

Welcome to ABioNova





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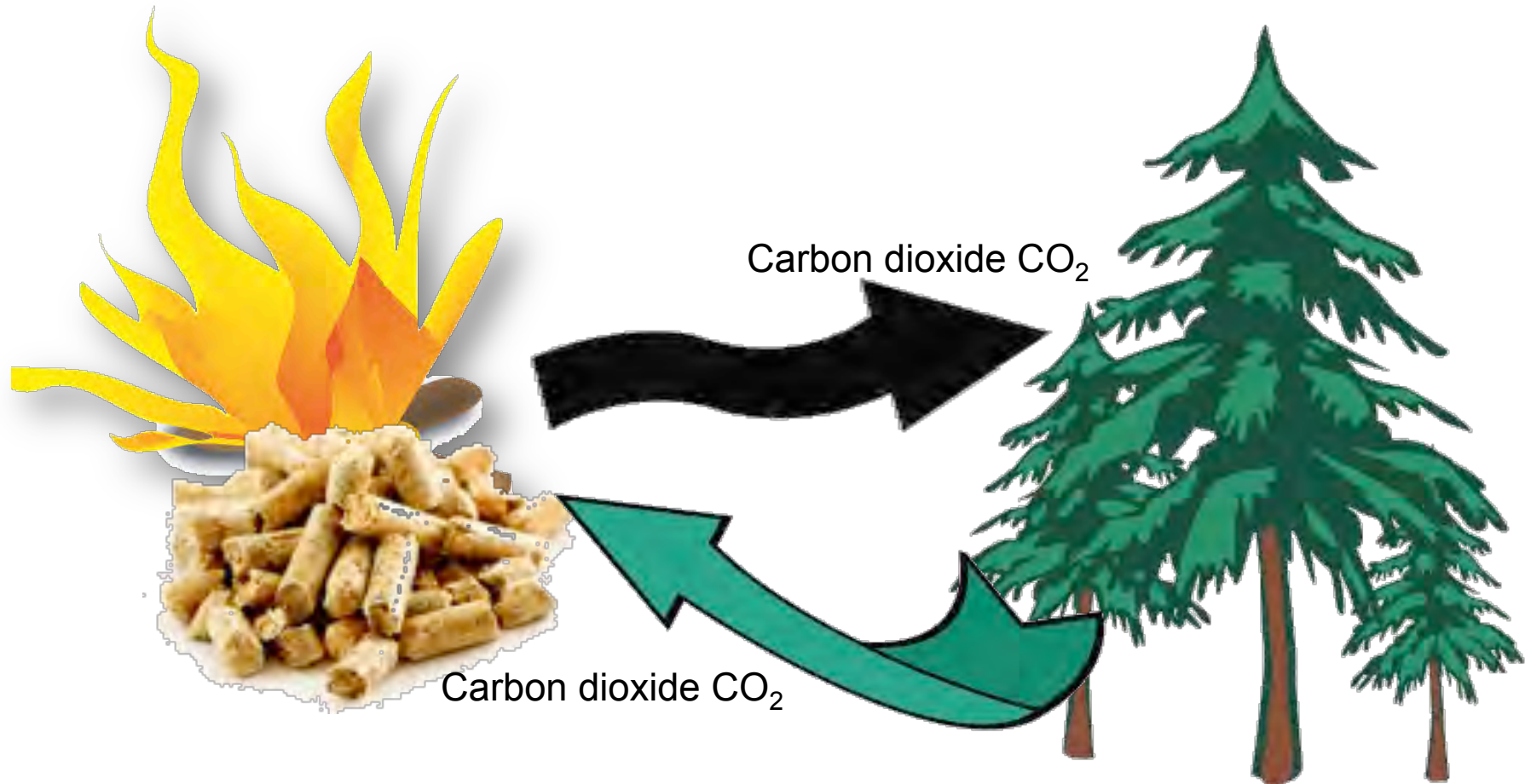
ABioNova – HTMW 2014

MAKE IT HAPPEN !!!

CATCH THE FISH !!!

