

Per Arne Nilsson

15: My personal account

10: Set up Break-out session

50: Team Discussions

40: Report-Out, Discussion,

Documentation of Results

My Personal View is.... We are way off track, not making (enough) progress!

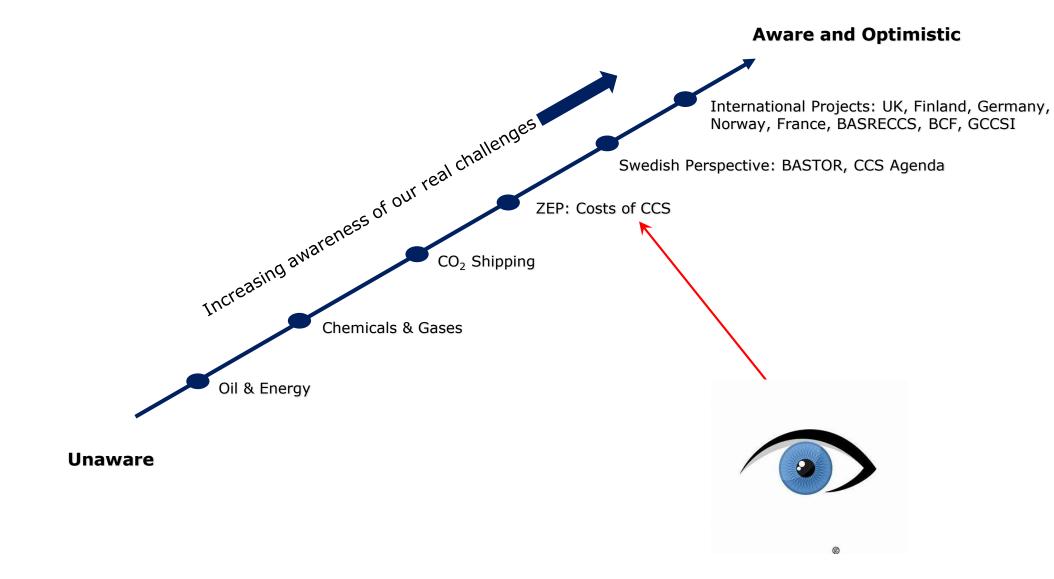


But Respect and Recognition,

So many here and elsewhere drive technical, legal, financial and other development, but Policy Making and Deployment lagging behind, way behind

We must focus on the Tonnage, how much new volume have we stored away, the last ten years, really?

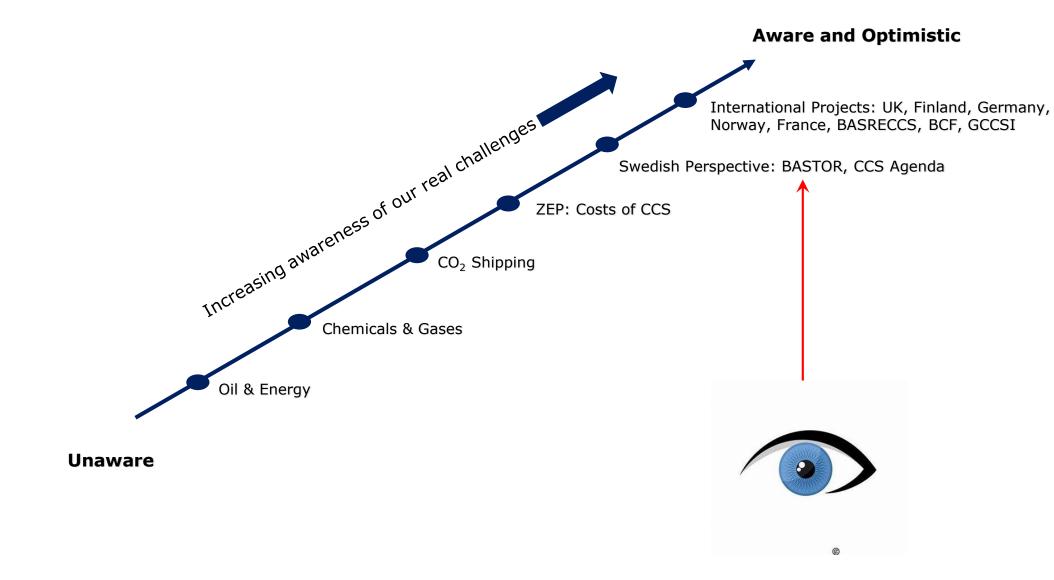
And, what is my own Contribution?

