Version 2017-03-31

Meeting: **N-ALM/57** (Nordisk Arbejdsgruppe om Luftfartens Miljøforhold)

Date: 15 - 16 November 2016

Venue: Helsinki Vantaa Airport

**Draft report N-ALM 57**

Date and time: Tuesday 15 November 13:00 – Wednesday 16 November 12:00

List of participants – see annex 1

List of actions – see annex 2

Presentations from the meeting can be found on the Danish Transport and Construction Agency’s webpage: <http://www.trafikstyrelsen.dk/DA/Luftfart/Forum/N-ALM/presentations.aspx>

**1.** **Opening of the meeting**

Jens Erik Ditlevsen opened the meeting.

Deputy to Director General of Civil Aviation, Finland, Matti Tupamäki, welcomed the N-ALM group to Helsinki.

**2. Administration**

* 1. Adoption of the Agenda. The agenda was adopted without amendments.
	2. Approval of the Minutes from the 56th meeting. The minutes were approved with a minor correction.
	3. Actions from N-ALM/56. The meeting went through and closed all actions:
		1. Climate adaptation and local air quality shall be put on the agenda for the next N-ALM meeting. On the agenda for N-ALM 57.
		2. N-ALM members are still welcome to introduce other relevant bodies (airlines, service providers, and authorities) to participate in N-ALM meetings. Isavia is now presented in the group. Finnair will contact SAS for possible future participation. ACTION 1.
		3. Chairman will forward a draft report to NOLU. Done – see item 3.
		4. Shift of chairmanship shall be put on the agenda for the next N-ALM meeting. On the agenda for N-ALM 57.
		5. Nordic CAEP representatives welcome Nordic biofuel experts to AFTF and also experts to the other working groups. Shall be put on the agenda for the next N-ALM meeting. On the agenda for N-ALM 57.
		6. Everybody should consider: What would we like to prioritize and who can participate in the CAEP work. On the agenda for N-ALM 57.
		7. Implementation of EU Regulation 598/2014 shall be put on the agenda for the next meeting. On the agenda for N-ALM 57.

**3. Structure and work of N-ALM**

1. N-ALM work plan 2014-2016: Jens Erik Ditlevsen went through the main topics in the work plan. A new plan shall be made in connection with shift of chairmanship.
2. New chairman of N-ALM: Jens Erik Ditlevsen thanked for a good participation recent two years. Sweden is the next in the circle. Marie Hankanen informed that she – by e-mail – will ask for input concerning items for the new work plan. ACTION 2.
3. Reporting to NOLU: Reports etc. have been sent to NOLU. This year a short report was sent to and accepted by the NOLU meeting.
4. Update of the list of contact persons and their e-mail addresses: The lists were passed around for amendments – they will be put on the website.

**4. News from member organizations**

Participants are invited to inform the meeting briefly on relevant issues in their organizations/countries (all):

1. *CAAs and ministries*

Sweden. An official report about taxes in aviation will be launched by the end of November. It might include a tax on fuel. Furthermore a project concerning a national strategy for a fossil free transport sector is going on. For more information about this SOFT (Strategi för Omställning till Fossilfri Transportsektor), see this [link](https://www.energimyndigheten.se/klimat--miljo/fossilfria-transporter/nationell-strategi-for-att-stalla-om-till-en-fossilfri-transportsektor/) and about a report on obstacles – see this [link](https://www.energimyndigheten.se/nyhetsarkiv/2016/en-fossilfri-transportsektor-kraver-samordning-och-engagemang/). Several Swedish authorities are involved in the work. The Swedish Transport Agency is now preparing a yearly paper called Aviation Trends including environmental topics. Marie Hankanen will forward a link to the paper after Christmas. ACTION 3.

Estonia. Construction works are going on at Tallinn Airport – with focus on environmental issues.

Norway. The Ministry of Transport and Communications has – in cooperation with the Ministry of Climate and Environment - been much involved in the political process about Marked Based Measures in the ICAO Council and in the High Level Group. The Ministry has also been involved in the biofuel project at Oslo Airport. The Norwegian CAA has newly been reorganized. Some main topics at the moment are: New routings, visual approaches in relation to noise complaints and finding data for the sonic boom from supersonic aircraft.