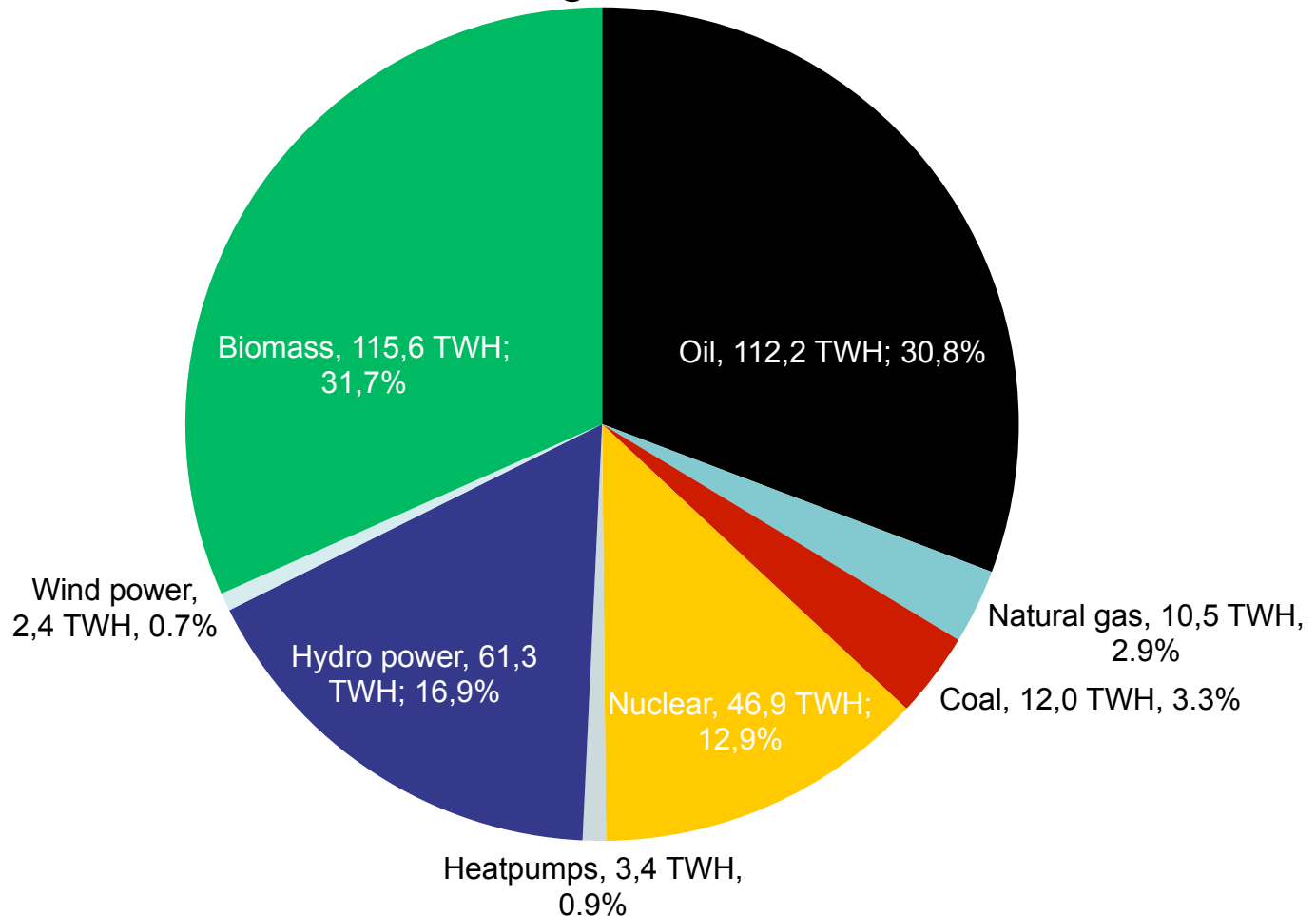
Renewable Energy...

...does not give any addition of carbon dioxide at combustion.