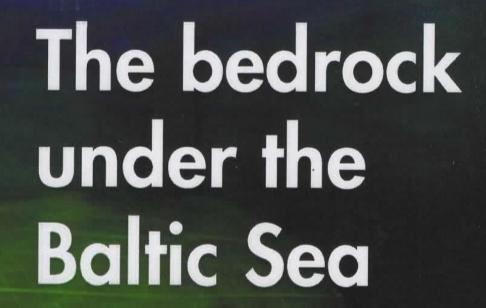




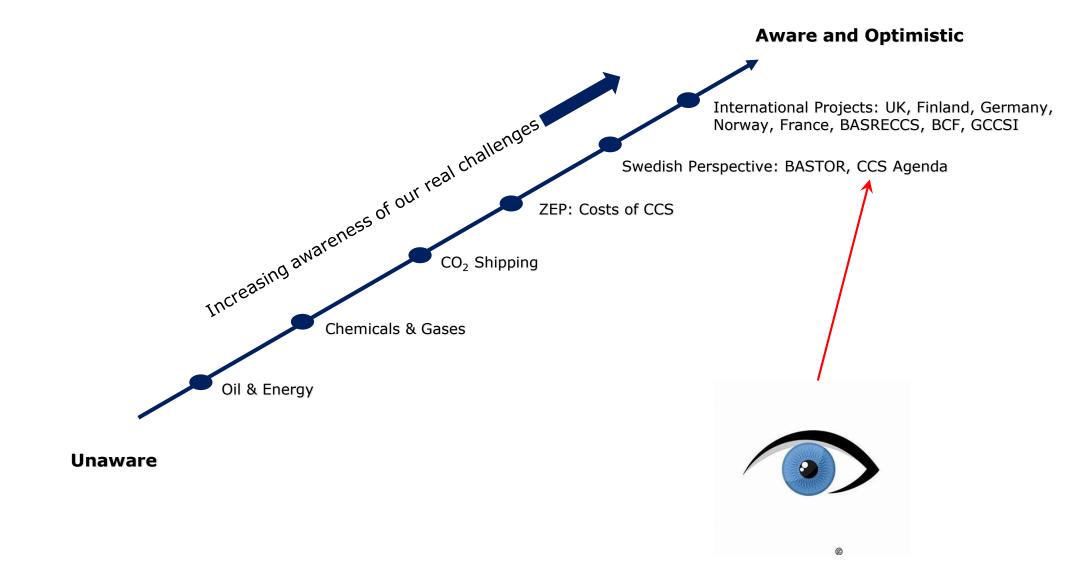
The Costs of CO2 Capture, Transport and Storage Post-demonstration CCS in the EU