Finland. A reorganizing of the transport agencies is in the pipeline. Two complaints over TRAFI’s decision concerning (no) operational restrictions at Helsinki Airport have gone to the administrative court. A partnership group at Helsinki Airport has been set with the purpose of making an annual check of the noise situation at the airport. The group, which is chaired by TRAFI, consists of the Ministry of Transport and Communication, the Ministry of Environment, the Ministry of Social Affairs and Health, Helsinki-Uusimaa Regional council, all municipalities located near the airport, Finavia (representing the airport and the major operators) and the Finnish Defence Forces. The first meeting will take place in November 2016 and apart from the first year, where three meetings are planned, there will be only one annual meeting. TRAFI is environmental certificated according to ISO14001.

TRAFI informed briefly about a Frostwing research co-operation. More about the project can be read on this [link](http://www.trafi.fi/en/aviation/aviation_and_the_environment/icewing_-_research_on_aircraft_wing_de_anti-icing_fluids).

Iceland: As traffic has increased, there is now a need for focus on noise issues. One issue the Icelandic Transport Authority is dealing with is how to determine whether there is a noise problem at an airport. In Iceland the interest for what is happening on the international scene among other stakeholders has increased. Before the ICAO Assembly there was a fruitful and good meeting and afterwards a notification about CORSIA having been sent out to the Ministry of Interior and the Environmental Protection Agency and Isavia, among others. It was proposed that the discussion about how to define what a noise problem is, could be an item on one of the next N-ALM meetings (up to the next chair). ACTION 4

Denmark: The new seaplane route between Copenhagen and Aarhus has made a good start. Helicopter noise is still a hot topic in Denmark. The Danish Transport, Construction and Building Agency has asked the Danish EPA to revise the guidance material concerning noise from aerodromes. The Agency is furthermore working with a new aviation strategy and in respect of this considers the framework conditions for airports and airlines.

1. *Service Providers*

AVINOR: AVINOR is working on terminal expansion in Bergen and Oslo – and the process for construction of a potential new third runway at OSL (in 2030 – depending on the traffic) has started. Other topics are: Charges on water, soil and firefighting foam. Concerning climate policy biofuel for the aircraft and vehicles is on the top of the agenda. AVINOR has a goal on reducing their carbon-emissions with 50% in 2020 compared with 2012. The new noise regulation from May for OSL has been implemented successfully after discussions and meetings with different stakeholders. The inherence to the noise standard is improved. Also for the heavy helicopters operating from the west coast of Norway new standards with curved approaches and departures are launched. 18 airports are on the way to being certified according to ISO14001. The aviation industry in Norway is quiet heavily taxated: Since 1999 Norway has had a CO2 tax – currently 1 Nkr pr. liter of fuel for domestic flights; the ETS; a NOx-tax and finally a fiscal passenger tax (around 10 Euros) for all departing flights.

Tallinn Airport: Triinu Keskküla gave a power point presentation introducing Tallinn Airport - “Cosiest Airport”. The airport, which is the main and only international in Estonia, is surrounded by the city – but mostly by offices and not living areas. A big airside area development project has recently started and in connection with this environmental goals are set. New taxiways and runway extensions are included in the project. The distance from the runway threshold to a drinking water reservoir is made bigger. Furthermore there will be a tramway to the airport. A new internal environmental indicator tool with numbers from 1 to 3 is used in the current evaluation regarding the environmental goals. Tallinn municipality does not allow planning for living areas near Tallinn airport – but this is not the case in connection with smaller airports in Estonia, and this generates a problem.

Riga Airport: The airport has newly extended the terminal area. Bombardier will start to operate with commercial flights in December. There is a proposal to establish an environmental working group including service providers, airlines and authorities. Many complaints come from training flights. The airport has a noise monitoring system.

Copenhagen Airports: Compared to last year the airport has experienced a 10 % growth. Many expansion projects are in process: New wide body stands, expanding the security area and planning a new area for freight, warehouses and logistic functions, among others. The airport will try to increase the engagement with local communities, for instance by asking the neighbors about potential improvements etc. The Airport Carbon Accreditation is renewed at level 3. Furthermore the airport is working with contamination in connection with fire-fighting and ground water resources. Concerning Roskilde Airport a renewal process is going on.