Swedish Fuel Sources

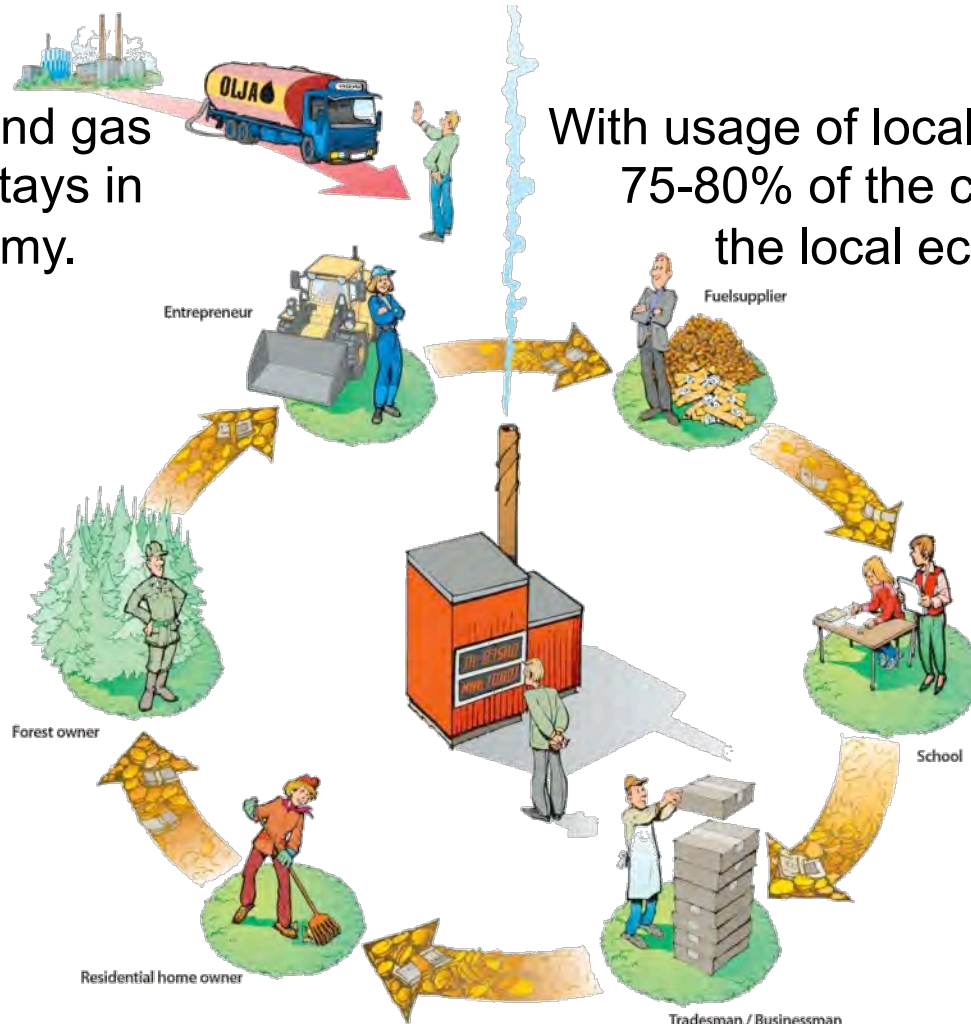
Share of fuel usage of total in Sweden



Economic Impact

With usage of oil and gas
3-5% of the cost stays in
the local economy.

With usage of local biomass fuels
75-80% of the cost stays in
the local economy.





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BIOMASS A BETTER WAY TO HEAT

Scott Nichols

Cherry School, MN



HeatCabin in Cherry MN 785.000 Btu for a school.

Babbit School, MN



Babbit School in Minnesota
Low pressure steam 1,7 MMBTU



Babbit / Cherry projects

- Babbit / Cherry school, first contact 2009
- Approved grant for biomass 2009 \$600,000
- Babbit / Cherry school, startup late 2013 & 2014
 - Extended grant 4 times
 - Downsized equipment 3 times



Midwest commercial projects since 2009

- Prairie Woods ELC, MN 2009
- Northwest Manufacturing, MN 2010
- Wolf Ridge ELC, MN 2011
- Babbit School, MN 2013
- Cherry School, MN 2013
- Northeast Regional CC, MN 2013
- *Sunview Center, MN 2013*

7 projects in 5 years



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Average lead time 3 years !!!

How can we shorten the lead time?



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Critical elements to make it happen and to shorten the lead time.