on for Zero Emission Fossil Fuel Power Plants

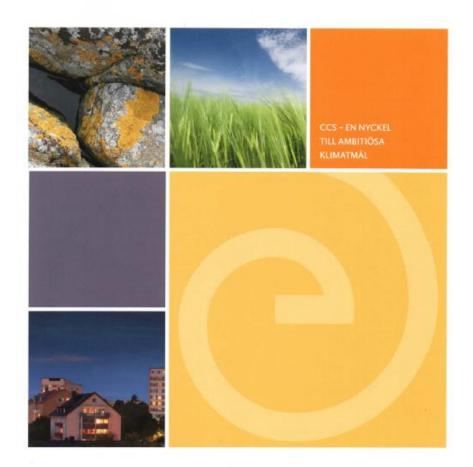




- a possible storage site for carbon dioxide



PROCESSINDUSTRIN OCH NOLLVISIONEN





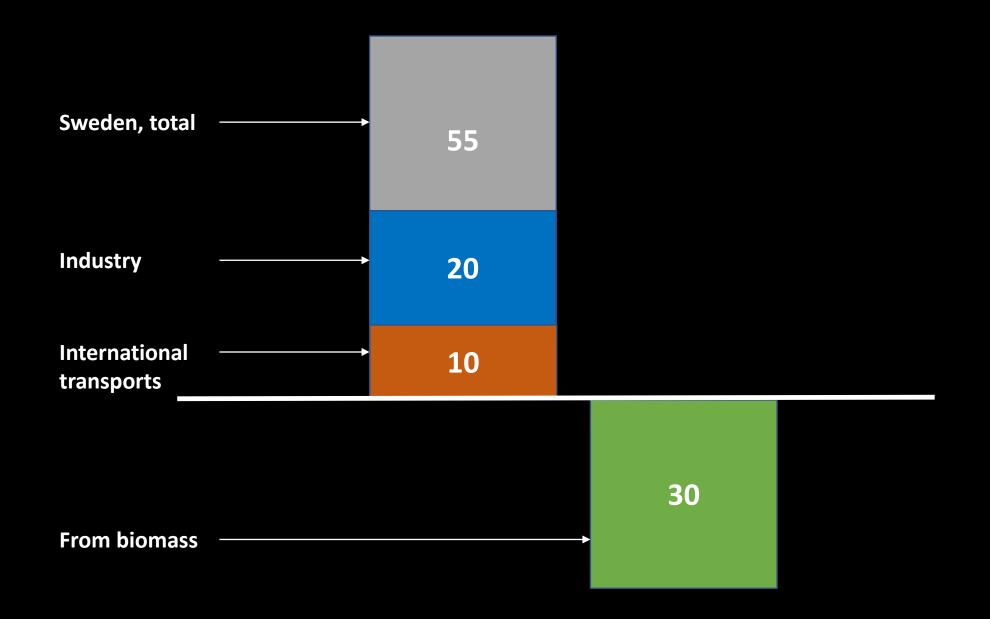
Executive Summary

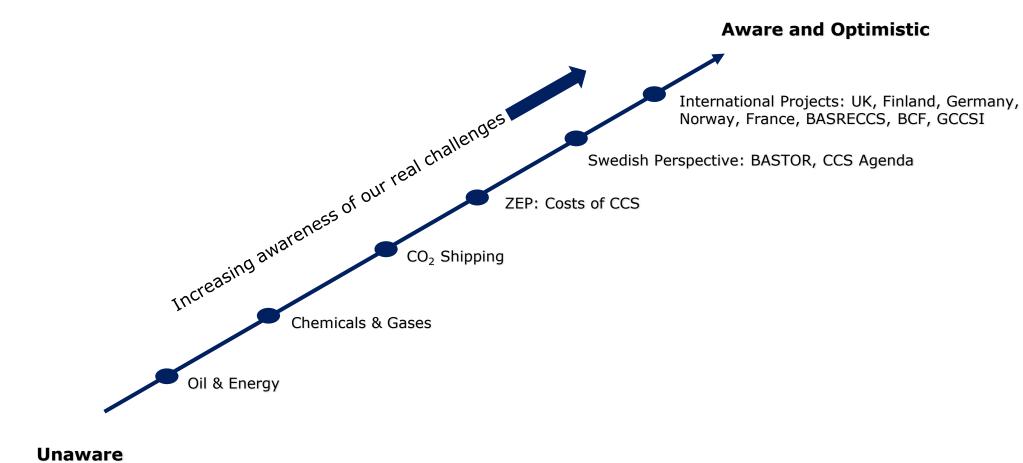
The Swedish base industry is in the forefront in sustainable manufacturing with a uniquely low level of carbon dioxide emissions. The products hold high quality and generate in their respective applications also higher resource utilization.