Finavia: Helsinki Airport will reach 17 million passengers in 2016 (2015: 16 million). Lapland Airport is also expanding with new scheduled routes from Germany, the Netherlands etc. The Environmental Management System – ISO 14001 – has lately been reestablished with a new set of documentation for certification/reporting etc. for environmental issues. Finavia is *not* under an internal restructuring, but from the beginning of 2017 the steering body will be the Prime Ministry instead of the Ministry of Transport.

Swedavia: Jonas Abrahamsson has been appointed as the new president and CEO of Swedavia. He comes from a position as CEO of E.ON Nordic and he sees sustainability as a main task. Swedavia has large development projects on several airports. At Arlanda Airport a new terminal and a new maintenance area is under construction. Swedavia’s work for the CO2 goal – zero emission by 2020 – is going well. Ronneby Airport will probably be the first airport to reach the goal by the end of 2016. Swedavia is working with an energy management system according to ISO 50001. Due to the new environmental permit for Arlanda Airport there are discussions about use of the runways, steeper glide path etc. A question about use of turboprops will go to the high court (a condition sets a max level on 65 dB - calculated values - when overflying living areas). Bromma Airport is at the moment also expanding.

Isavia is a Government owned company. It was reorganized in 2010 and covers all Icelandic airports and the air navigation. It covers a big ATC areal of 5.4 million square kilometers. Due to growth in traffic there are many expanding projects at the Keflavik airport. In recent years Isavia has also experienced an increase in the number of complaints. Isavia has during the last years focused more on environmental issues and is working on an ISO 14001 certification. On a corporate level Isavia is now dealing more with environmental issues and also at Keflavik Airport noise measurement, and dealing with the local community is prioritized. Furthermore Keflavik Airport has an ACI Certification. Keflavik Airport is also participating in a project called “Green steps”. The actions focus on decreasing the usage of resources such as paper, hot water, electricity and fuel. The amount of noise complaints from residents near Keflavik Airport has increased and concerning the city airport in Reykjavik some people want to close it due to noise nuisances. Furthermore sightseeing helicopter flights have given rise to complaints.

1. *Air Carriers*

Finnair is participating in the IATA Environmental Management System (IEnvA). The airline has set targets for CO2 reductions. Finnair has good experiences regarding noise mitigation as well as fuel consumption by renewing the fleet with A350 (in total 19 has been ordered). The airline is now in a process of building a big cargo terminal planned to open next spring. A big topic is the transportation of Norwegian fish. The airline is concerned about environmental taxes and sees possible Nordic taxes as a threat. Internal environmental matters are handled in the operation department – and policy issues are handled in Finnair’s strategy department.

1. **Presentation of environmental work at Helsinki Vantaa Airport (Finavia)**

Mikko Viinikainen informed - by a power point presentation - about environmental matters, primarily regarding Helsinki Airport. The airport is working on Development Programme, including lot of expansion and construction work on piers, taxiways, maintenance areas, terminals etc.

Noise issues in densely populated areas south of the airport are the main challenge in relation to capacity. For this reason more air traffic is preferred to be north of the airport. Runways are used taking into account wind directions, noise mitigation and time of day. Parallel runways are used in peak hours in the afternoon. The low visibility procedure brings the flights over Helsinki and leads to complaints. The night time procedure leads the traffic from and to the North – away from densely populated areas. The noise contours are well adapted to the geography and the living areas. Since 1990 the number of people inside the noise contours has reduced from around 100,000 to around 15-20,000 people. The improvement is mostly due to the phase out of noisy aircraft. Approaches with the new A350 are less noisy than the A320 in spite of the size of A350.

There is a discussion with the communities regarding a noise forecast made in 2008 which has not yet been accepted by the land use planners. A new SID for runway 22L prioritizing height more than speed has reduced the noise levels with 2-3 dB(A) in a distance of 10 km from threshold. Mikko Viinikainen questioned whether residents care about decibels. He found that when dealing with noise complaints, communication and managing expectations might be more important than dBs.

Concerning water pollution the use of deicing products is a topic. However, the COD load has been halved over the past 10 years. Helsinki Airport collects water and ice containing glycol and has a recovery rate on 80%. Two new bio filtration areas are under construction to prevent runoffs water loaded with de-icing agents to go to the ditches. To the south of the airport wetland areas with some flood basins are planned – to control flooding in connection with heavy rain.

