THE NORWEGIAN AVIATION INDUSTRY – OUTLOOKS AND OPPORTUNITIES

Torbjørn Lothe, Director General, NHO Luftfart – Solakonferansen 2018, 19. september

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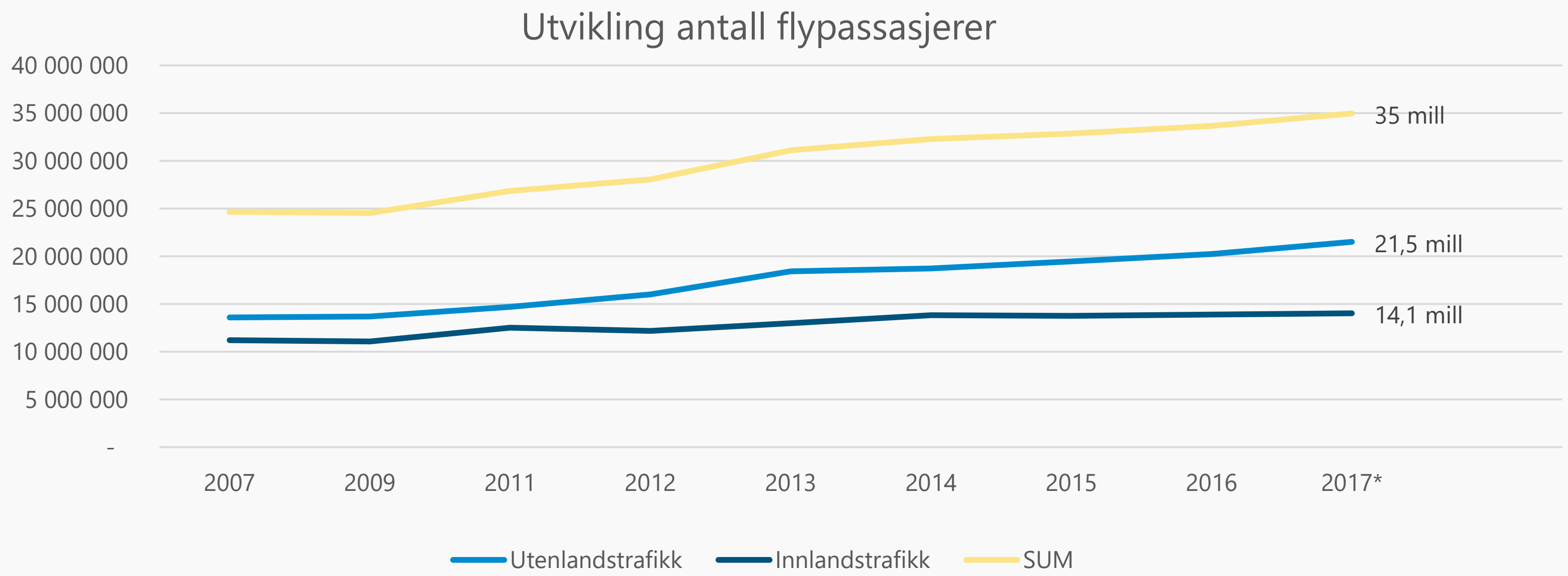
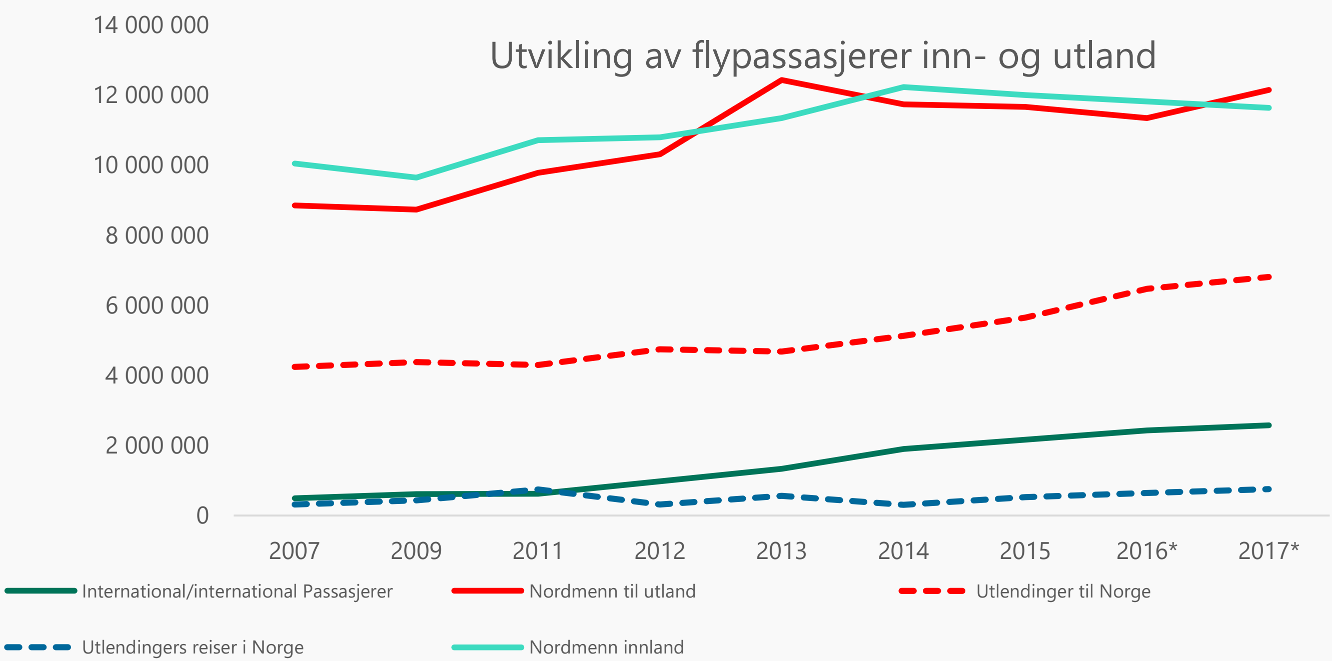
Aviation – an important catalyst for economic growth in Norway

