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StandUp: Now and ahead

What are we doing?
Why?
Should we continue doing it?

Perceptions of the “energy transition”.

From a recent edition of ”illustrerad vetenskap”
”All energy can be green by 2050”

Perceptions of the “energy transition”.

Illustrerad vetenskap’s text says
”*we already have all of the technology we need*
[to achieve an energy transition by 2050]

Is this true?

Perceptions of the “energy transition”.

The text says
*”we already have all of the technology we n*eed
[to achieve an energy transition by 2050]

Is this true?
Yes, probably

Is it particularly meaningful to say this?

Perceptions of the “energy transition”.

The text says
”*we already have all of the technology we need*
[to achieve an energy transition by 2050]

Is this true?
Yes, probably

Is it meaningful to say this
Probably not.

In 2010, Chris Voigt, the Executive Director of the Washington State Potatoes Commission lived for two months only on potatoes, to demonstrate that you can (almost) live on potatoes alone.
That you can (almost) live only on potatoes does not mean that this is an appropriate or sensible thing to do.

Perceptions of the “energy transition”.

The idea that the central challenge in the energy sector is the implementation of existing technlogy is probably misleading, and possibly dangerous

In my view, it is completely clear that we need new and better solutions in the energy sector – we need more energy research

Because the unfortunate belief that more research may be unnecessary is being propagated, including in Sweden, it is important that we are active in informing society and decision makers about the realities of the situation.
How is reality?

How is Sweden’s energy transition going?
It depends on how you choose to look at it…..

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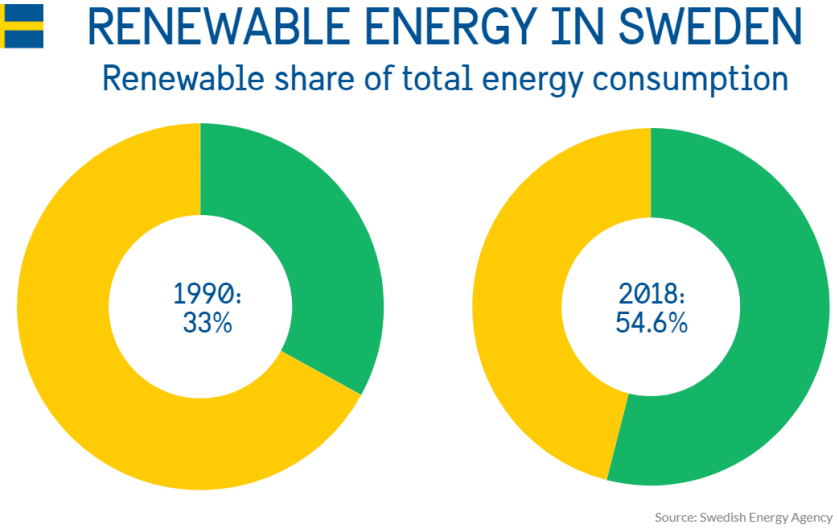

- "*Sweden is a leader in the energy transition, according to latest IEA country review*" (april 2019)[1]
- 55% renewables 2018 (figure)[2]
- The figure is based on data from Statens Energimyndighet [3]

  ➔ We are moving quickly towards a fossil free energy system !

- [1] https://www.iea.org/news/sweden-is-a-leader-in-the-energy-transition-according-to-latest-iea-country-review
- [2] https://sweden.se/nature/energy-use-in-sweden/
- [3] Energy in Sweden 2018: An overview

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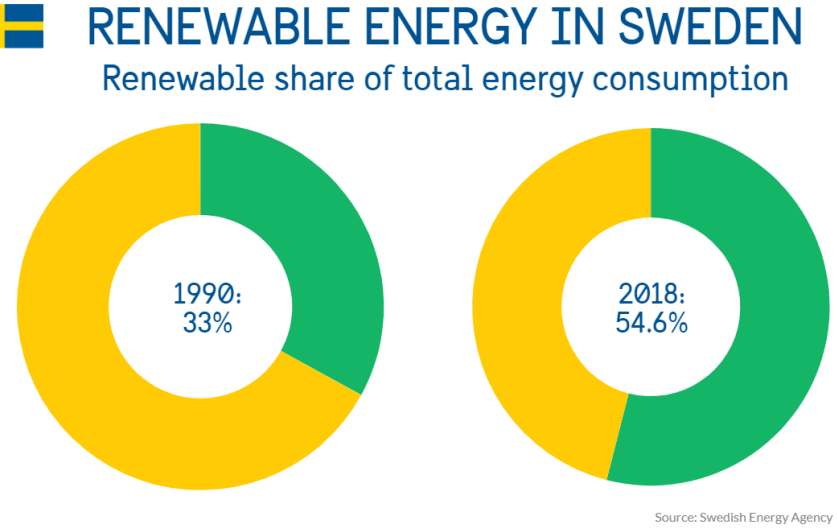

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Are we really doing so well?

