PRB | Performance review body of the single european sky

Performance Review Body Monitoring Report

Norway - 2021

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1 OVERVIEW

1.1 Contextual information

National performance plan adopted following ESA Decision 069/22/COL of 6 April 2022

List of ACCs 3
Bodo ACC
Oslo ACC
Stavanger ACC

No of airports in the scope of the performance plan:
- **≥80'K** 2
- **<80'K** 2

Exchange rate (1 EUR=)
2017: 9.32776 NOK
2021: 10.1591 NOK

Share of Union-wide:
- **traffic (TSUs) 2021** 2.2%
- **en route costs 2021** 2.0%

Share en route / terminal costs 2021 73% / 27%

En route charging zone(s)
Norway

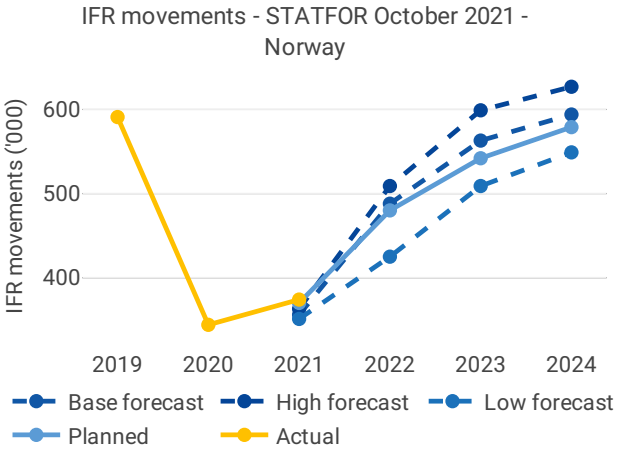
Terminal charging zone(s)
Norway

Main ANSP
- Avinor Flysikring AS (Avinor ANS)

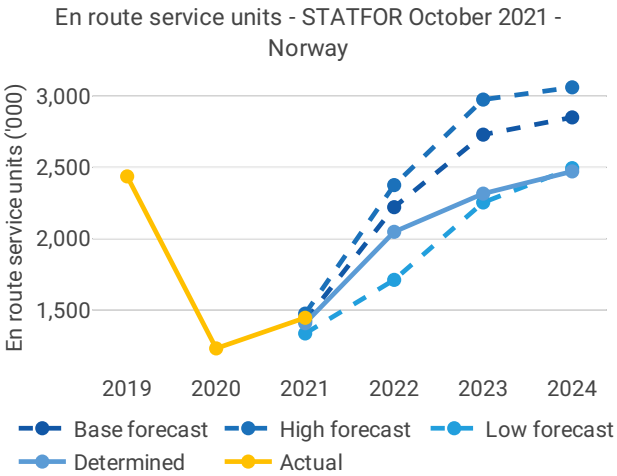
Other ANSPs
- Avinor AS
- Saerco (Kjevik ANSP)

MET Providers
- The Norwegian Meteorological Institute (MET)

1.2 Traffic (En route traffic zone)

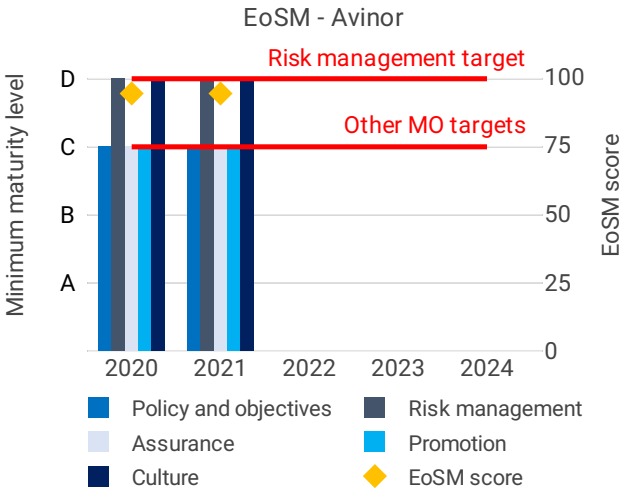


- Norway recorded 374K actual IFR movements in 2021, +8.6% compared to 2020 (344K).
- Actual 2021 IFR movements were +1.0% above the plan (370K).
- Actual 2021 IFR movements represent 63% of the actual 2019 level (591K).



- Norway recorded 1,445K actual en route service units in 2021, +18% compared to 2020 (1,230K).
- Actual 2021 service units were +2.8% above the plan (1,407K).
- Actual 2021 service units represent 59% of the actual 2019 level (2,437K).

1.3 Safety (Main ANSP)

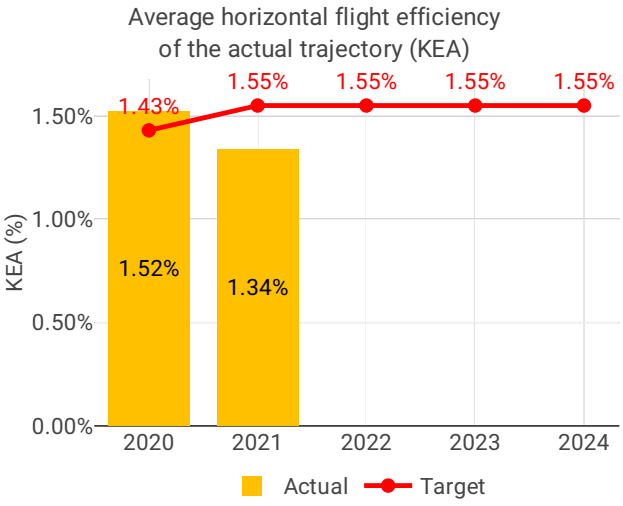


• Avinor ANS continued demonstrating good safety performance and maintained the safety levels achieved in 2020, remaining at the EoSM target levels. Avinor ANS undertook significant initiatives in the area of performance monitoring and safety culture to ensure continuous improvement of safety management function.