Grants

Engineering

Fuel supply

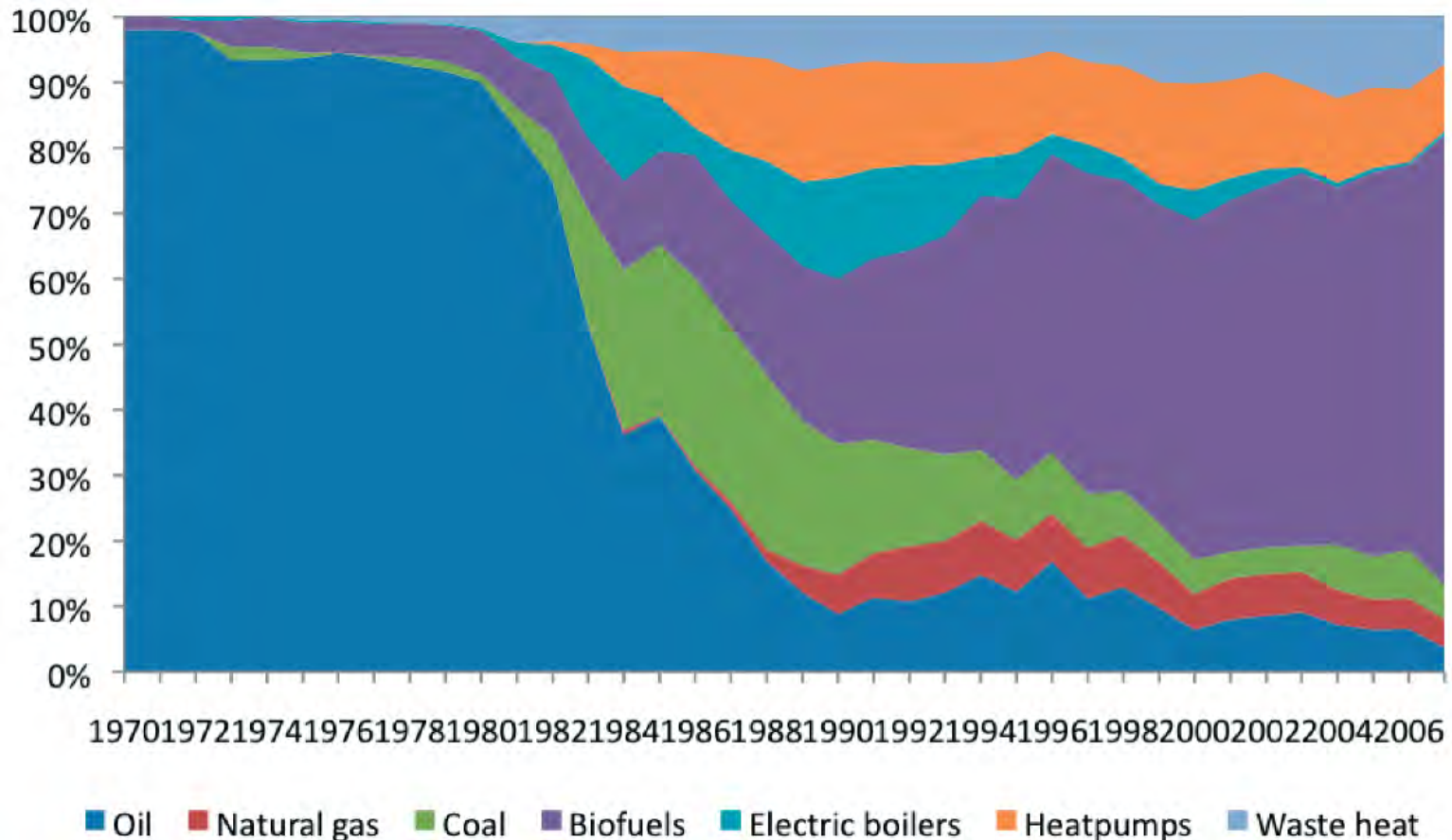


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Only we can do it and make it happen!

