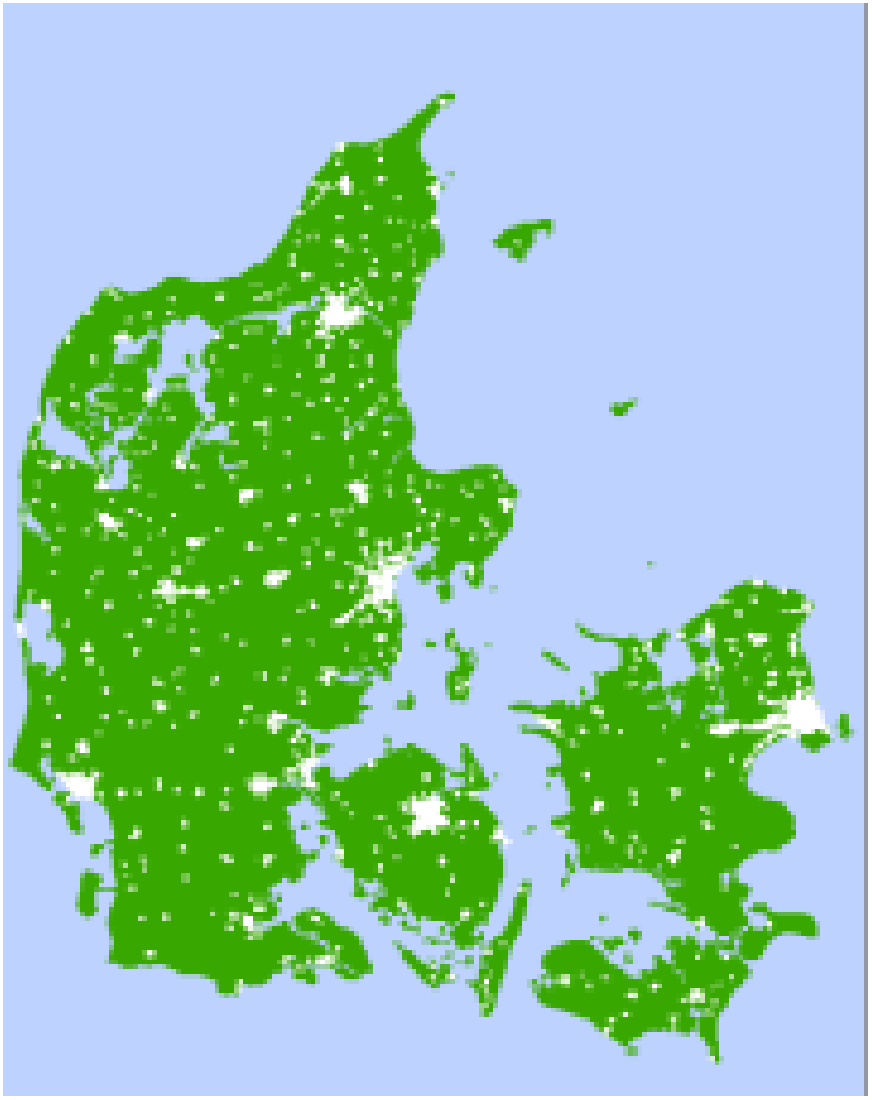
4. Where do we get the heat from? – local or remote heat sources