Employees	60.000 – 70.000 med ringvirkninger Omlag 120.000 med katalytiske effekter
Passenger traffic	SAS, Norwegian, Widerøe
Helicopter services	CHC, Bristow, Airlift, NLA, Lufttransport m.fl.
Cluster	Mange selskaper med høy ekspertise
Technical competence	Widerøe, Heli-One, Aero Gulf; AIM m.fl
Civil education	Pilot Flight Academy, OSM, EHC, UIT + 4 landslinjer vgs
Approx 50 airports all over Norway	Avinor (45 flyplasser), Torp, Sørstokken m.fl
Avinor	3300 ansatte (landet rundt)
Norwegian CAA	200 ansatte (Bodø)

35 million passengers in 2017, mostly international



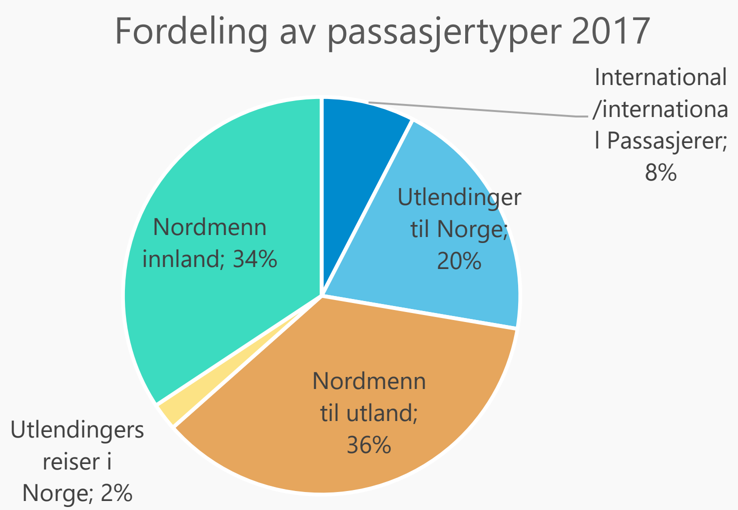
Foreigners account for the traffic growth



Kilde Avinor

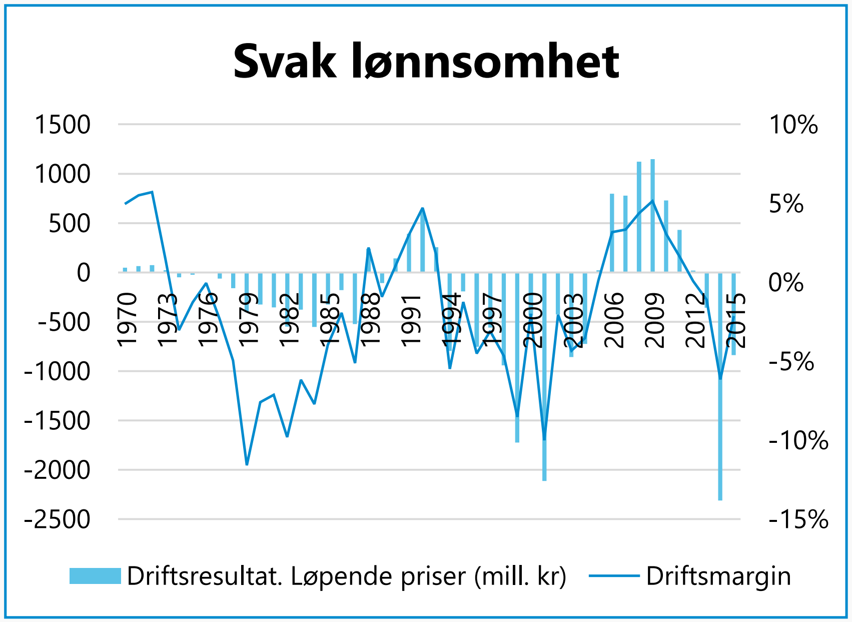
Norwegian's domestic frequency of air travel increased annually with 0,3% from 2007

Snitt vekst per år mellom 2007 og 2017	2007 - 2017
Internasjonal/internasjonal passasjerer	17,9 %
Utlendinger til Norge	4,8 %
Nordmenn til utland	3,2 %
Nordmenn til utlandet per person	2,0 %
Utlendingers reiser i Norge	9,2 %
Nordmenn innland	1,5 %
Nordmenn innland per person	0,3%
SUM	3,5 %



Kilde Avinor

Tough competition and low profit



Tøff konkurranse

- Charter: 46 selskaper
- Rutefly: 52 selskaper
- Frakt: 18 selskaper

Meget svak økonomi:

Minus 2,5 mrd. for hele luftfarten i Norge til sammen 2001-2015

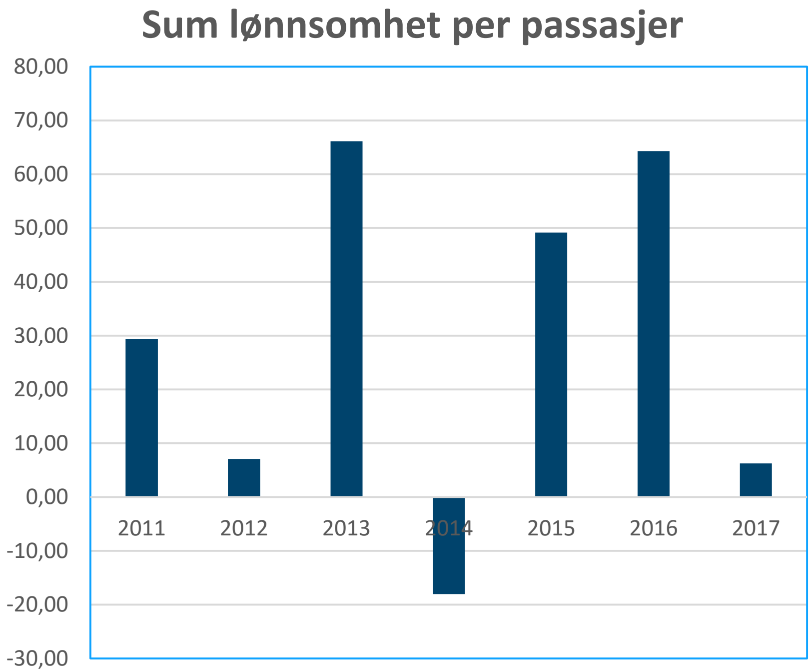
- Norge høykostland (personal & drift)