• Norway recorded an increase in the rate of runway incursions but a decrease of the rate of separation minima infringements in 2021 relative to 2020. Both rates are higher than the respective Union-wide average rate. Of the airports with more than 80,000 movements, Gardermoen has the second highest rate of RIs at 6.4 per 100,000 movements. Avinor ANS should consider looking into the reasons contributing to this rate and take appropriate mitigating actions, if necessary.

• Avinor ANS should improve its safety management by implementing automated safety data recording systems.

1.4 Environment (Member State)



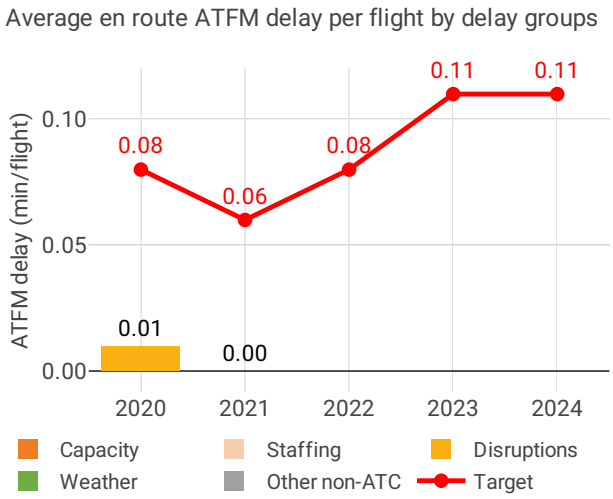
• Norway achieved a KEA performance of 1.34% compared to its target of 1.55% and contributed positively towards achieving the Union-wide target. KEA improved by 12% compared to 2020.

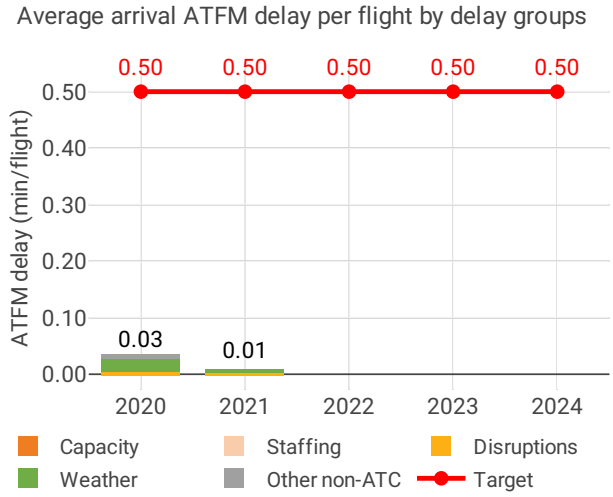
• Norway further improved KEP and SCR values, which are now similar to each other meaning airlines plan efficient routes.

• The share of CDO flights improved by two p.p. from 2020 and is currently at 70%.

• Additional time in terminal airspace was reduced by 17% in comparison to 2020, while additional taxi out time increased by 7%.

1.5 Capacity (Member State)





• Norway registered near zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.06.

• En route ATFM delays in Norway were also near zero on average during the past years.

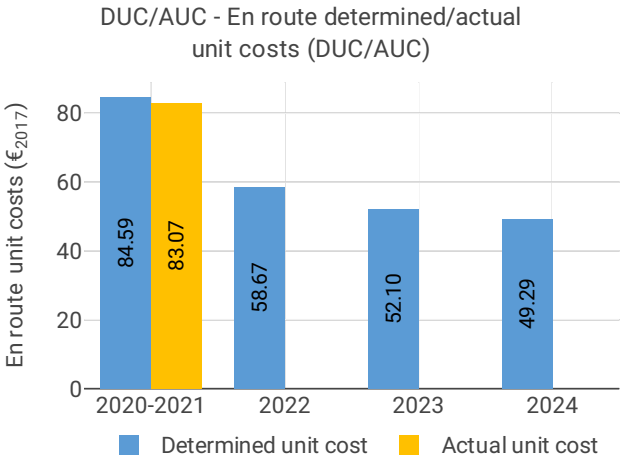
• Traffic is expected to grow, with 2019 levels likely being reached in 2023 in high growth scenario but expected to remain below 2019 levels in base growth scenarios. A slight increase in the number of ATCOs in OPS is planned in Bodo ACC with a more significant increase in Oslo and Stavanger ACCs by the end of RP3.