5. Planning, installation, financing and ownership

6. The role of smart technology in a local village heating concept

7. Discussion and questions

The green area is outside district heating areas



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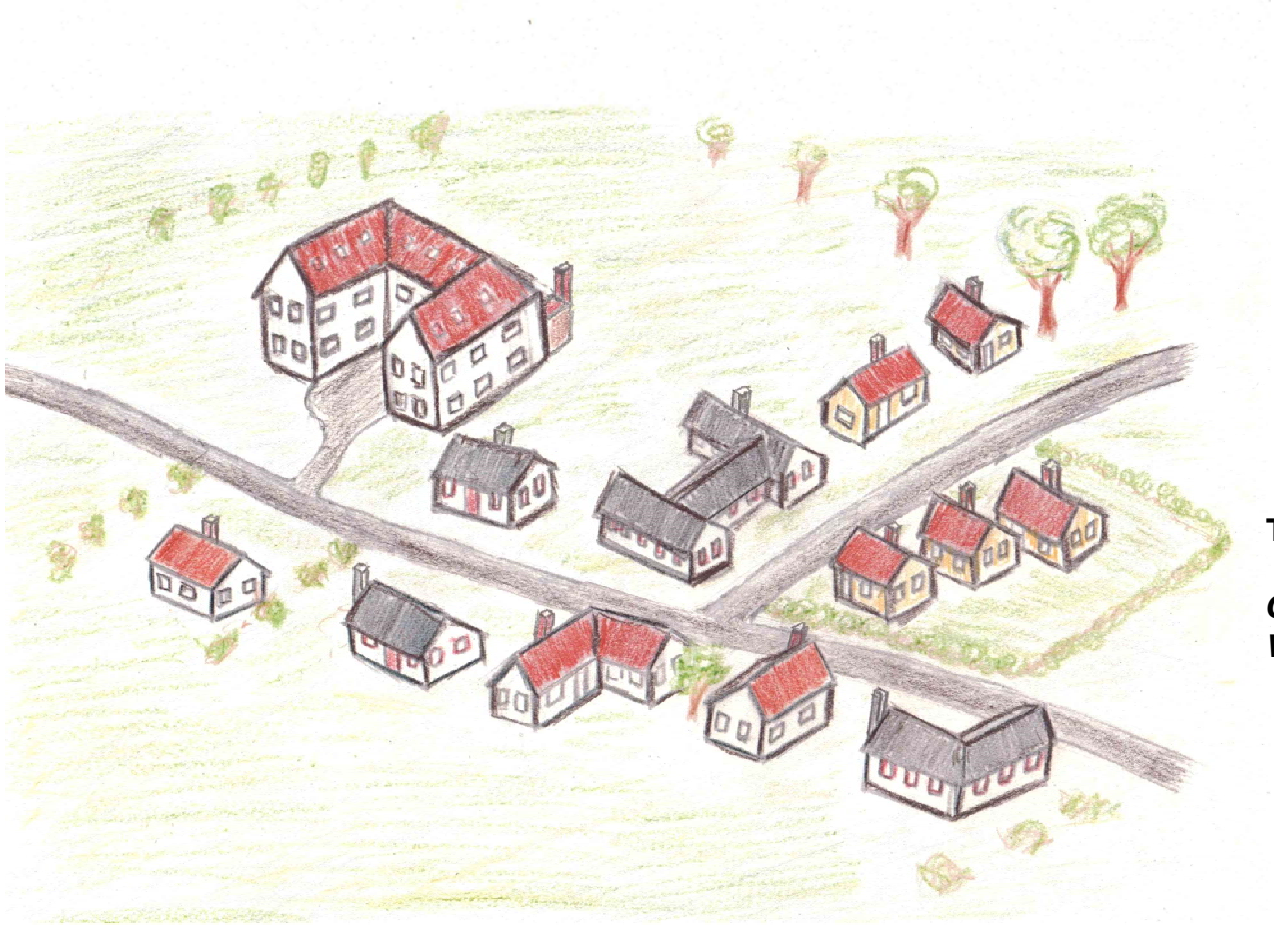
The village ”Faraway”



Typical heat sources:

Oil boilers &
Wood pellets

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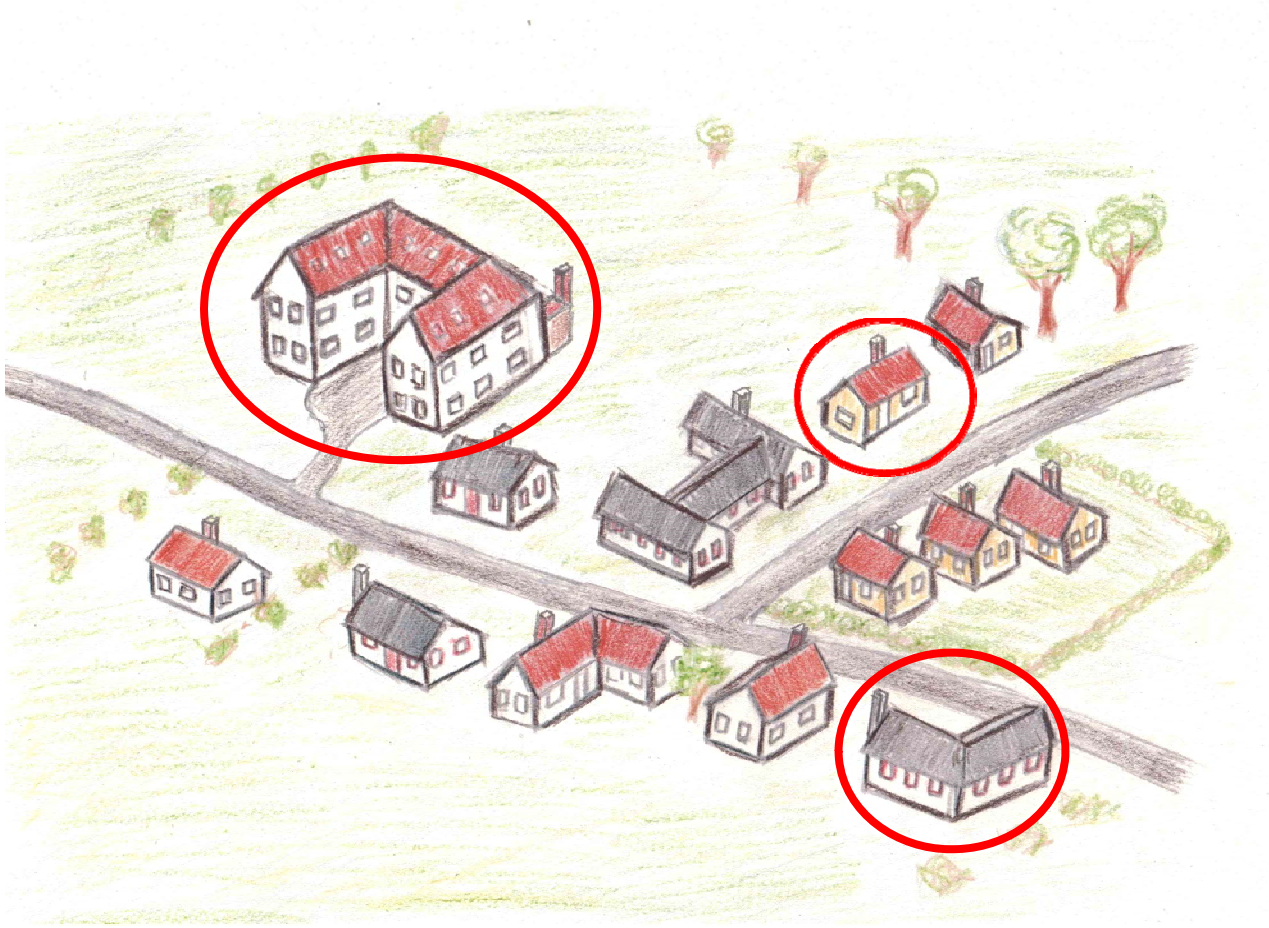
Some of the residents



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Injustice in the World

Some have too much….

..and some have too little!

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Injustice in the World

So why don't we share?

Well:

...a connection to share heat is a little different from a WiFi connection!