Questions / discussion

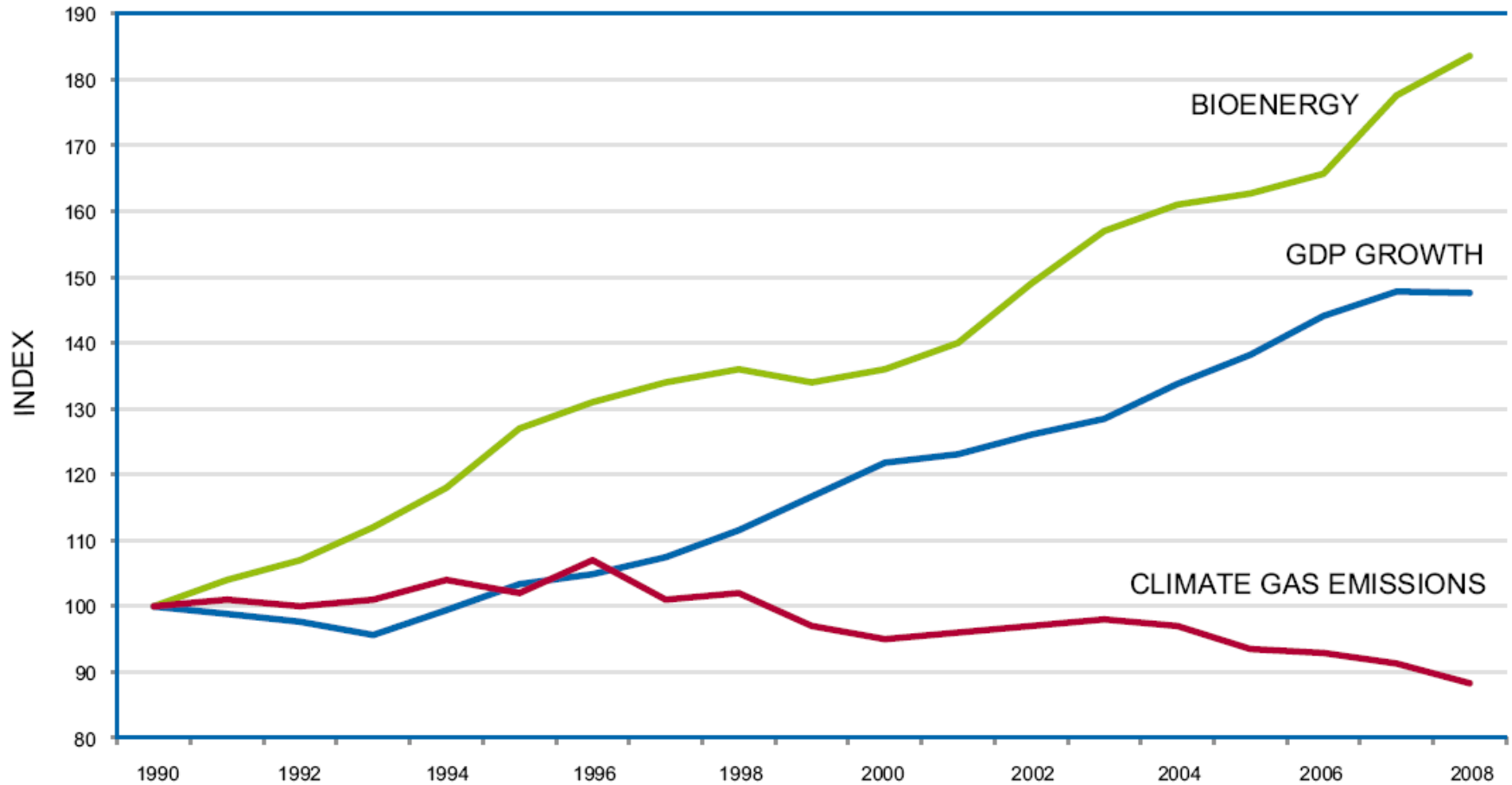
Swedish market – District Heating



Share of fuel usage of total district heat production in Sweden 1970-2007

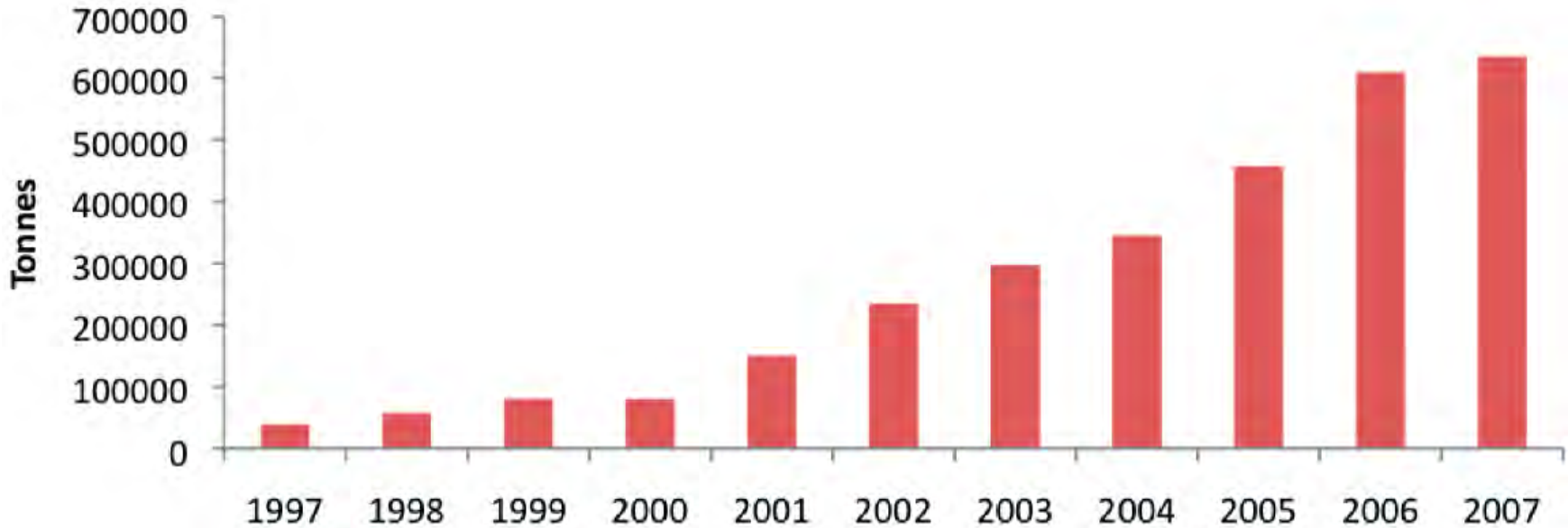


Swedish Carbon Tax



BE +84%, GDP +48%, CGE -11%

Swedish market



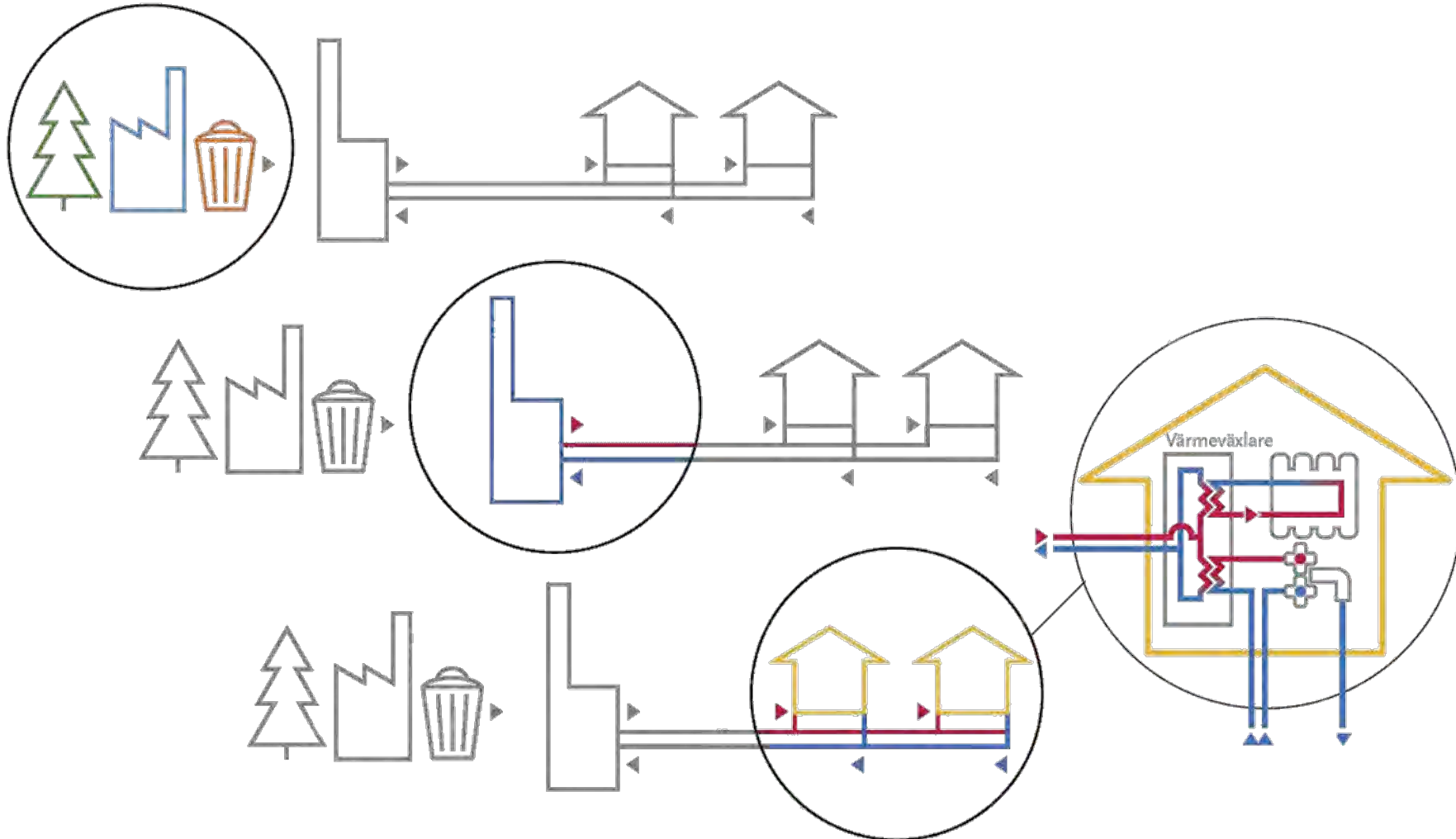
Tonnes of sold pellets to residential houses 1997-2007