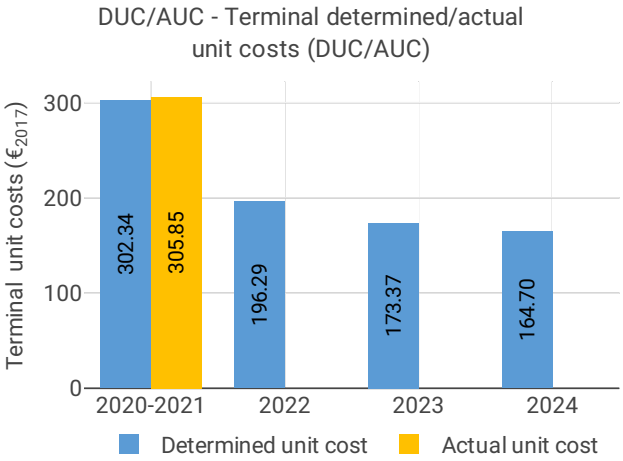
• The share of delayed flights with delays longer than 15 minutes in Norway decreased by 17.89 p.p. compared to 2020 and was lower than 2019 values.

• The yearly total of sector opening hours in Bodo ACC was 22,463, showing a 15.1% decrease compared to 2020. Sector opening hours are 34.3% below 2019 levels. The yearly total of sector opening hours in Oslo ACC was 13,913, showing a 10.9% decrease compared to 2020. Sector opening hours are 49.6% below 2019 levels. The yearly total of sector opening hours in Stavanger ACC was 13,443, showing a 3.8% decrease compared to 2020. Sector opening hours are 35.7% below 2019 levels.

• Bodo ACC registered 7.19 IFR movements per one sector opening hour in 2021, being 19.1% above 2019 levels.

1.6 Cost-efficiency (En route/Terminal charging zone(s))





• The en route 2020/2021 actual unit cost of Norway was 83.07 €2017, -1.8% lower than the determined unit cost (84.59 €2017). The terminal actual unit cost was 305.85 €2017, +1.2% higher than the determined unit cost (302.34 €2017).

• The en route 2021 actual service units (1,445K) were +2.8% higher than determined (1,407K).

• In 2021, actual total costs were -0.8 M€2017 (-0.7%) lower compared to determined costs. The reduction was mainly driven by -1.0 M€2017 lower staff costs (-1.4%), and -0.8 M€2017 lower depreciation costs (-5.9%) mainly due the decommissioning of radar components.

• Avinor ANS spent 20.6 M€2017 in 2021 related to costs of investments, +1.9% higher than the determined (20.3 M€2017), caused by a higher net book value than planned, specifically due to the increase of investment in a new ATM-system.

• The en route actual unit cost incurred by users in 2020/2021 was 48.11€, while the terminal actual unit cost incurred by users was 159.82€.

2 SAFETY - NORWAY

2.1 PRB monitoring

• Avinor ANS continued demonstrating good safety performance and maintained the safety levels achieved in 2020, remaining at the EoSM target levels. Avinor ANS undertook significant initiatives in the area of performance monitoring and safety culture to ensure continuous improvement of safety management function.

• Norway recorded an increase in the rate of runway incursions but a decrease of the rate of separation minima infringements in 2021 relative to 2020. Both rates are higher than the respective Union-wide average rate. Of the airports with more than 80,000 movements, Gardermoen has the second highest rate of RIs at 6.4 per 100,000 movements. Avinor ANS should consider looking into the reasons contributing to this rate and take appropriate mitigating actions, if necessary.

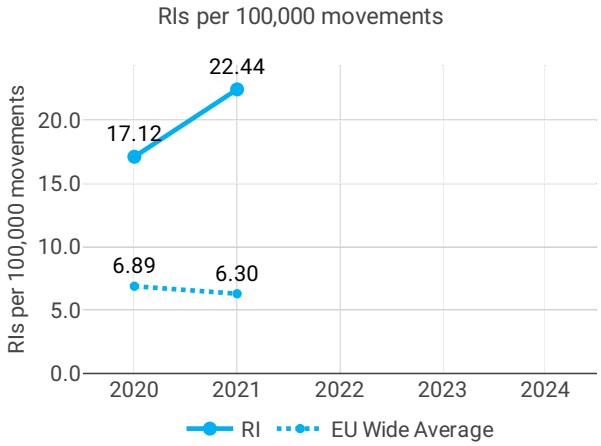
• Avinor ANS should improve its safety management by implementing automated safety data recording systems.

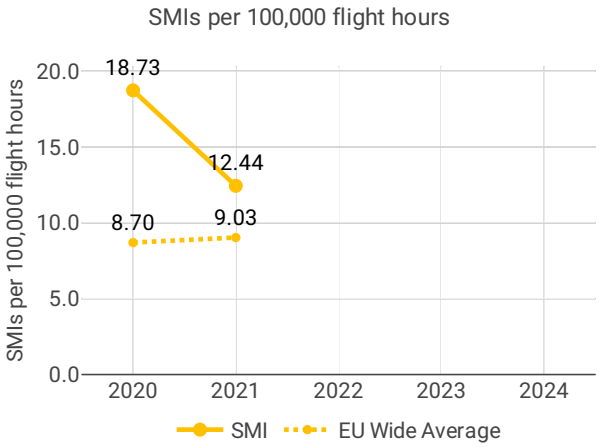
2.2 Effectiveness of Safety Management (EoSM) (KPI#1)

Focus on EoSM

All five EoSM components of the ANSP meet, or exceed, already the 2024 target level. No changed in maturity has been observed from the levels reported in 2020. IMPORTANT: EASA/European Commission did not received the verified questionnaire from the NSA on time. This is an important step to receive confirmation that the self-evaluated questionnaire by the ANSP has been actually verified. It should be sent in due time to allow proper and timely drafting of the Monitoring Report.