...so we have to think smart

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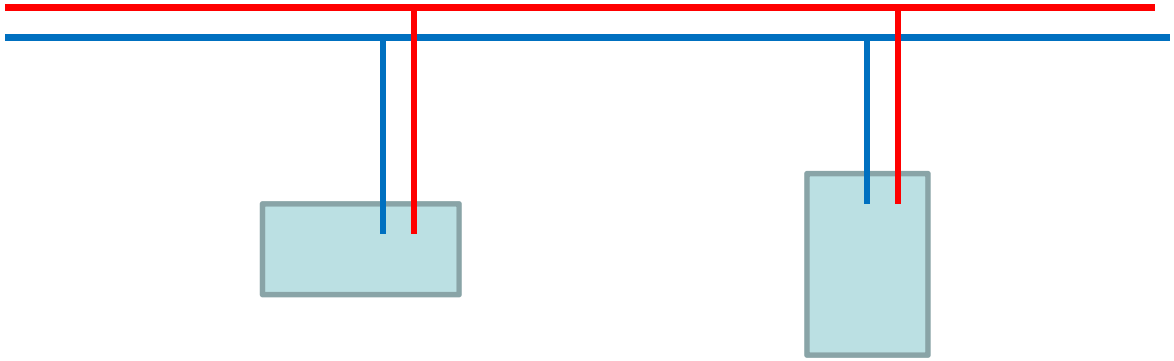
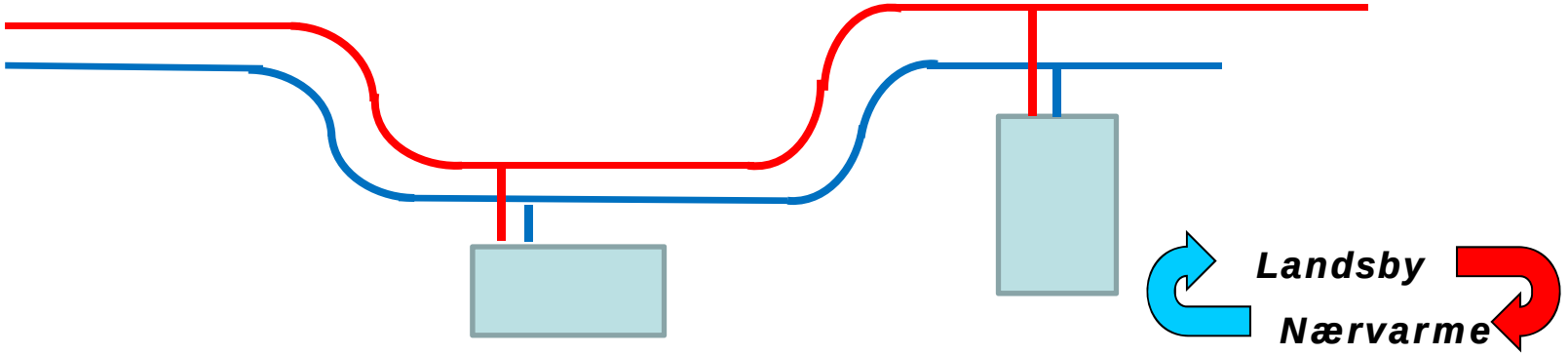
Alternative tracé for the distribution

Is is feasible to make a better tracé for the pipes than the traditional ”Tree” structure?