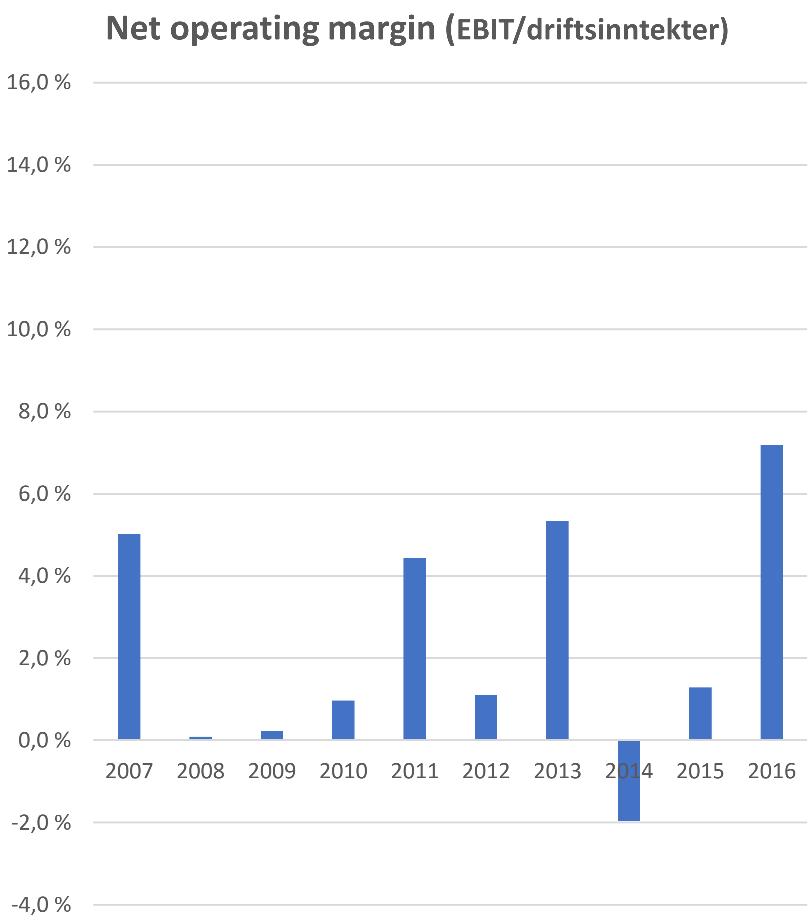
- Norge har i tillegg høyere avgiftsnivå:

- **2 mrd flypassasjeravgift**
- **500 mill nasjonal CO_2 avgift**
- **Økt mva med 500 millioner fra 2016**

Kilde: SSB, nasjonalregnskapstall

Profit margins for domestic airlines





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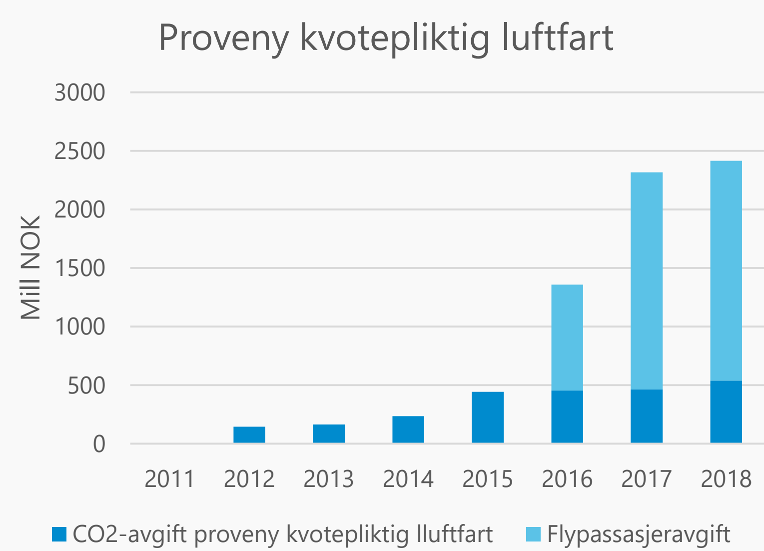
Aviation is heavily taxed

	2014	2015	2016	2017	2018
CO2-avgift (øre/liter)	56	105	108	110	128
Flypassasjeravgift (kr/passasjer)			80	82	83

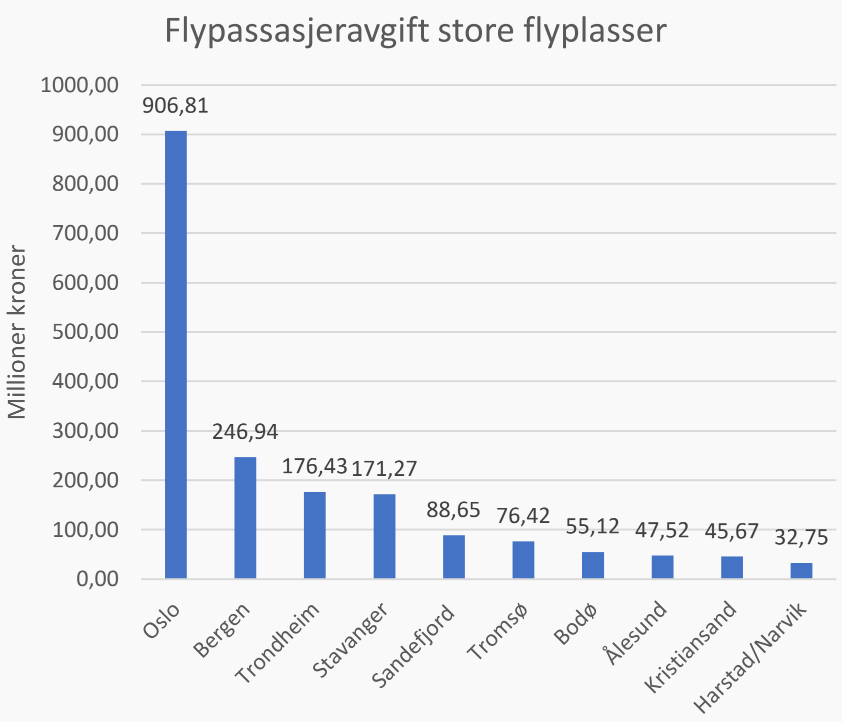
Luftfarten betaler tre ganger:

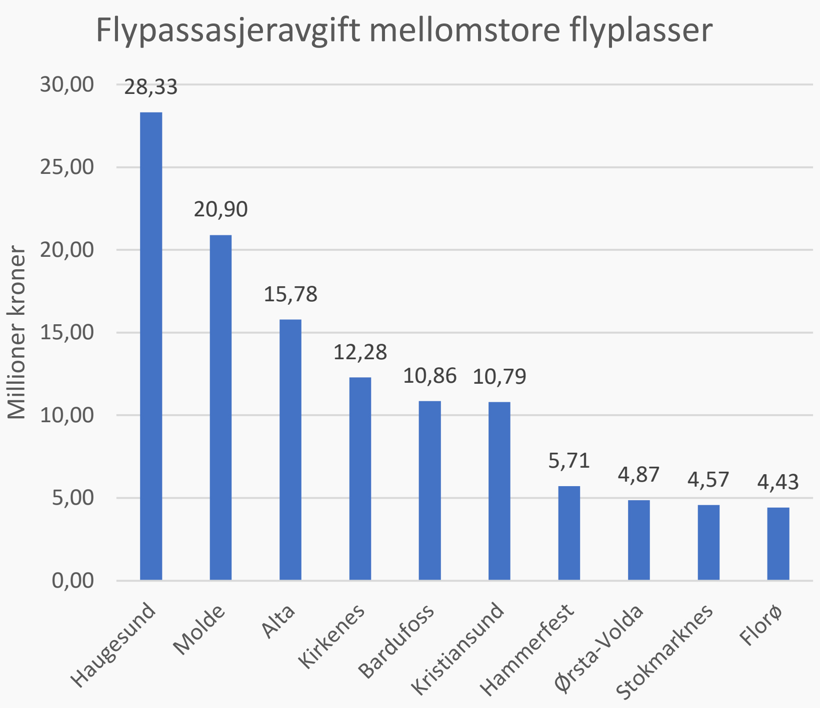
(1) Kvoter, (2) CO_2-avgift og (3) passasjeravgift

I tillegg 2 ganger økt mva på innenriks luftfart – fra 8% i 2015 til 12% i 2018 (+ 500 mill kr)

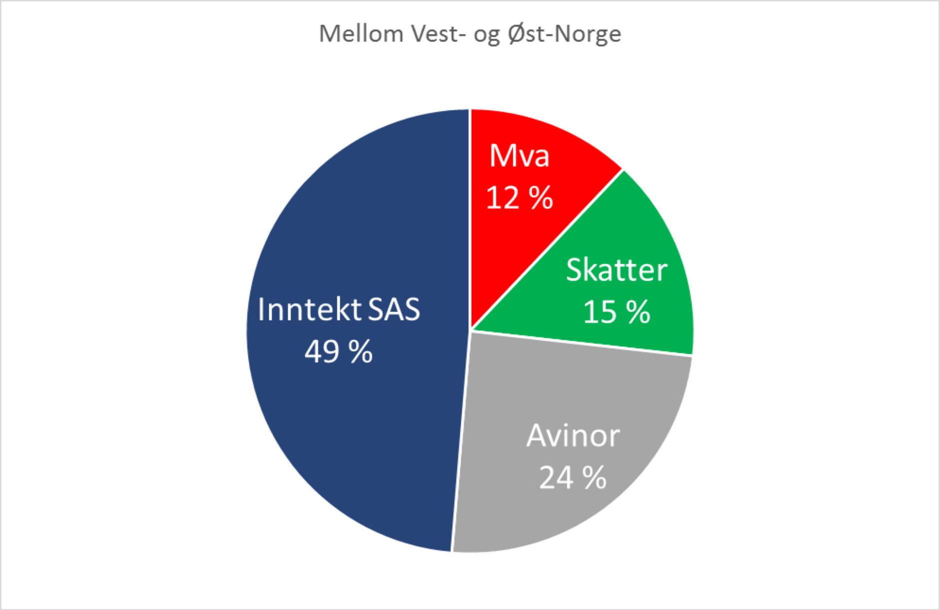


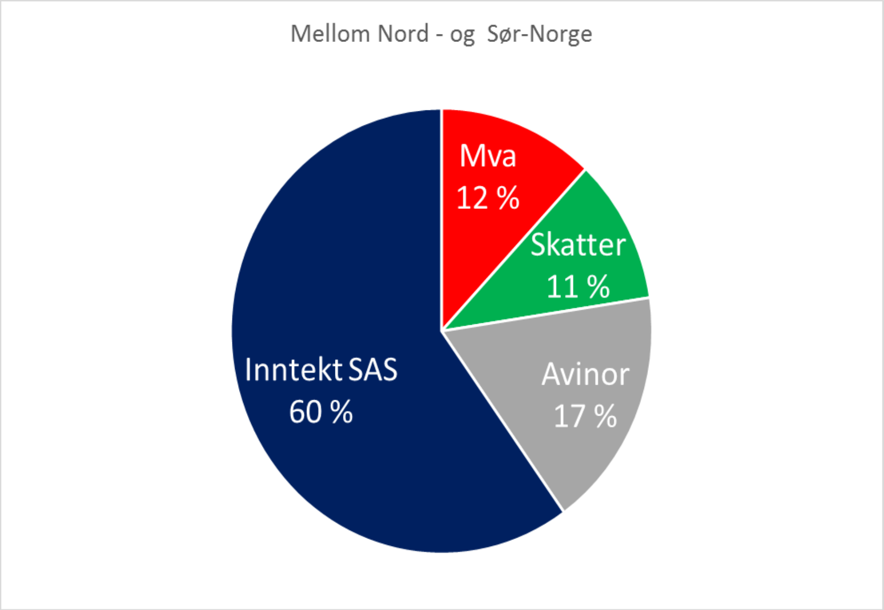
Air passenger tax per airport





Proportion of taxes- and charges in South-Norway and between South- and North-Norway (ex. SAS)