2.3 Occurrences - Rate of runway incursions (RIs) (PI#1) & Rate of separation minima infringements (SMIs) (PI#2)





3 ENVIRONMENT - NORWAY

3.1 PRB monitoring

• Norway achieved a KEA performance of 1.34% compared to its target of 1.55% and contributed positively towards achieving the Union-wide target. KEA improved by 12% compared to 2020.

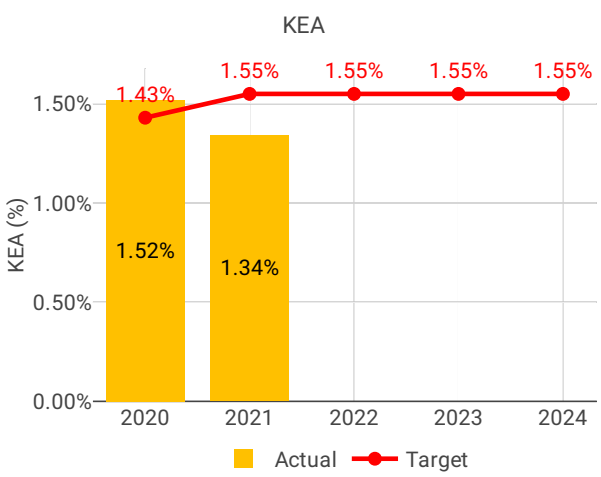
• Norway further improved KEP and SCR values, which are now similar to each other meaning airlines plan efficient routes.

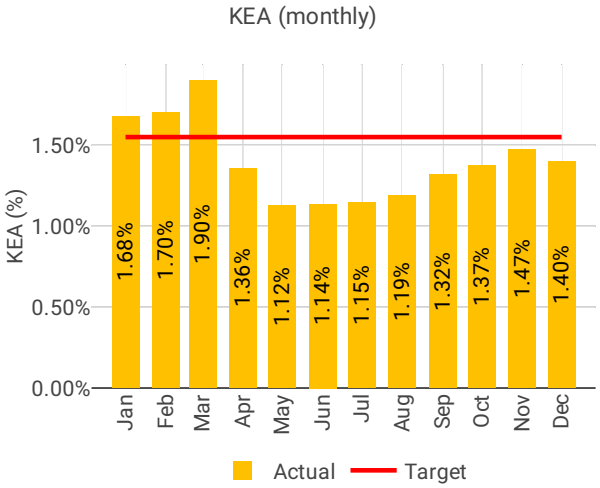
• The share of CDO flights improved by two p.p. from 2020 and is currently at 70%.

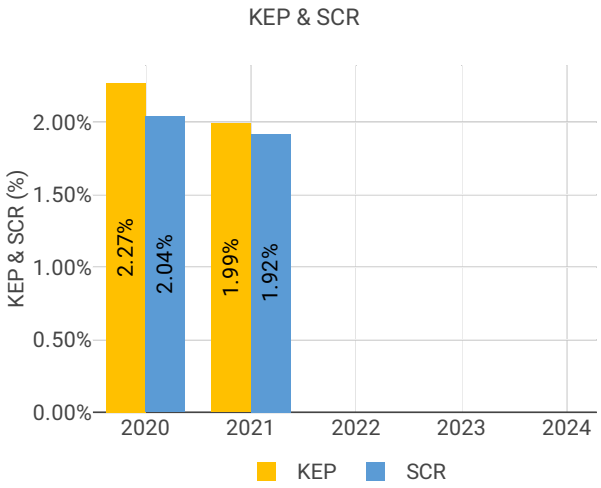
• Additional time in terminal airspace was reduced by 17% in comparison to 2020, while additional taxi out time increased by 7%.

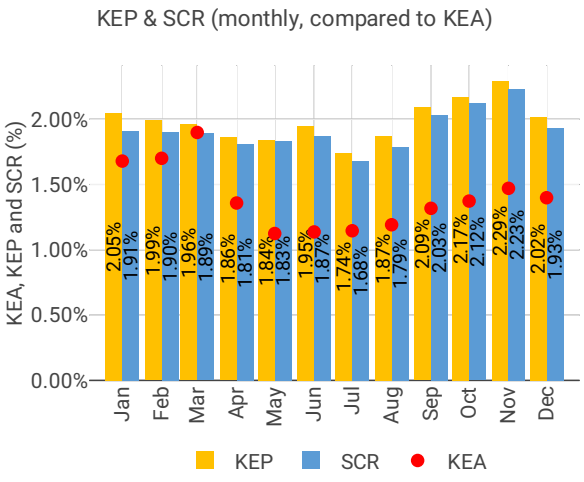
3.2 En route performance

3.2.1 Horizontal flight efficiency of the actual trajectory (KEA) (KPI#1), of the last filed flight plan (KEP) (PI#1) & shortest constrained route (SCR) (PI#2)