What Is District Heating?



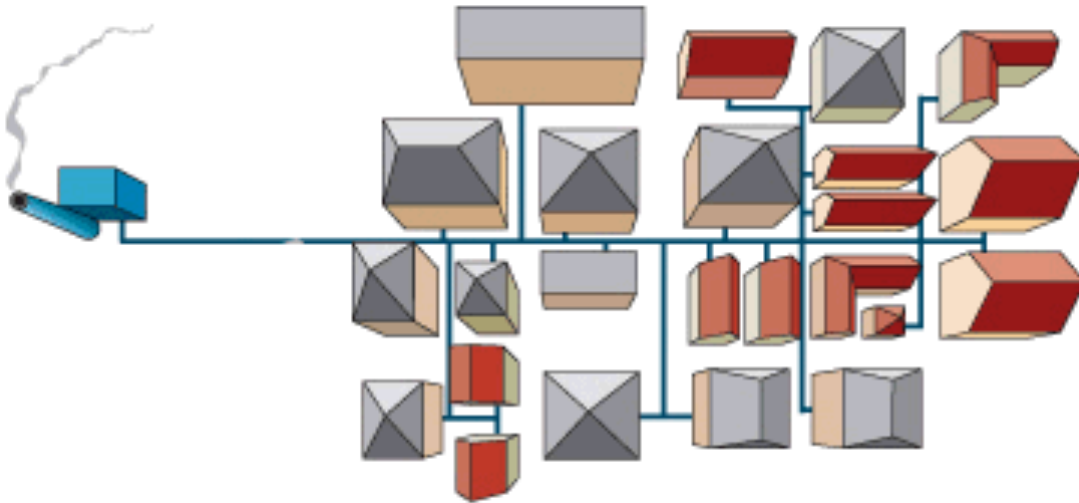
Thermal production in only one plant for the entire city