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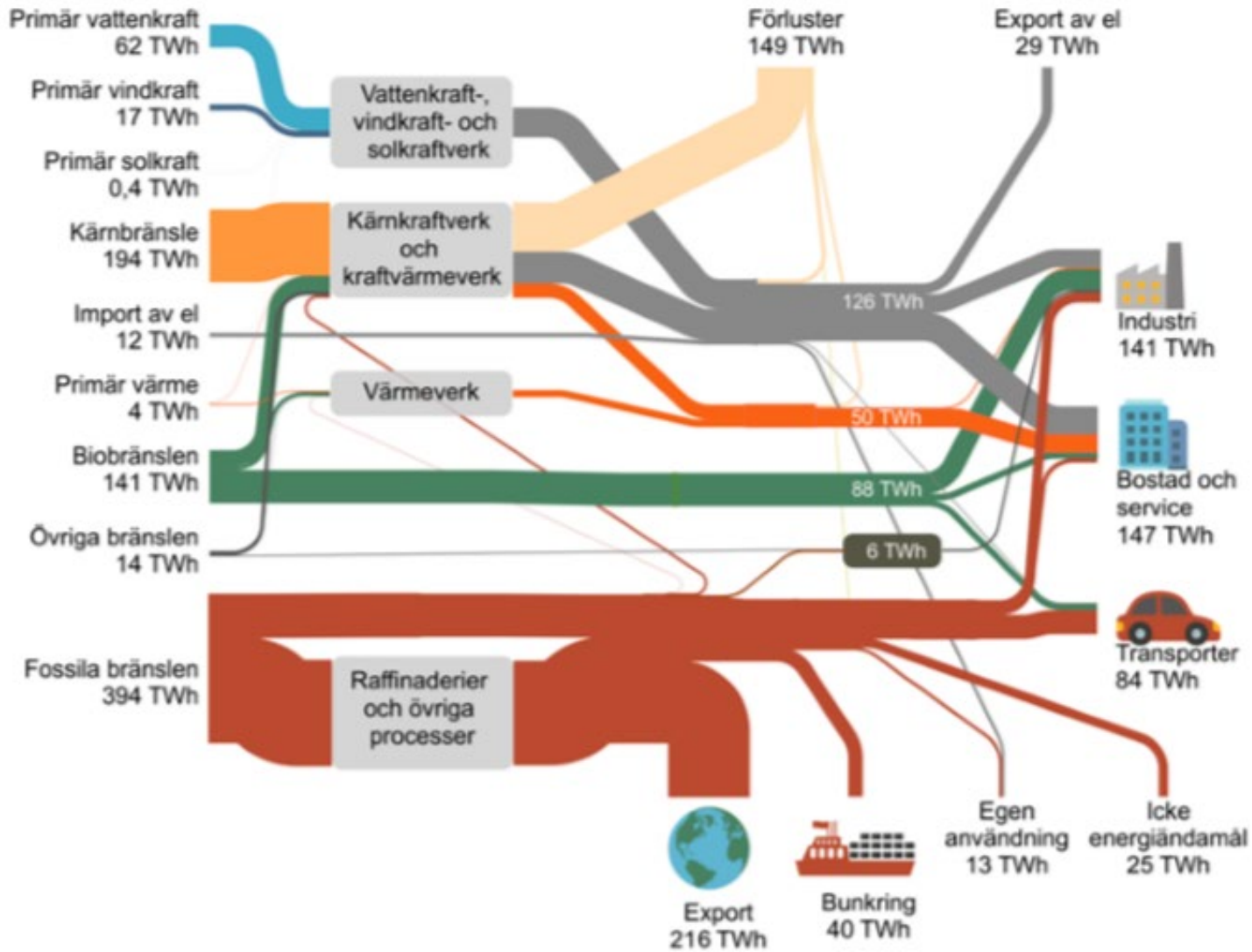

Figur 1 Energitillförsel och energianvändning i Sverige 2018.

Källa: Energimyndigheten, Årlig energibalans.[7]

Swedish Energy authority report ”Energiläget 2020” published last year.
The figures refer to year 2018

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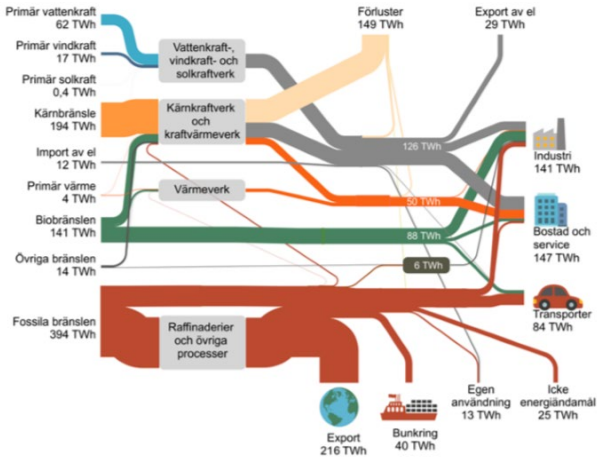

Figur 1 Energitillförsel och energianvändning i Sverige 2018.
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Based on the figure, we can state that in 2018 Sweden was 55% renewable, or 26% renewable

Both ways of calculating are correct – just different

However we choose to calculate, Sweden is still today heavily and structurally dependent on fossil fuels. The main reason is that the alternatives have been relatively expensive or impractical.

Today, an average Swede ”uses” about 1 to 3.5 tonnes of oil equivalent fossil fuels, depending on how you choose to calculate. More, if you include ”our” use abroad, such as fossil fuels used for some transport and to produce products we import.

Thanks to new innovations – including from StandUp - things are improving. But there is a long way to go.

What type of energy research do we need?

We need improved solutions in essentially all parts of the energy sector

Different energy technologies are sometimes complementary, sometimes competing alternatives

As technology and society will evolve over the coming decades, it is naive to believe that we can reliably predict what the energy system will look like in a few decades time

→ A long-term need for energy research in **all** StandUp areas (and others)

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How can we best perform high-impact energy research?

We are experts in our own fields
The energy system is complex→ need to understand some system perspectives to optimize our own research
Socio-economic-technical system understanding is important for implementation

Energy research can be demanding/expensive
→ Coordinated collaboration is often important

Energy research is often complex and long-term
→ Long-term planning and financing are important

Standup-type collaboration can facilitate important aspects of energy research, now and probably far into the future.