**6. Special focus: Climate adaptation**

Each country is invited to make a presentation lasting max 10 minutes about their national actions regarding adaption to effects of climate change in relation to aviation. (Keywords for the presentation could be: Risk assessments, cooperation with other transport forms, occurrences)

Jens Erik Ditlevsen introduced the subject, which is a part of the N-ALM work plan. It is not strictly an environmental task. However, the issue is also on CAEPs work plan. The topic is included in CAEP’s work concerning airport planning manual in form of guidance material. Eurocontrol is also involved in this work. Norway has nominated Jan Fuglestad to ISG.

Denmark: In 2010 a strategy covering all transport forms was adopted. A climate adaptation forum has been established under the Ministry of Transport and Building with meetings a couple of times a year. A questionnaire has been sent out to Danish airports and the conclusion is that the main focus must be on Copenhagen Airport (low level location, close to the sea, an airport of national importance). In 2011 the airport started to analyze the climate impact (Key words: heavy rain, sea level, rain, storm weather). The investigation identified 40 risks. “Heavy rain” was pointed out as the main risk and the focus area. The airport has then identified some mitigation findings, which are now included in the master planning in relation to the expanding projects. The airport has developed a contingency plan for heavy rain pointing out vulnerable areas and what to do (reactive measures). The airport is cooperating with the municipalities and the CAA concerning this issue.

Norway: On behalf of AVINOR Olav Mosvold Larsen gave a Power Point presentation about climate adaptation in relation to Norwegian airports. 21 out of 46 AVINOR airports have runways located less than 5 meters above the sea level. Greenhouse gas emissions as well as climate adaptation must be dealt with and planning is necessary. Research has been going on in Norway for several years and an [online portal](http://www.klimatilpasning.no/infosider/english/) is established.

Warmer, Wetter and Wilder is the scenario for most of Northern Europe, but with many regional differences. The risk for accidents is relatively low (compared to road and rail traffic) as runways can be closed. At some airports in the northern region the *warmer* weather affects the level of permafrost and this might damage the runway. Regarding *wetter* weather, more rain will give problems with freezing/melting water on runways and taxiways. Furthermore it is necessary to include climate factors for design of water mains and sewage systems. Concerning *wild* weather there are examples of storms and flooding which have damaged runway surfaces and helipads.

AVINOR has included climate adaptation in the Airport Design Handbook by more requirements. Furthermore standards for new buildings are revised – including building materials, electric systems and drainage. ICAO as well as Eurocontrol have been dealing with climate adaptation for some years. Olav Mosvold Larsen referred to a couple of examples of international studies and reports (also mentioned in the presentation).

At Stavanger Airport AVINOR has decided to keep a cross runway (instead of establishing a new parallel runway) due to the uncertainty of possible change in wind direction (depending on the jet stream).

Finland: On behalf of Finavia Mikko Viinikainen presented a few slides about at study of the impact of climate change and storm water drainage systems – based on studies of regional airports. The conclusion was that more heavy rain will result in problems. Therefore it is essential that drainage systems are incorporated in renovation projects – minimizing the risk bit by bit. Another issue is that higher temperature might require longer runways.

Iceland: The Ministry of the Interior has recently established a working group with participants from the Icelandic Road and Coastal Administration, the Ministry of Interior, Air Traffic Transport Authority, Isavia and Icelandic Met Office. The group will produce a report with graphic presentation and mapping of the most likely affected areas.

Sweden: In Sweden a sort of knowledge center for climate change adaptation has been established – see this [link](http://www.klimatanpassning.se). Jonkoping Airport is working on climate adaptation. One point is that change of wind directions can affect the use of preferential runway.

Swedavia is including climate adaptation in its master planning. Swedavia is in favour of green roofs in order to minimize surface water.

CAEP: WG2 has a subgroup on climate adaptation – ISG. WG2 is planning to send out a CAEP Memo with the purpose of gathering information and forward this to different organizations within ICAO working with safety. When public, this memo will be sent out to the N-ALM group by the chair. ACTION 5.

Jens Erik Ditlevsen concluded the item stating that there might be a basis for bringing this issue up again.

1. **Special focus: Local air quality**
2. *Decision on new standard for particles in CAEP*

Inger Sturm informed briefly about the work in WG3, where she participates on behalf of ACI to follow the work regarding particles. Based on the work under CAEP 10 the first standard has been adopted and approved by the Assembly in September 2016. It replaces the old standard for smoke numbers. The particle group under WG3 has been working with both particle numbers and particle mass.