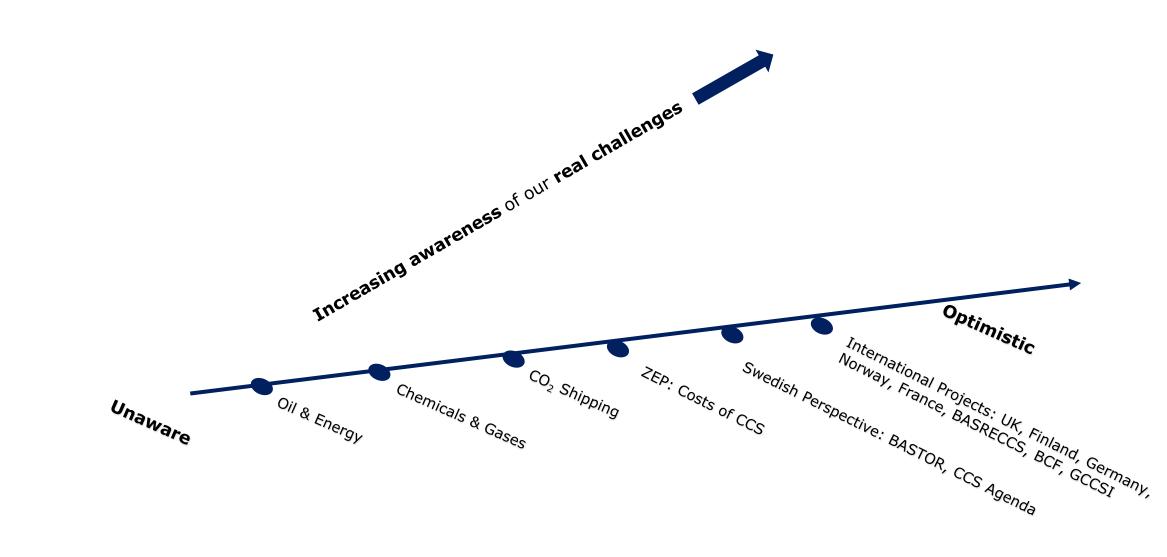
Sweden's total carbon dioxide emissions in 2013 were around 54 million tons. Nearly one quarter of these emanates from the process industry in spite of this having already implemented most of the emission reduction measures available. Therefore the industry needs to be an integrated part of an ambitious Swedish climate mitigation plan, aiming at near zero emissions towards 2050. Although fuel shift and application of new process technologies can further reduce carbon emissions, it is clear that CCS is required if Sweden is to comply with the 2050 climate mitigation targets. Applying CCS will then assist the Swedish industry in taking the lead in sustainable production for a low carbon society by the middle of the century.

This innovation agenda describes both the background and what it would take for CCS to materialize large scale emission reductions in Sweden before 2050. The main conclusions are that Sweden without delay should give priority to

- 1. Elaborating a national strategy for CCS.
- 2. Investigating the conditions and prerequisites for a large scale CCS demonstration project, latest by 2025.
- 3. Creating a comprehensive and coordinated R&D program for the process industry and CCS for the period 2016-2020, to respond to the critical questions for the implementation of large scale CCS in Sweden.





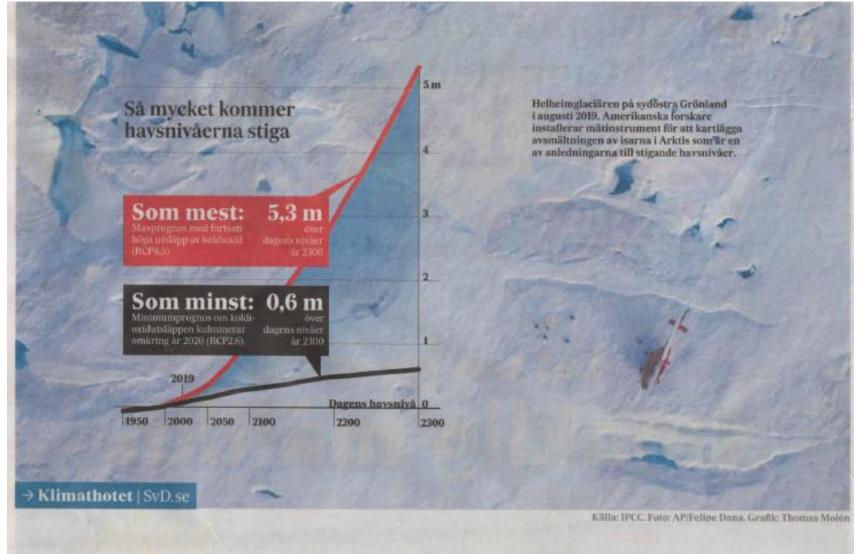




World's Worst Polluters in Disagreement about Climate Solutions

Hottest Five Year Period Ever – and Still Accelerating

Policy Makers'
Pledges Far from
Enough



FN:s nya klimatlarm: Havsnivån stiger snabbare än tidigare trott

New UN Climate Alert:

World Sea Levels Rising Faster Than Earlier Thought Possible

Are we all a bunch of boiling frogs?

But there is room for some optimism, as well....