National CO2 emissions in Norway

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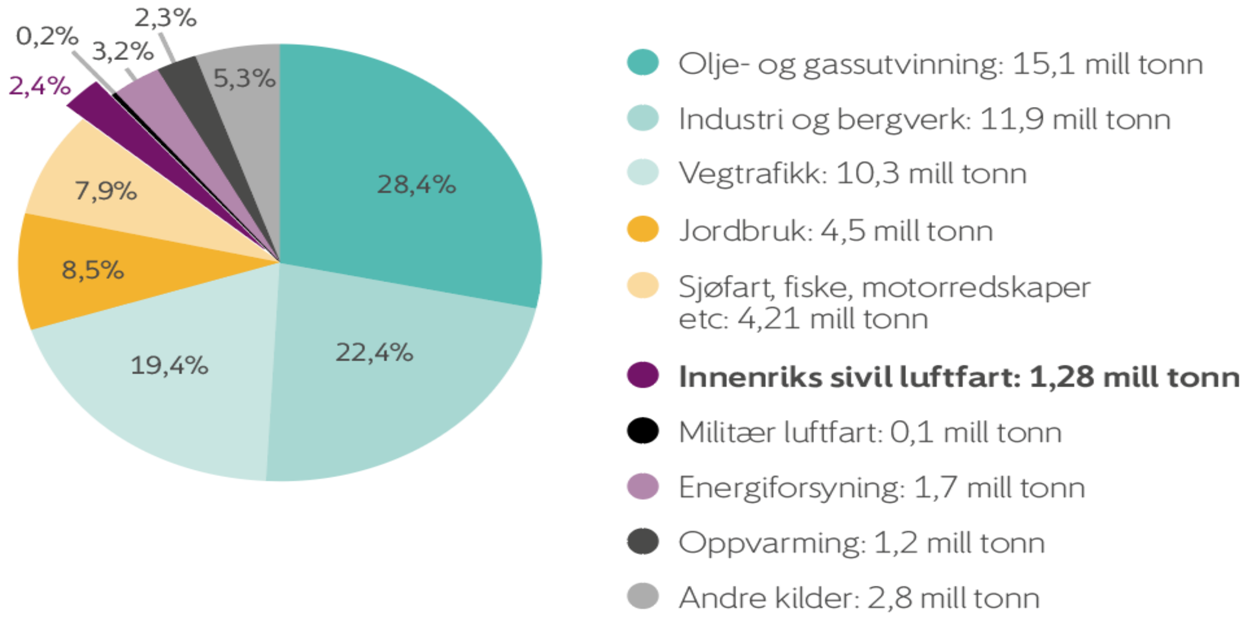
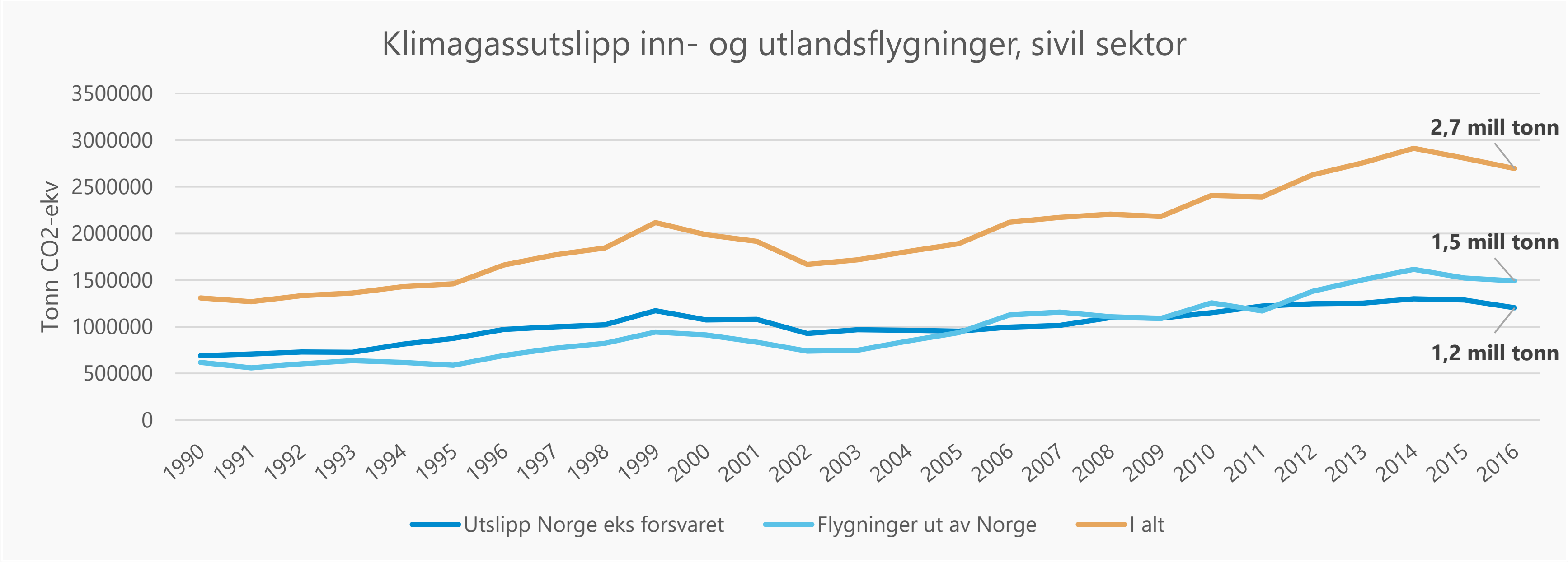