The new standard is based only on particle mass. However, the work on particle numbers (including ultrafine particles) is going on by collecting data for jet engines. The main focus has been to create a standard for large jet engines, but standards for smaller jets, turboprops, helicopters and APU are also on the work programme for the particle group. SAE is working as advisor for the group regarding development of a methodology.

A backstop standard will come into force in 2020 with rules for certification. In CAEP 11 the work will focus on proposals for stringencies. At the latest meeting in the Particle Measuring Task Group under WG3 it was decided to split the group into three ad hoc groups: 1. Measure group (performing measurements and engine test – ICAIA is putting efforts in this). 2. Metric group (maintaining the data and making correlation between the old smoke numbers and the new particle mass numbers). 3. Procedure group (work related to ICAO Annex 16). The focus for the work is stringencies for large jet engines.

Particles have also climate impacts and work is going on to assess this – in cooperation with ISG. For this purpose a White Paper is produced. It sums up the more scientific characteristics of particles in a popular way. The paper is not public at the moment, but it will probably be published in the next Environmental Report from CAEP.

*b. Working with local air quality in Nordic airports*

Air quality at Oslo Airport. Jan Anders Marheim presented – in Power Point slides – a local air quality study from Oslo Airport. Since the opening, the airport has measured NOX, NO2 and PM10 using a mobile measuring station.

A study for today’s activity and the projected activities towards 2030 has recently been performed by the Norwegian Institute for Air Research. The study shows that take-offs are the largest contributor to the NOX emissions whereas taxiing is the largest contributor to the HC level. In both cases the large commercial aircraft are those which contribute the most. For 2015 an annual average for NO2 was calculated to less than 20 µg/m3 over the runways (shall be compared to the national limit of 200 µg/m3). Also the values for PM10, PM2,5 and for HC are well below the limits.

In general the limits within the airport area are of a similar size as concentrations modelled in central areas of Norwegian medium sized city areas. The study (in Norwegian) will be public by the end of the year. Jan Anders Marheim informed that 3-4 years ago a study of the concentration of ultra-fine particles at the airport was performed – and only low levels of these were registered.

Other Nordic airports. Johanna Kara showed some slides about the local air quality at Helsinki Airport where NO2 has been since 2006.The environmental permit has a requirement saying that the airport shall be a part of the metropolitan area programme for NO2 measurements. 5 passive collectors are now placed within the airport area and they are continuously measuring the level. Every 5 years larger measurements (over three month) are carried out in 22 points.

At the moment such a measurement is going on, and Johanne Kara offered to send the report to interested N-ALM members when finished in January 2017. A study from the Finnish meteorological institute about NO2 emission dispersion shows that the NO2 level outside the airport is about 25% of the limit at the highest. The total NO2 emission has gone up from 2004-2014 – but not as much as the traffic in the same period.

Inger Sturm gave a short update on Copenhagen Airport’s work concerning ultrafine particles. The main concern is the health of the workers on the apron. The airport is working in different work streams: About improving the equipment; the behavior at the apron area (APU-use etc.) and gaining more knowledge on particles impact on people, among other things.

A PhD study on this has recently been carried out. It investigates the health of outdoor workers at the airport correlated to specific diseases. The conclusion is that when it comes to blood and bloodstream diseases, strokes, asthma, “smoker’s lung” there is no demonstrated increased risk for the airside workers at the airport compared to other workers. Concerning lung and bladder cancer no clear statistic conclusions could be drawn as the number of workers with these diseases was too small.

The 3F Union - which has contributed to the investigation with a lot of information – as well as CPH – are happy with the conclusions. However, the union wants to go more in depth with the cancer issue. Inger Sturm stated that CPH will continue the work with air quality in order to minimize the risks. The study will be public by the end of the year (in Danish with an English Summary). Inger will forward a link to the study when public. ACTION 6.

*c. Other issues.*

Marie Hankanen draw the attention to ICAO’s Airport Air Quality Manual, Document 9889.

1. **Alternative fuels**
2. *Nordic project under Nordic Council of Ministers*.