1 Traditional: Along (under) the road and dead end at the last customer



2 Alternative: Ring shaped grid installed close to the house



Heat distribution grid

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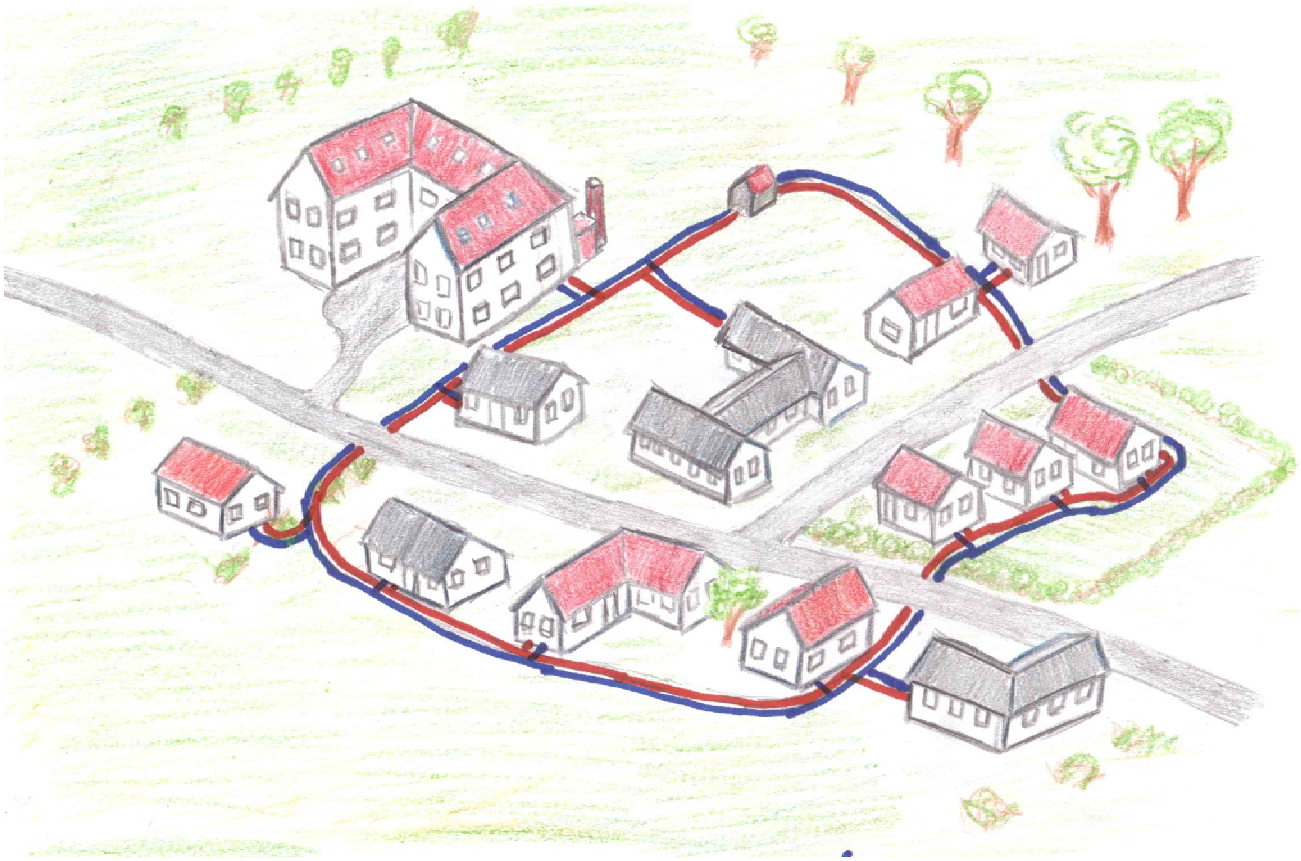
For the village Faraway a possible tracé could look like this



The point: Can we design the distribution grid in a smarter way?