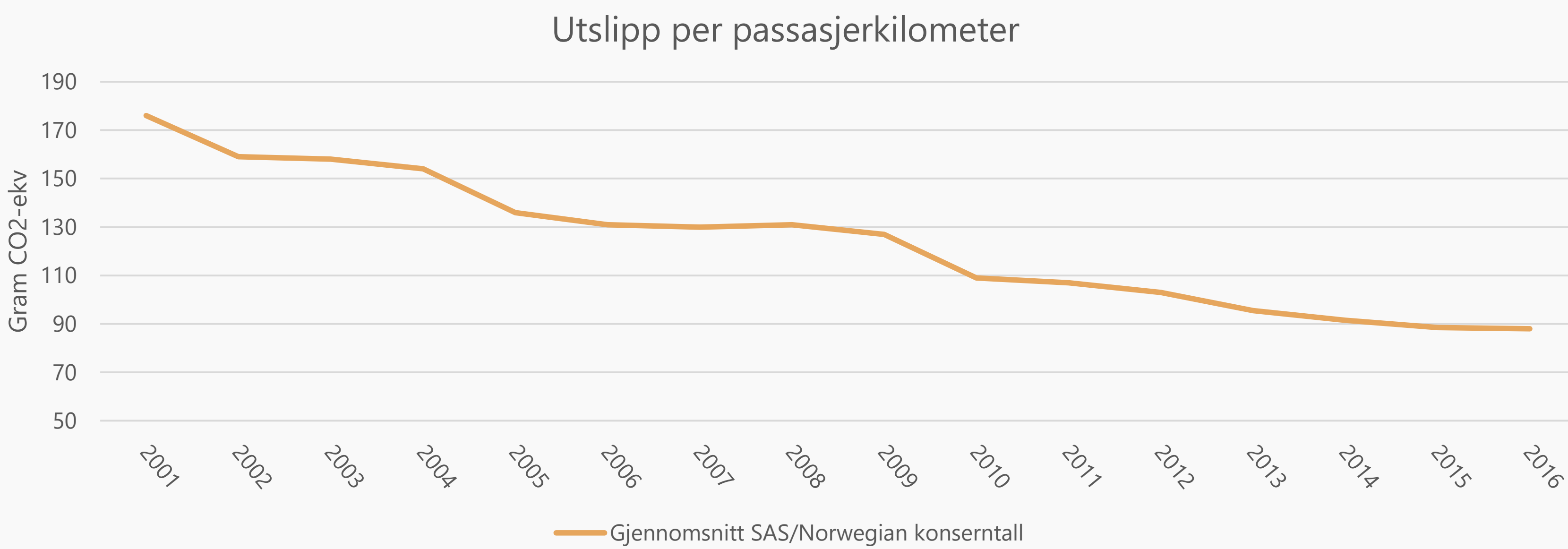
Figur 6: Fordeling av nasjonale klimagassutslipp 2015 (siste offisielle tall).

Emissions from aviation decreasing in 2015, 2016 (and 2017)



Kilde SSB

50 % reduction of emissions per passenger kilometer



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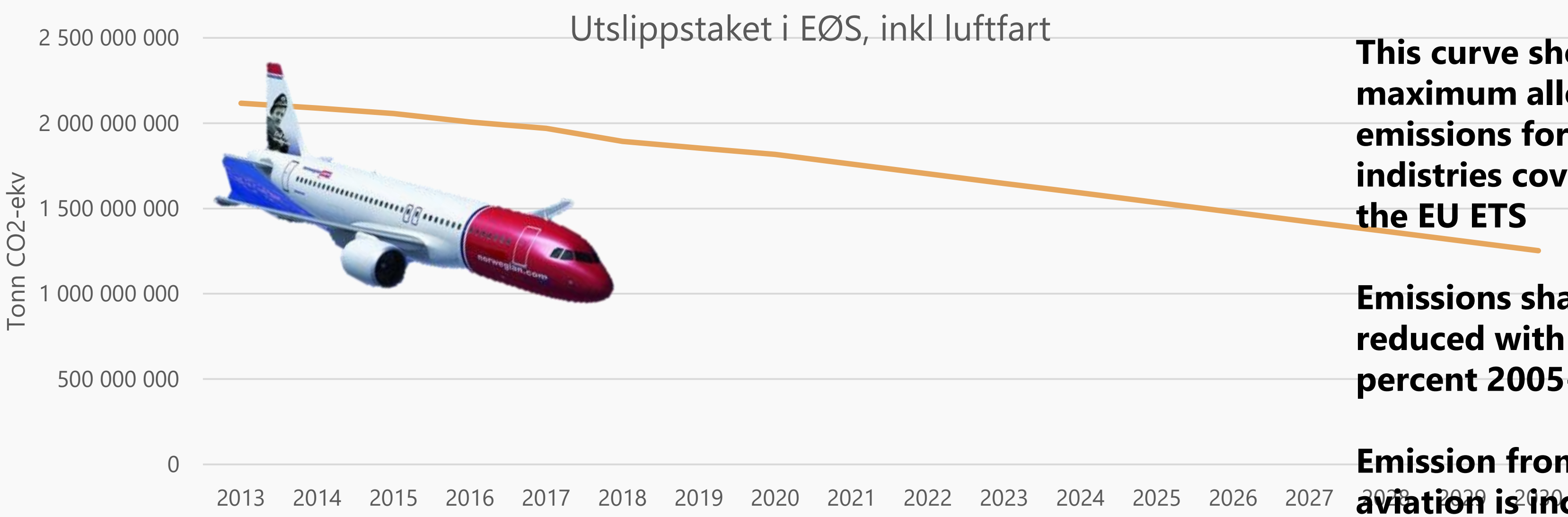
Emissions from aviation covered by EU ETS



This curve shows maximum allowed emissions for all indistries covered by the EU ETS

Emissions shall be reduced with 43 percent 2005-2030

Emission from aviation is included in this cut

Climate action that works....