Jens Erik Ditlevsen made a brief power point presentation about the Nordic project on biofuel, funded by Nordic Council of Ministries and presented 1 September 2016 in Oslo. The report states that the drive, need, market, technology, feedstock, capacity, knowledge and support in the population are present in the Nordic countries. However, there is a need for political incentives regarding the price and financing and there is also a need for defining a globally recognized sustainability criterion.

The conclusion from the report - including a proposal to establish a forum with representatives for stakeholders and authorities - will be presented to Nordic Ministers of Energy and Transportation. On 24 November 2016 Nordic Council will meet and follow up on the report. During the following weeks meetings on national level will take place in the Nordic countries.

1. *Status reporting from member organizations and States*

Norway: Tom Johnsen informed about a Parliament decision asking the government to look into the option of making a difference in the airport charges depending on whether a flight uses fuel with a 25% blend in of biofuel or not. Furthermore a requirement for an obligation to use blend in biofuel in fuel for aviation is proposed.

The governmental evaluation of this will be done in a so-called White Paper, which is a long term investment plan for the transport sector to be discussed in the Parliament. This Paper is planned be launched in the spring of 2017 and it will probably have a big climate dimension, including issues as electric cars – but also an evaluation whether it will be possible and feasible to implement the requirements regarding biofuel for aviation.

Olav Mosvold Larsen informed that Oslo Airport (from January 2016) is the first Airport which can offer biofuel for all airlines. Biofuel from Neste has been used until now. A new batch is now on the way from California. AVINOR aims to expand the use of biofuel to other airports in Norway

Finland: Outi Ampuja informed about a national plan to support the infrastructure for alternative fuel. Finland has a general goal for aviation stating that in 2050 there should 40 % renewable fuel in used fuel. Finland has a goal for turning Helsinki/Vantaa Airport into a Green Hub by 2020. TRAFI is also trying to promote alternative energy sources in ground transport at airports.

Tiia Jyräsalo informed that Boeing has made a research report on Nesté’s renewable jet fuel. The report is submitted to aircraft and engine manufactures. The hope is that Nesté’s jet fuel (diesel type) will have a ASTM approval in 2017, which might have a major influence on the price as it is easier to produce. An amount of 10-15 % drop in for this type is expected.

Sweden: Lena Wennberg informed that Swedavia also has ordered biofuel from California which is on the way to Stockholm with the same ship going to Oslo. The fuel is aimed to be used at Arlanda, Bromma and Östersund Airports in 2017. From governmental side there are no plans for allocating alternative fuel to aviation.

Iceland: There is no focus on biofuel for aviation.

Denmark: Denmark has no particular focus on biofuel for aviation.

The importance of trying to put this issue on the national agendas was discussed and underlined by more participants.

*c. Status for work under CAEP and AFTF*

Marie Hankanen showed one slide presenting the work in the Alternative Fuel Task Force. The main task for the group is at the moment to find a way to promote and calculate alternative fuel in CORSIA. A list of Life Cycle Analyses (LCA) of default values to be used by operators to report their emissions is under way. LCA values have to be combined with “Induced land use change emissions”, which is also a political task.

Furthermore defining the sustainability criteria for CORSIA is a political/controversial task. Another task is promoting alternative fuels by producing guidelines and arranging roundtables. Lena Wennberg is joining the AFTF group. The sustainability criterion is political and difficult to agree on.

Mikko Viinikainen argued for an extra political incentive to use biofuel and proposed a multiplier (in CORSIA) for the reduction of CO2 when using biofuel. The aviation communities should propose this to the EU as the benefit (related to CORSIA) for use of biofuel is rather small compared to the extra price of biofuel.

1. **ICAO**
2. *Report from Assembly 39 including presentation of the new global market based measure under ICAO, CORSIA.*

Karl Koefoed gave a detailed power point presentation about the issue. The background is that aviation in all parts of the world is growing. At the moment aviation accounts for around 2% of the total global CO2 emissions (international aviation 1.3%). These numbers might double by 2050. In this context ICAO’s Global Market Based Measure (CORSIA) is foreseen as “gap filler” until other measures take full effect to reach the goal of “Carbon Neutral Growth from 2020”.
The scheme is starting with a voluntary phase from 2021 to 2026 and from 2027 it is mandatory.

Some other main points in CORSIA are: Only international flights are included; airlines can buy and thereby offset their emissions; emission units can be purchased for eligible mechanisms/projects/programmers. CORSIA has a route-based approach. Some small states are exempted from the scheme.