There is Hope for the Climate

(C:) Negative carbon dioxide emissions should be rewarded

Clean, Swedish Steel presented as a Role **Model at UN Climate** Summit

Ledare | Miljöpolitik

Det finns hopp för klimatet

Catarina Kärkkäinen

Varstans i landet har det under helgen pågått demonstrationer för klimatet, med uppmaningar om att gå från ord till handling. En



Debatt | Klimatpolitik

C: Minusutsläpp av koldioxid ska belönas

Budgeten för 2020 är den mest ambitiõsa miljõbudgeten hittills, med tydligt fokus på grön teknik. Bland annat gynnas den som installerar solceller hemma och pengar avsätts för att starta arbetet med minusutsläpp. Centerpartiet vill nu som ett nåsta steg att Sverige och EU börjar belöna de industrier som tar upp mer koldioxid än de släpper ut.

Det rådande tillståndet för miljön och klimatet är alarmerande och akut. Men vi får inte låta larmrapporterna fórlama oss. Rätt använt kan ny miljö- och klimatteknik bli en tillgång för svensk ekonomi och export. Vi har en lång rad förslag som Centerpartiets partistămma ska ta ställning till nu i veckan.

Centerpartiet föreslår en om-

vänd koldioxidskatt, så att den som varaktigt tar bort utsläpp ur atmosfären i stället belönas för det. Det kan handla om användning av biokol eller andra sätt att binda utsläpp i marken.

Redan i dag ger vi stöd till industrier och energiföretag som arbetar med att utveckla ny teknik för minusutsläpp, genom investeringsstöd i budgeten. I förlängningen vill vi att EU:s utsläppshandel kompletteras med motsvarande handel med negativa utsläpp för att på allvar få fart på utvecklingen av teknik för utslåppsminskning.

För att hitta effektiva sätt att minska utsläppen från transportsektorn måste vi få fart på pro-

duktionen av biodrivmedel i Sve- | blem a rige. Vi vill att en kommission bestående av branschen, forskningen och politiken ska tillsättas för att ta fram skarpa förslag på hur vi på allvar ska få igång produktionen av svenska biodrivmedel som fungerar i dagens motorer. En bil lever i snitt 17 år och även om elektrifieringen också behöver få en skjuts framåt, är biodrivmedel en viktig del av lösningen.

En annan fråga som inte ofta diskuteras men som har förödande konsekvenser är långa tillståndsprocesser. Det är exempelvis de lângsamma processerna för nya elnät som gör att Uppsala, Stockholm och Skåne nu har protillståne myndig service porgare

och kon Vi bel ma pote uppfinn inom m

SUD 24/09 /2019

Blågult rent stål modell på FN:s klimattoppmöte

While on this Optimistic note....

How quickly can enough incentives be put in place for emitters to dare take the first step?

How can the financing institutions make themselves relevant, for both industry and the political circles?

How can financing packages be construed to give enough comfort to decision makers?

BASRECCS' goal is to contribute to one full scale commercial CCUS project in the region, in operation by 2030

Honestly,

How keen are YOU on making a difference, having real impact?

You want to try a Live Experiment of Baltic Sea Region Collaboration?

This is of course voluntary. Please opt out now if you wish to not participate.



Handout – Questions/Instructions

- **3** A The Questions: Two different sets of questions, hand-outs
- 1 Which are the **three most urgent actions** to take and by whom, for the Baltic Sea Region to have one full (commercial) scale CCUS installation in operation by 2030?
- 2 Which are the most important ways for **BASRECCS** to support in these actions?
- 3 How could the Baltic Carbon Forum become more instrumental in CCUS deployment in the Baltic Sea Region?
- 4 Discuss how **Your Team** will bring forward and make useful, the connect you have made during this session?

If time allows, discuss, but no need to report back: Beyond your current job, how do you, individually want to support BASRECCS in reaching its goal? Who do you want to recruit to the BASRECCS network?

4 Report-out: Document your answers for questions 1-4, in Powerpoint, plain text, one slide per question. Present to a larger forum, using no more than 6-7 minutes. Discuss with the other teams.

Post session, provide Peter Molander with your team's answers, by mail or USB.

Handout – Questions/Instructions

- **3** B The Questions: Two different sets of questions, hand-outs
- 1 Which are the most likely candidate (CCUS) projects for deployment in the Baltic Sea Region? Make a ranking!
- 2 Discuss the **biggest challenges** to overcome, for one or two of those (above) to have some progress!
- 3 How should **BASRECCS** best **be organized** to support and facilitate deployment/progress?
- 4 Discuss how Your Team will bring forward and make useful, the connect you have made during this session?

If time allows, discuss, but no need to report back: Beyond your current job, how do you, individually want to support BASRECCS in reaching its goal? Who do you want to recruit to the BASRECCS network?

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