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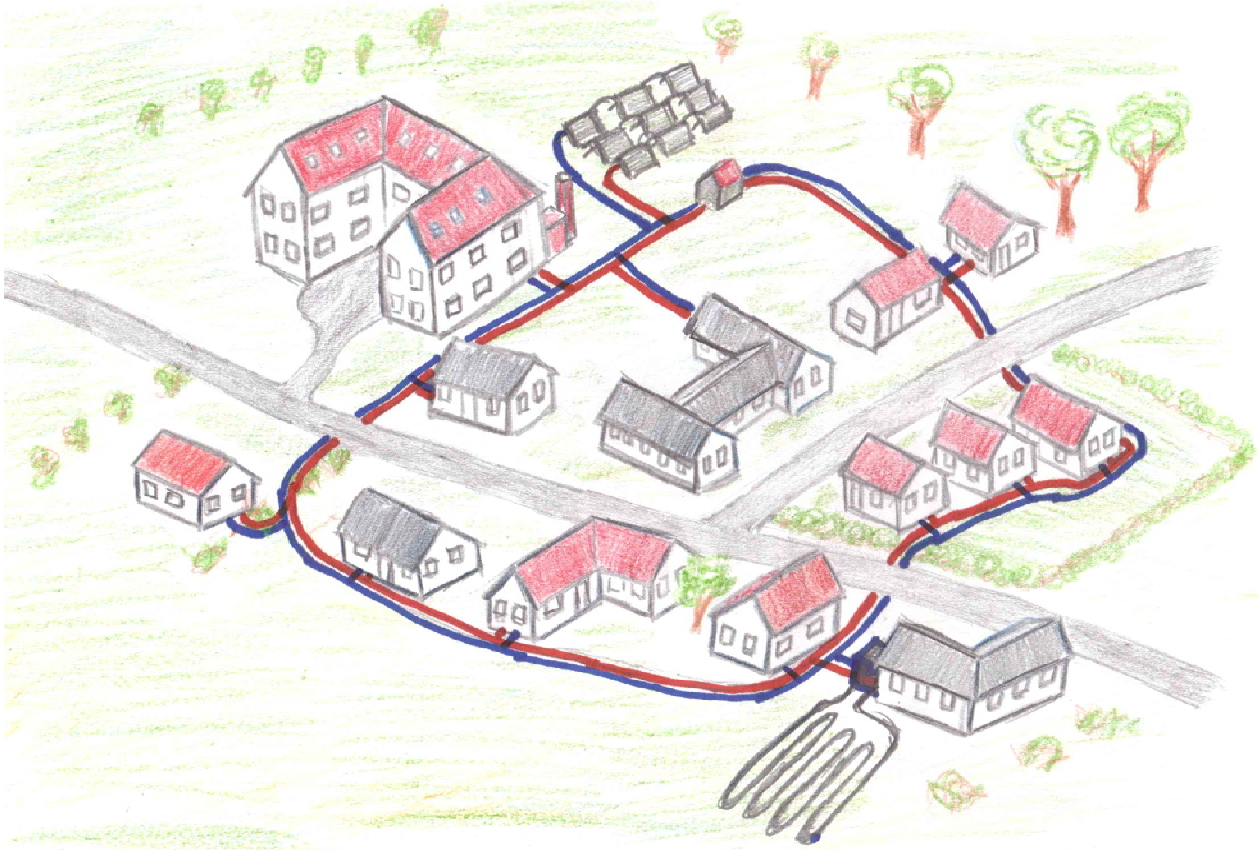
Utilising local and renewable sources



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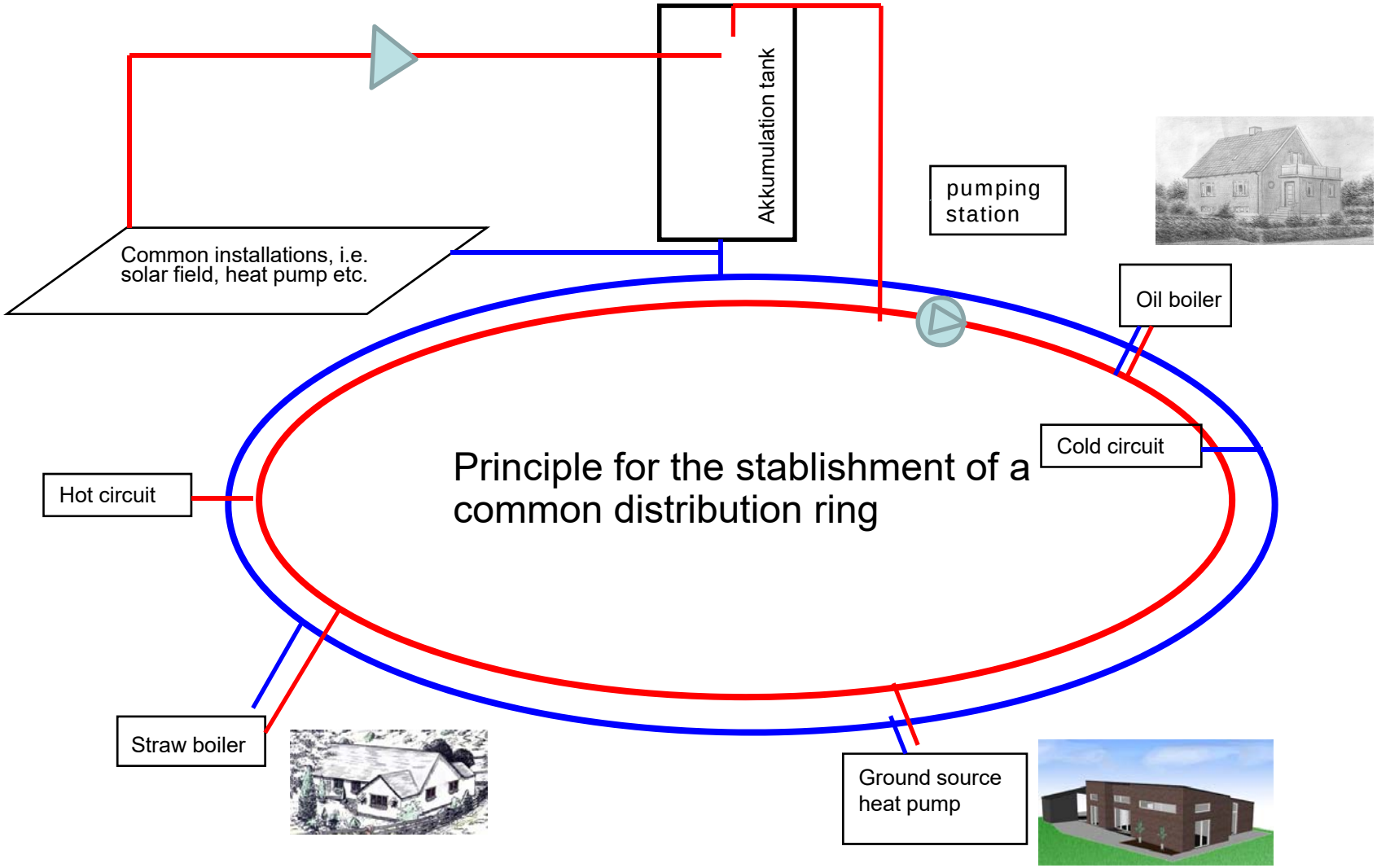
Example of the adopted concept