1. Participation in EU ETS/CORSIA:

- Will motivate covered sectors to reduce their own emissions
- Funding of environmental measures in other sectors

Will enhance (international) technology development:

- **New and more energy efficient aircraft**
  - Requires a sustainable and solid economy
- **Smarter flying**
  - «green» landings/departures
  - direct routes (SES)
- **New, sustainable technologies**

2. Pro-active national measures:

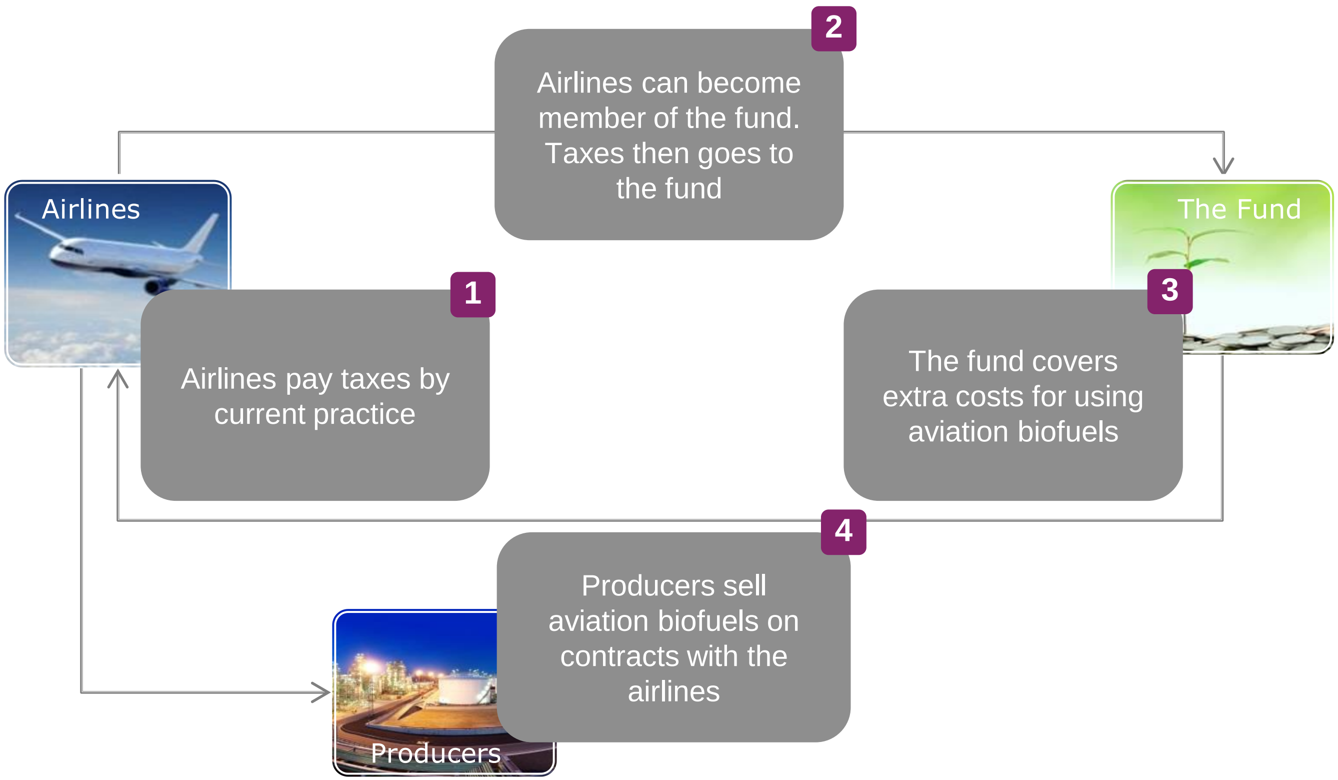
Biofuel

- Certified for use on aircraft
- 2nd generation sustainable biofuel is technically possible and can be blended with conventional fuel
- Can already now be produced in Norway using materials from the forest/trees and within a few years using micro algae
- Effective incentives must be established
- Today, biofuel is to expensive but could be financed through a CO2-fund until a commercial market is created
- Honors the principle «polluter pays»
- A «blend in» requirement for biofuel is not a suitable incentive for stimulating a lower price

Facilitating the use of electric aircraft -

- Interesting for shorter journeys
- Lots of research, development and deployment remains
- Can become a reality in 2030

CO2 FUND CONCEPT



What

What are the perspectives?

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1. We must prepare for more competition and globalization
2. The industries' competitiveness will be further enhanced
3. New technologies will emerge (drones etc) – we must adapt
4. Climate realignment will (soon) reach us – (el, hydrogen and biofuel)
5. Renew and enhance cooperation between employers and employees
6. Enhance private services within SAR, ambulance, surveillance etc.

1. More competition and globalization

- EU will further enhance the internal market
- New liberal EU aviation agreements with «third countries»
- Further deregulation of the aviation industry - from fixed wing to rotor wing?
- The aviation marked is dynamic – consolidation but also new entrants – more competition?
- Focus on costs has increased and will further increase
- New organizational forms/multinational carriers
- More flexible staffing arrangements
- "Looser forms of ownership" of aircraft, and support services
- Generally - more outsourcing

2. Competitiveness

More competition leads to a more effective aviation industry, however Norway has competitive disadvantages in two areas not harmonized in Europe:

- Taxes and charges
  - Tax on labor
  - Income tax
  - Environmental taxes
  - Fiscal taxes
  - Corporate taxes
- Labor laws – national collective agreements
  - Wage level
  - Social costs (pension, sick leave, insurance, leave of absence, days off)
  - Working time arrangements
  - Employment forms

National arrangements based on laws og agreements. Reflects the level of the Norwegian cost- and welfare system.