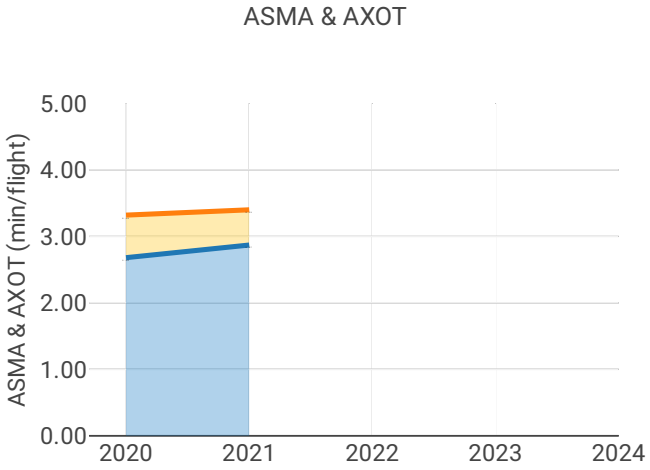


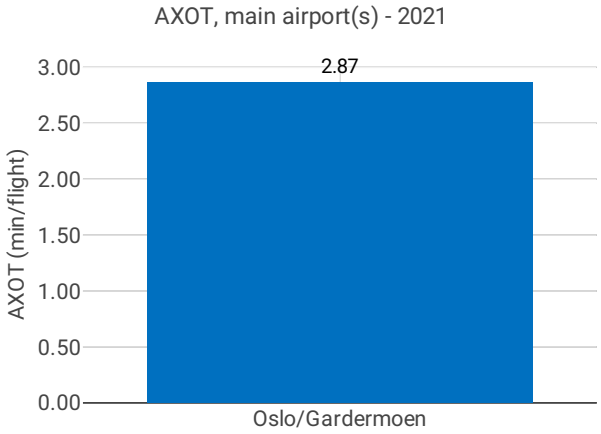


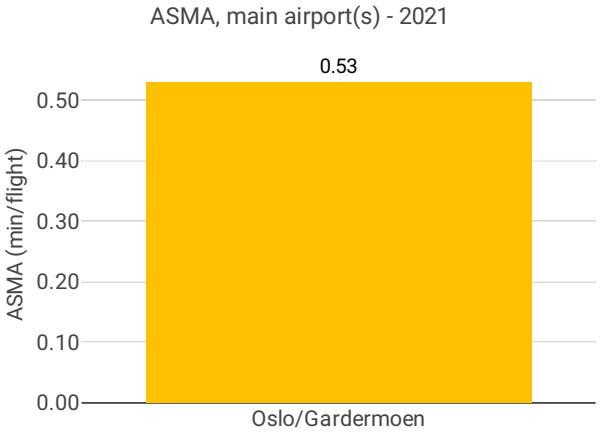


3.3 Terminal performance

3.3.1 Additional taxi-out time (AXOT) (PI#3) & Arrival Sequencing and Metering Area (ASMA) time (PI#4)







Focus on ASMA & AXOT

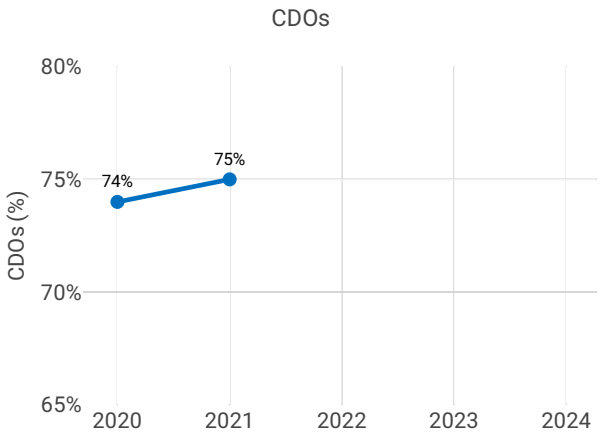
AXOT

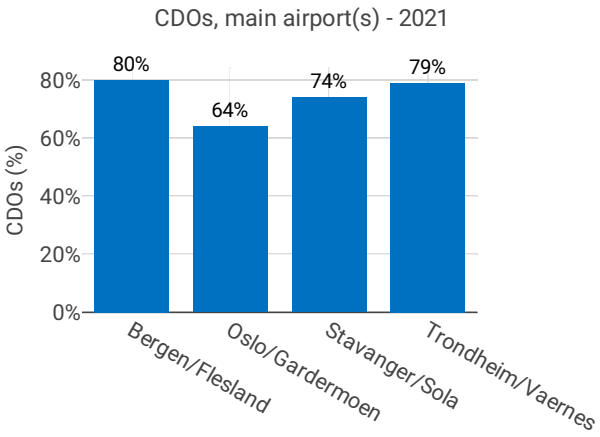
The additional taxi-out times at Oslo have slightly increased (ENGM; 2019: 3.92 min/dep.; 2020: 2.68 min/dep. ;ENGM; 2021: 2.87 min/dep.)
The annual average is influenced by the performance during the winter months due to de-icing. The longest additional times were observed in January and December with more than 7 min/dep.