The house drawings illustrate what is characteristic for the village: They are different!

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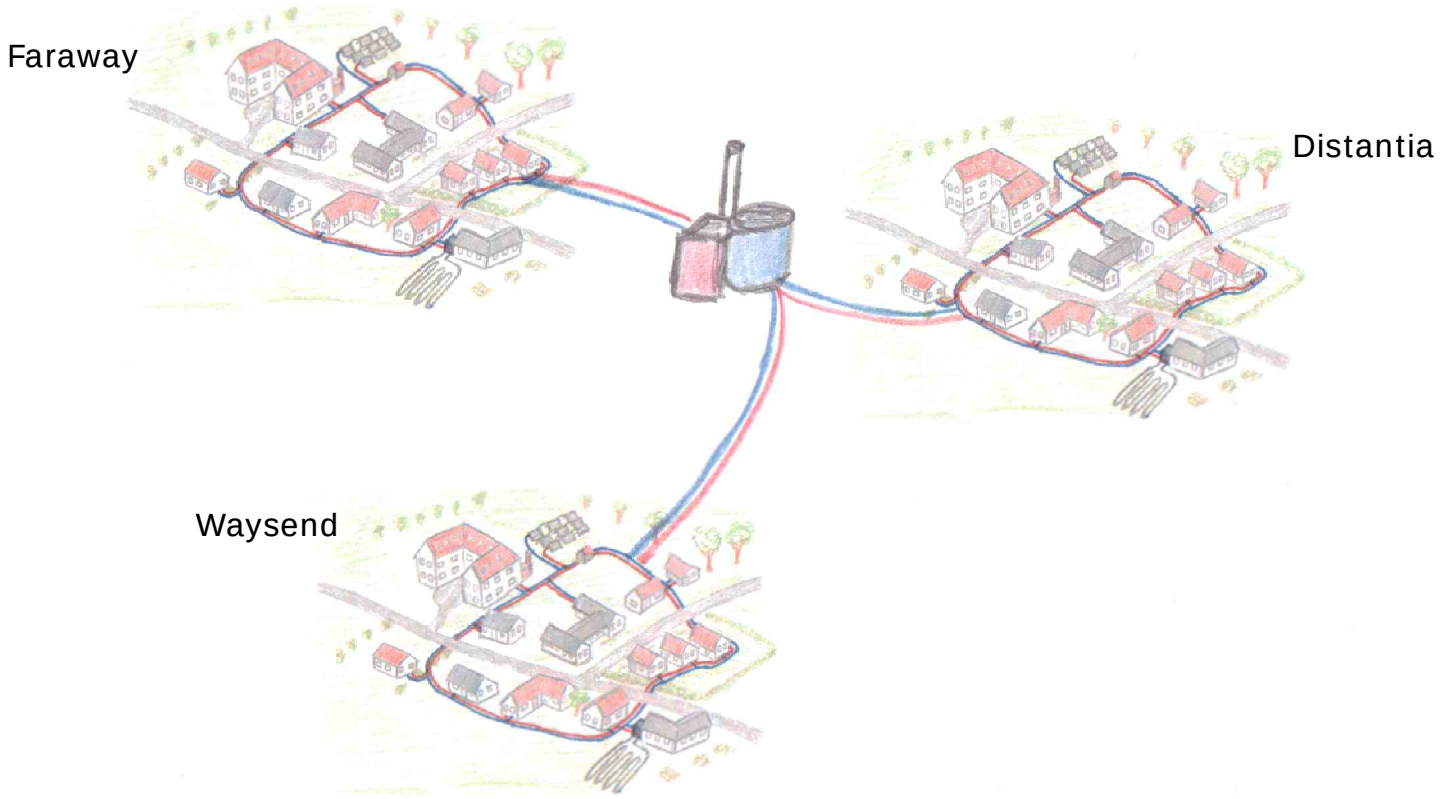
Connection of multiple clusters or villages (if applicable)