3. New technologies

- Technology is a key driver for change

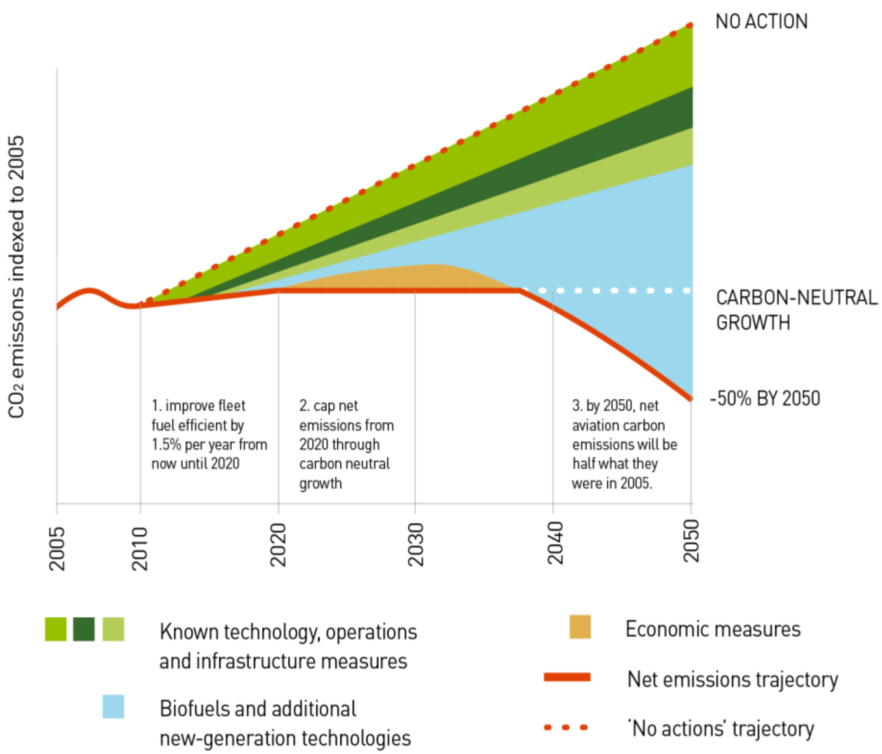
  - "Game changing" technological developments are expected; for example,
    - New types of drones, including for transporting people
    - Electric aircraft
    - Hydrogen aircraft
    - Increased digitalization
    - Further developments in autonomous systems and human–machine interfaces
    - New manufacturing techniques and use of new materials

- May create new security vulnerabilities and cause legal concerns – needs to be tackled

4. ENVIRONMENT – AND CLIMATE CHALLANGE

- EU ETS will require 43% reduced CO_2 emissions in 2030
- CORSIA will be established in 2020/2021
- Carbon price will increase considerably
- Many countries will also implement additional national environmental measures
- Fuel costs will remain relatively high
- Strong incentives to reduce emissions
- New technology will be implemented
- Pro-active measures in order to strengthen domestic competitiveness
- How will the helicopter industry tackle it's environmental footprint – maybe especially noise?

Aircraft emissions shall be halved within 2050



The industry goal is to reduce emissions from CO_2 from today's level with 50 percent within 2050.

This reduction is sufficient to ensure that air traffic's contribution to global heating is kept below 0,05 degrees Celsius.

The use of second generation sustainable biofuel and electric airplanes will gradually totally reduce the emissions.

To find and implement means to reduce- and even remove emissions is highly prioritized.

Kilde: IATA

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5. Improved employment relations

- Ability to have dialogue and a mutual understanding of problems on both sides of the "table"
- Ability to resolve challenges
- A common «world view»
- A shared understanding of the need for change
- To be able to find good and necessary solutions – for both parties

This can be very challenging and takes time to establish such a climate

Do not wait until the last second…..

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6. New business opportunities providing state services

- SAR
  - Can complement the new SAR helicopters
  - Provide more operational flexibility
  - Cover any shortcomings in capacity – contingency plans
  - More flexible private solutions for financing of new helicopters – making the process of introducing new material more easy
- Police
  - The new police reform requires more capacity for long range transportation
  - Cover any shortcomings in capacity
  - Can provide assistance under certain categories of situations – defined through contractual obligations
- Army
  - Total defence concept
  - Contingency plans
  - Large and long range transportation
  - Provide additional support when needed
- And, secure continued private operation of air ambulance services in Norway

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6. cont. Improved procurement processes - aerial work

- Differs from the offshore market
  - Ad hoc private marked – small businesses
  - Energy- and construction is important, big customers
- Less focus on standardised minimum requirements relating to the service offered
- Highly price driven business
- There is an established norm for procurement of such services within the energy sector– but is it followed?
- Builders often use subcontractors
- More seasonal work – shift in need of services and labour
- Less regulated working conditions for the employees

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Implementation of HOFO in Norway

- The Norwegian and Icelandic government have decided that the HOFO-regulation should not be taken into the EEA agreement
  - Reasoning: outside the geographical scope of the EEA Agreement but maybe more importantly:
  - The Norwegian CAA recommended that HOFO should not be taken into the Agreement
- The EU Commission has been informed of the EEA EFTA decision
- The Commission has, as far as we know, not informed the EFTA side if they agree with this decision or not
  - Possible consequences of disagreement between the EU and the EEA EFTA side?

Implementation of HOFO in Norway cont.

- By deciding not to take the HOFO-regulation into the EEA Agreement, Norway can maintain and/or introduce additional national requirements such as
  - Norwegian AOC and supervision by the Norwegian CAA
- This would not have been possible if the regulation had been taken into the Agreement, however:
- Norwegian CAA will implement most of the HOFO-regulation through a national regulation
- Enter into force shortly

The regulatory framework for the Norwegian aviation industry should be improved

- **The Government have signalled that they will adopt a national strategy for the Norwegian aviation sector**
  - The strategy should facilitate that the industry's conditions are competitively favourable as to ensure that the standard of transport can be upheld in/to/from Norway
  - The Industry is now calling for action and asks the Government to fulfil their promise developing a strategy
- **Need for a comprehensive and efficient environmental policy**
  - Should ensure the EU ETS works as intended
  - Should not have additional national environmental taxes – should be reduced and abolished, ref «Grønn skattekommisjon»
  - Establish economic incentives for the production of aviation biofuel stimulating new technologies
- **An aviation strategy should have an assessment of all relevant taxes and charges**
  - Should reduce taxes and charges for domestic aviation (including no additional increase of the VAT level)
  - Should ensure harmonised terms and conditions for an international industry
- **Restructuring and modernisation in Avinor**
  - Potentially problematic that the Ministry of Transport is both the owner of Avinor and at the same time Avinors' economic regulator
  - Avinor Flysikring should be completely separated as a company from the airport side
  - The State's economic return on investment and dividend should be reduced
  - Third runway at OSL should be built when there is an actual need for this expansion

Thank you for your attention!