ASMA

Additional ASMA times at Oslo (ENGM; 2019: 1.03 min/arr.; 2020: 0.64 min/arr.; 2021: 0.53 min/arr.) further decreased in 2021. These times were nearly zero between May and September averaging 0.19 min/arr. but at the end of the year these times increased again.

3.3.2 Share of arrivals applying continuous descent operations (CDOs) (PI#5)





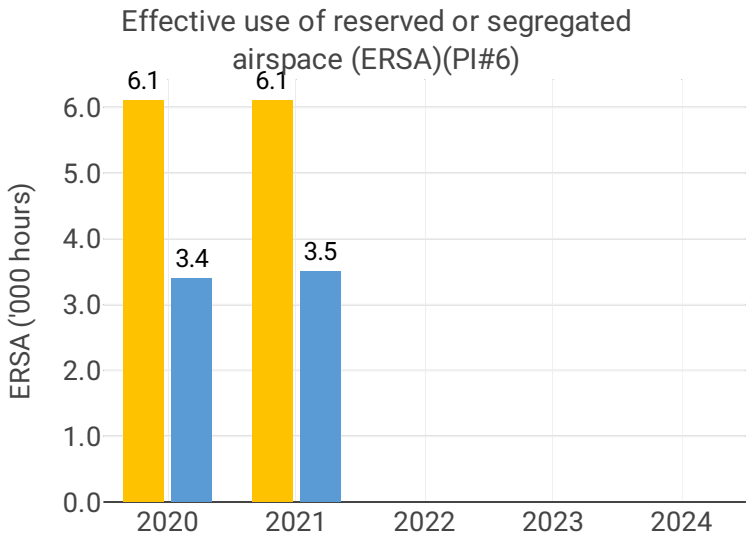
Focus CDOs

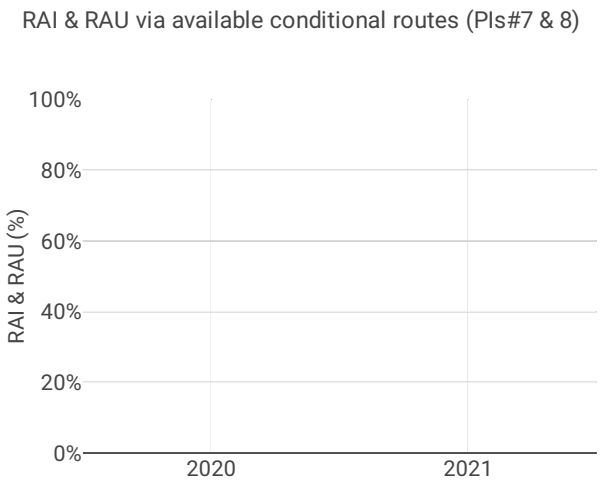
All airports have very high shares of CDO flights with all airports having more than double the overall RP3 value in 2021 (30.5%).
Although the monthly values decreased towards the end of the year, the yearly values have increased with respect to 2020 by 0.4-2.1 percentage points.

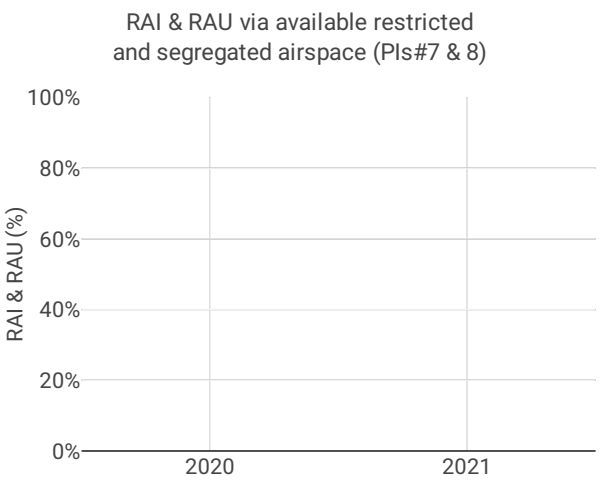
Airport level

	Additional taxi-out time (PI#3)					Additional ASMA time (PI#4)					Share of arrivals applying CDO (PI#5)				
Airport Name	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Bergen/Flesland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80%	80%	NA	NA	NA
Oslo/Gardermoen	2.68	2.87	NA	NA	NA	0.64	0.53	NA	NA	NA	62%	64%	NA	NA	NA
Stavanger/Sola	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	76%	74%	NA	NA	NA
Trondheim/Vaernes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	77%	79%	NA	NA	NA

3.4 Civil-Military dimension







Focus on Civil-Military dimension

Update on Military dimension of the plan

LARA has been implemented and Civil/Military Airspace Committee maintain a continued focus on the effectiveness of the booking procedures.
The AMC procedure has been revised establishing new and larger areas in southern Norway with a design that is optimized to cater to civilian traffic flows. The civil/military airspace continually work on optimizing the airspace structure to minimize the impact of military air operations on civilian air traffic. LARA has been deployed to both civil and military users and further integration into the ATM system is ongoing.

Military - related measures implemented or planned to improve capacity

The civil/military airspace continually work on optimizing the airspace structure to minimize the impact of military air operations on civilian air traffic. LARA has been deployed to both civil and military users and further integration into the ATM system is ongoing.