District Heating How It Works

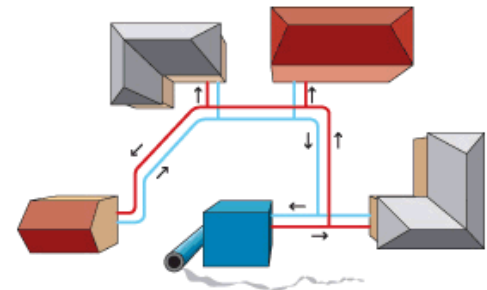


District Heating

District Heating vs Small Scale District Heating



District Heating



Small Scale District Heating



ABioNova Target Groups

Small scale

< 340.000 BTU

Medium scale

340.000-3.500.000 BTU

Large scale

> 3.5 MBTU

ABioNova

- Schools
- Churches
- Hotels
- Town hall
- Resorts
- Small district heating

ABioNova Biomass Boiler



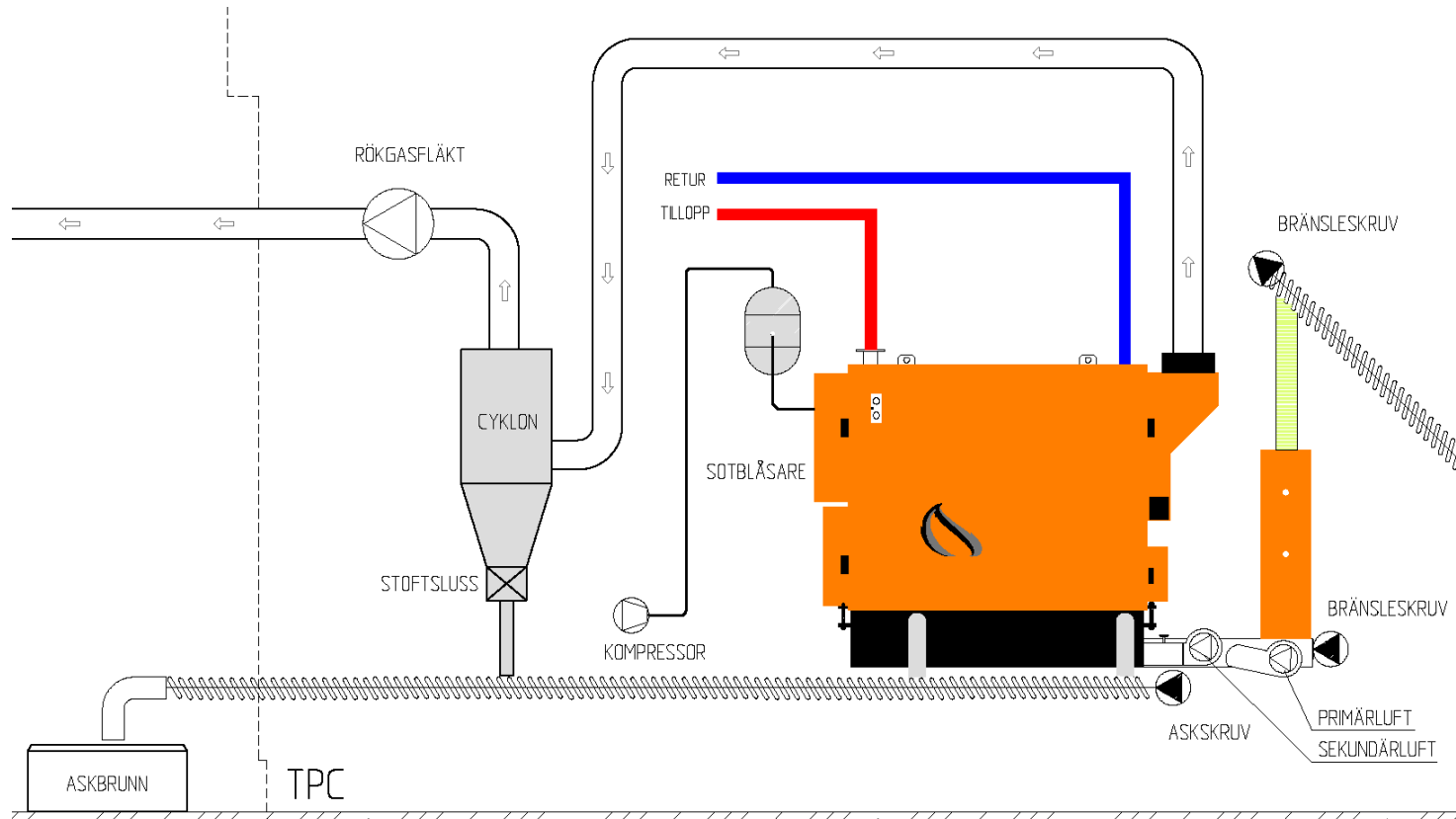
Biomass boiler with NovaReg control both from ABioNova

ABioNova HeatCabin



ABioNova HeatCabin with biomass boiler on the road!

ABioNova System



ABioNova HeatCabin system discription.

ABioNova HeatCabin



Nursing home in Hagfors 340,000 Btu.



ABioNova HeatCabin



ABioNova HeatCabin in Halmstad 1.020.000 Btu for 36 houses.



ABioNova HeatCabin



HeatCabin in Hjortkvarn 445.000 Btu for a school.

ABioNova HeatCabin



ABioNova HeatCabin environmental friendly.

ABioNova Biomass Boiler



Biofuel boiler in Stockholm 3.400.000 Btu for 200 apartments.
Delivery of fuel wood pellet

Small Scale DHP



Pellet DHP in Gislaved 17.000.000 Btu for a school, sport arena and community district heating.