Karl Koefoed went through the comprehensive and complex work leading up to the agreement on the ICAO Assembly and informed about the debate and negotiations during the Assembly, leading to the final adoption of A39 on the last day of the Assembly.

After the Assembly, more work shall be done such as development of SARPs/guidance, further development of MRV, EUC and Registries; national implementation in Member States and also in EU. Concerning the EU ETS the Commission will make a proposal early in 2017. Karl Koefoed concluded that CORSIA is an important first step and a skillfully drafted compromise even though he would have preferred to see more ambition. ICAO is standing up to the challenge and responding to political pressure from the Paris agreement. Until now 66 states (representing 85% of the emissions) have signed up for the voluntary phase. Jens Erik Ditlevsen added that the European countries and the EU had a very good coordination during the Assembly.

The possible future for the EU ETS (which at the moment is unsure) was briefly discussed. The “price” for CORSIA depends on the carbon price. ICAO has calculated it to be in the range of 0.5-1.0 % of the total aviation income. IATA has estimated an offsetting price in the range of 51-131 US dollars on a flight from Casa Blanca to Madrid, which shall be compared to 1,666 US dollars (which is the total fuel cost for the total flight). In case of high carbon prices over time CORSIA has a so called Safe Guard.

1. *Nordic participation in CAEP working groups*

Marie Hankanen informed about the different working groups under CAEP. The Nordic countries are at the moment represented in WG1, WG2, WG3, AFTF, GMTF and ISG. Norway and Sweden have the possibility to nominate participants and Finland (TRAFI) stated that they in the future will prioritize to participate in AFTF and GMTF.

1. **EU**
	1. EU Regulation No. 598/2014 on operating restrictions at major airports
	 Appealing body in member countries?
	2. EU ETS – any news?
	3. Other issues

The item was cancelled due to lack of time.

1. **ECAC – ANCAT**
2. Next meeting: ANCAT/90, The Hague, 17-18 November 2016
3. Other issues

The item was cancelled due to lack of time.

1. **Any other business**

The item was cancelled due to lack of time.

1. **Dates and venue of the next meeting**

Proposal: 30 – 31 May 2017, Iceland?

Anna Margrét Björnsdóttir confirmed that Iceland was willing to host the meeting. The proposed dates will be considered when dates for the upcoming ANCAT-meeting are known and chairman will coordinate dates with the Icelandic CCA.

1. **Closing of the meeting**
Jens Erik Ditlevsen closed the meeting and wished Marie Hankanen good luck as chairman for the next two years. Marie Hankanen thanked Jens Erik Ditlevsen for the Danish chairmanship.

**Annex 1**

N-ALM – participants:

Denmark: Jens Erik Ditlevsen Danish Transport, Construction and Housing Authority

 Eva Nielsen Danish Transport, Construction and Housing Authority

Inger Sturm Copenhagen Airports

Sweden Marie Hankanen Swedish Transport Agency

 Lena Wennberg Swedavia

Norway Hilde Høiem CAA Norway

 Karl Koefoed Ministry of Transport and Communications

Tom O. Johnsen Ministry of Climate and Environment

 Jan Anders Marheim AVINOR

 Olav Mosvold Larsen AVINOR

Finland Outi Ampuja Trafi

 Tiia Jyräsalo Trafi

 Katja Lohko-Soner Trafi

 Mikko Viinikainen Finavia

 Johanna Kara Finavia

Iceland Anna Margrét Björnsdóttir Icelandic Transport Authority

 Helga Eyjólfsdóttir Isavia

Estonia Kea Toi Estonian CAA

 Triinu Keskküla Talinn Airport

Latvia Jānis Brižs Riga Airport

Airlines Finnair Outi Merilä

**Annex 2**

List of Action Points

1. Finnair will contact SAS for possible future participation in the N-ALM group.

2. The new chairman will by e-mail ask for input concerning items for the work plan.

3. Marie Hankanen will forward a link to the Swedish paper “Aviation Trends”.

4. The item: “How to define what a noise problem is”, could be an issue on one of the next N-ALM meetings (up to the next chairman).

5. The CAEP Memo about Climate Adaptation will - when public – be sent out to the N-ALM-group by the chair.

6. Inger Sturm will forward a link to the Danish study about ultrafine particles and workers’ health when it is public.