Initiatives implemented or planned to improve PI#6

The civil/military airspace continually work on optimizing the airspace structure to minimize the impact of military air operations on civilian air traffic. LARA has been deployed to both civil and military users and further integration into the ATM system is ongoing.

Initiatives implemented or planned to improve PI#7

No data available

Initiatives implemented or planned to improve PI#8

No data available

4 CAPACITY - NORWAY

4.1 PRB monitoring

• Norway registered near zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.06.

• En route ATFM delays in Norway were also near zero on average during the past years.

• Traffic is expected to grow, with 2019 levels likely being reached in 2023 in high growth scenario but expected to remain below 2019 levels in base growth scenarios. A slight increase in the number of ATCOs in OPS is planned in Bodo ACC with a more significant increase in Oslo and Stavanger ACCs by the end of RP3.

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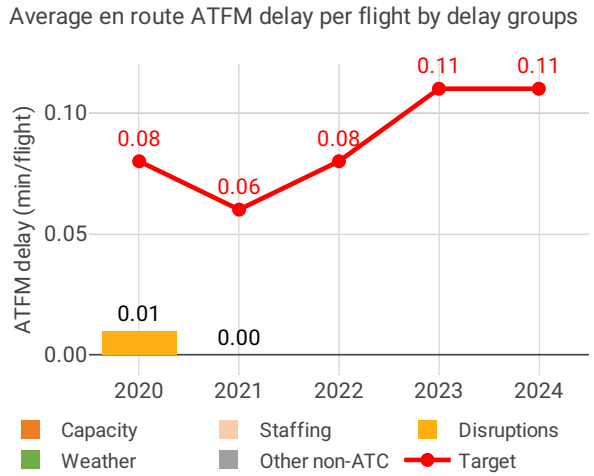
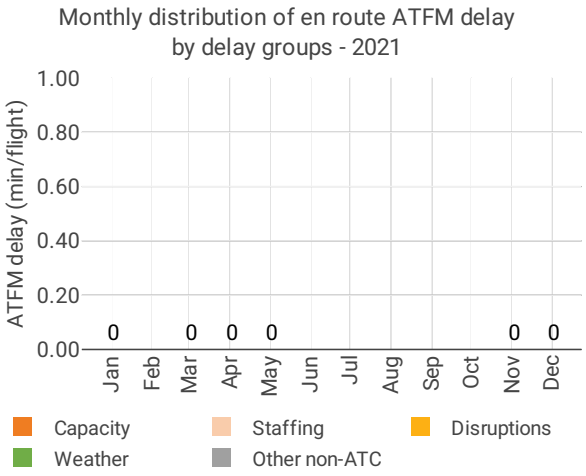
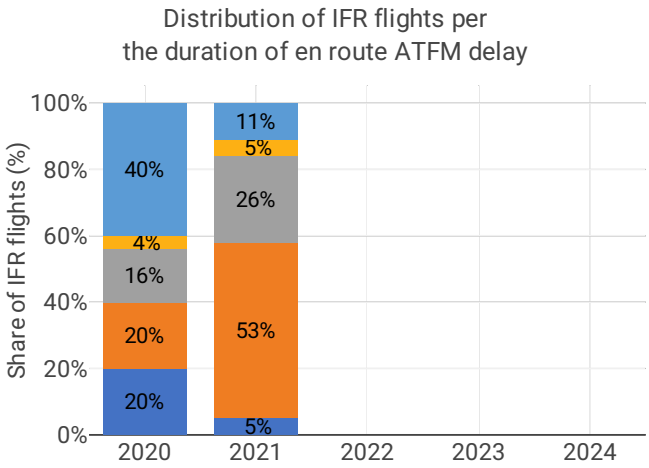
• Bodo ACC registered 7.19 IFR movements per one sector opening hour in 2021, being 19.1% above 2019 levels.

4.2 En route performance

4.2.1 En route ATFM delay (KPI#1)







Focus on en route ATFM delay

Summary of capacity performance

Norway experienced an increase in traffic from 346k flights in 2020 to 376k flights in 2021, with zero ATFM delay. However, traffic levels were still substantially below the 595k flights in 2019.
No explanation was provided for the considerable discrepancies between actual operational ATCO FTEs reported for 2020 in the 2020 monitoring report and what has been reported for the same year in the latest annual monitoring report.

NSA's assessment of capacity performance

The actual en-route atfm delay per flight of 0,00 min./flt. in 2021 was significant below the national target set to 0,06 min./flt. Actual performance was so far in RP3 much better than capacity target.

Monitoring process for capacity performance

Frequently at national level.