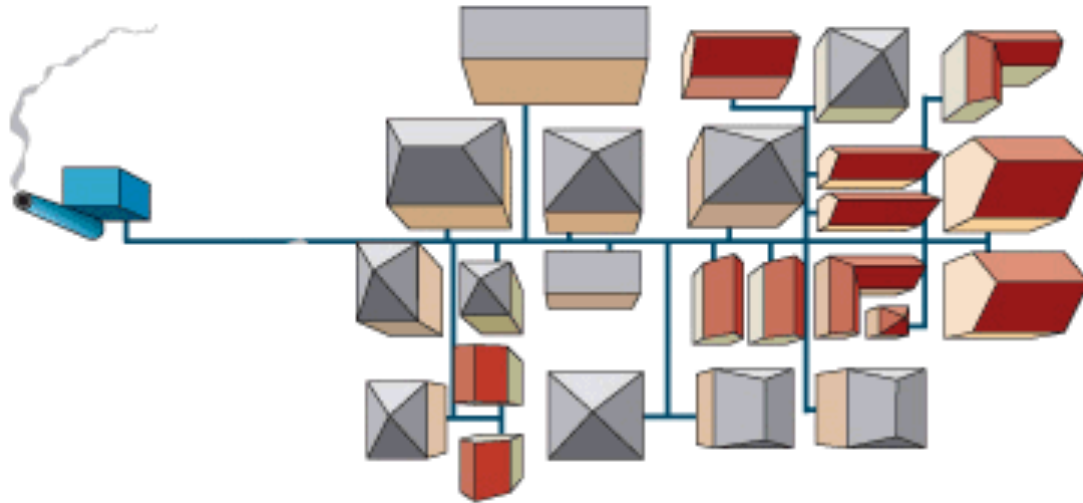


Small Scale DHP 20 MMBTU

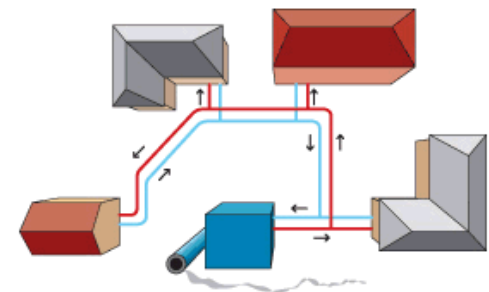


USA Potential

District Heating vs Small Scale District Heating



District Heating

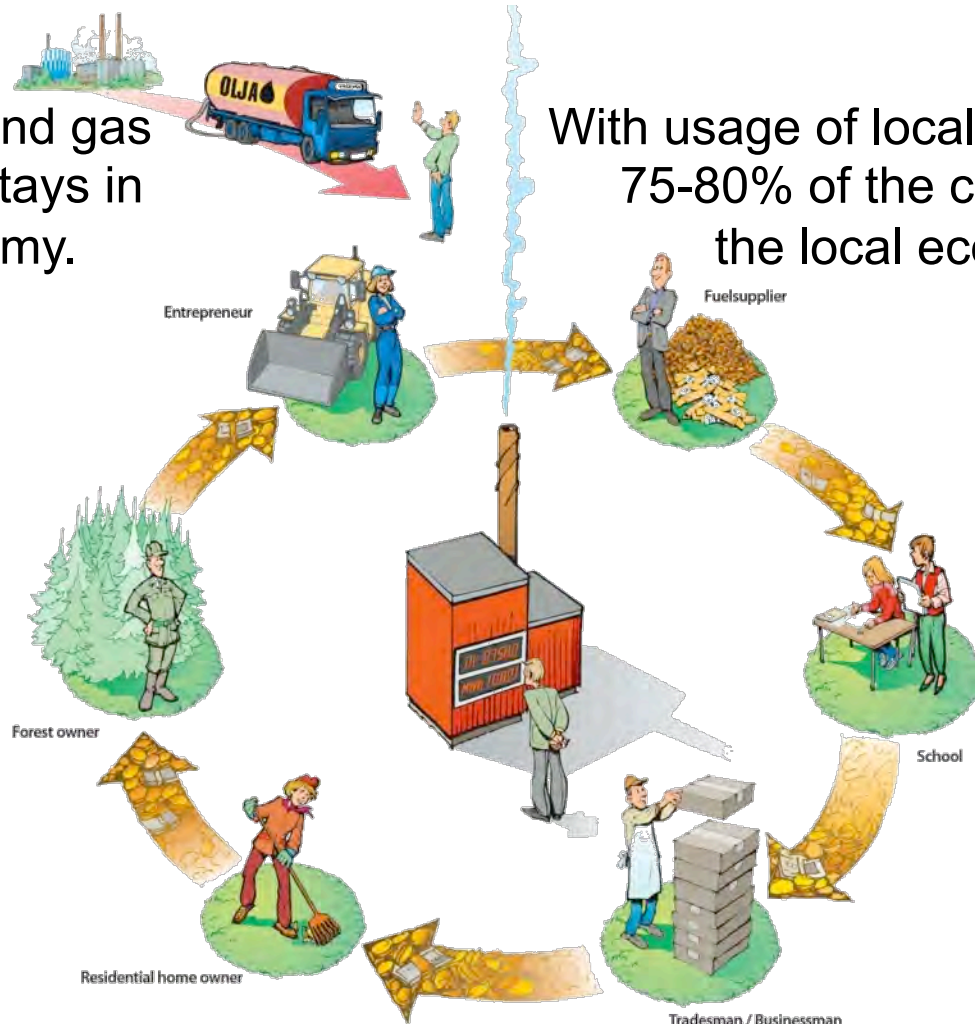


Small Scale District Heating

USA Potential

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USA Potential – Wolf Ridge ELC





Thank You

ABioNova

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