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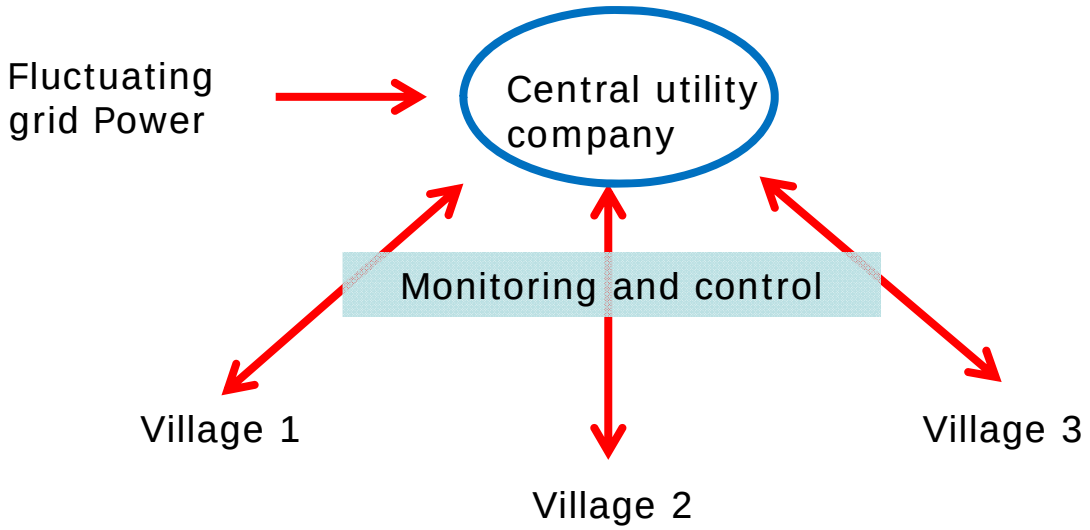
Transmission Free District Heating



Smart technology for:

-Surveillance

-Forecasting

-Operation

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To make such a concept feasible, we have to be Smart

- Smart technology for ”Prosumer” operation and pump control
- Utilizing the local heat sources cost- and energy effective and sustainable
- Optimised use of fluctuating grid power
- Consumption monitoring and forecasting

Key Players

Key players to make it *happen* and to make it *work*

- *"Closest" utility company or municipality*
- *Engineering companies – allow to think different!*
- *Smart technology for surveillance, operation and maintenance*
- *And not least - The local residents!*

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Thank you for your attention

Any comments or questions?

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