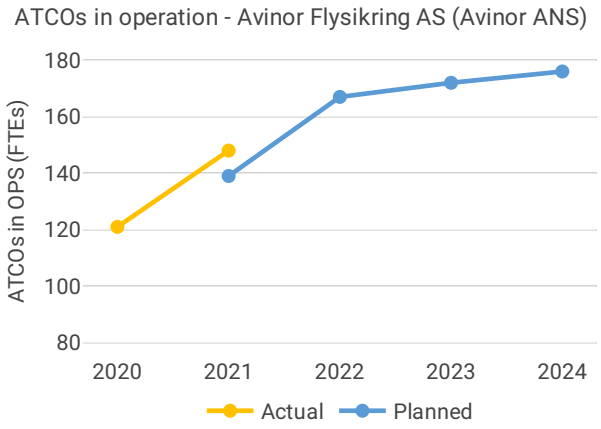
Capacity planning

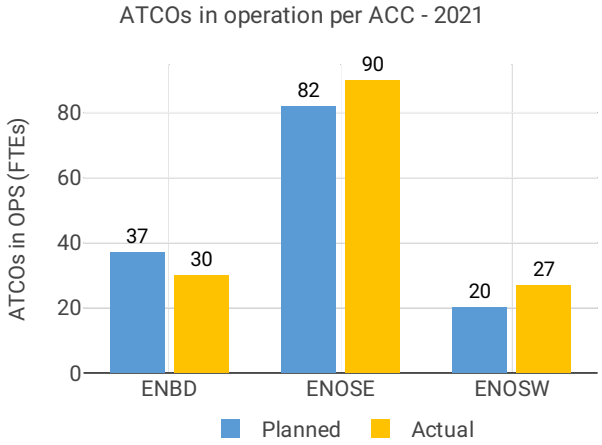
Norway has been developing ATC capacity over years, and is in position to provide more capacity than the national reference values.The cost optimum capacity for en route delay per flight for Avinor ANS is between 0,18 min/flt. and 0,11 min/flt., but for the airspace users this would be unacceptable. This view is based on the fact that a large portion of the overall traffic is transition flights with little leeway in terms of delays. Based on consultation meetings with the airspace users and Avinor ANS during the en route delay is set to between 0,08 min./flt and 0,11 min./flt. in RP3.
Avinor ANS has over the last years been increasing capacity, in order to being able to shift to new technology without major operational consequences for the airspace users.

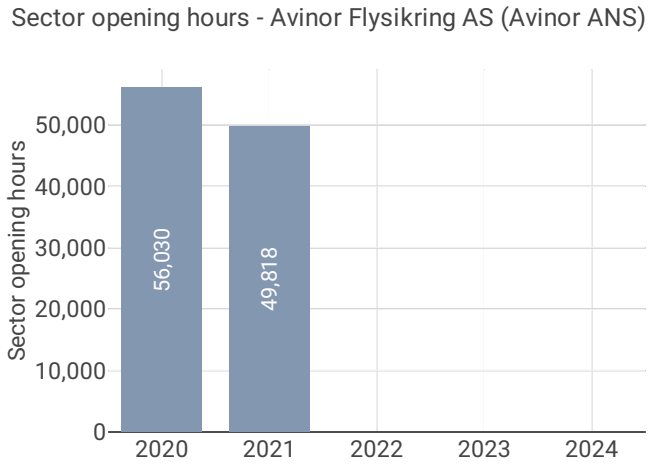
Application of Corrective Measures for Capacity (if applicable)

No data available

4.2.2 Other indicators





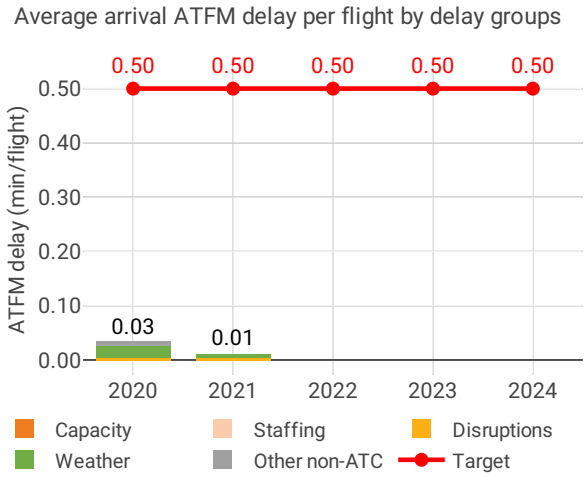


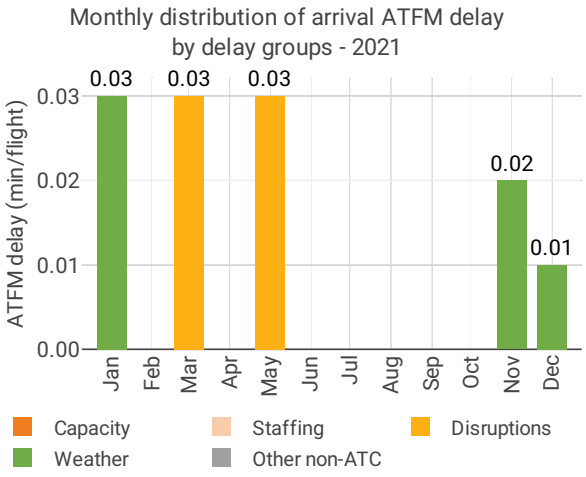
Focus on ATCOs in operations

Bodo ACC: Norway has previously reported 36,7 FTE ATCOs for 2020 in ENBD ACC.**Oslo ACC**: Norway has previously reported 73,1 FTE ATCOs for 2020 in ENOSE ACC.**Stavanger ACC**: Norway has previously reported 25,5 FTE ATCOs for 2020 in ENOSW ACC.

4.3 Terminal performance

4.3.1 Arrival ATFM delay (KPI#2)





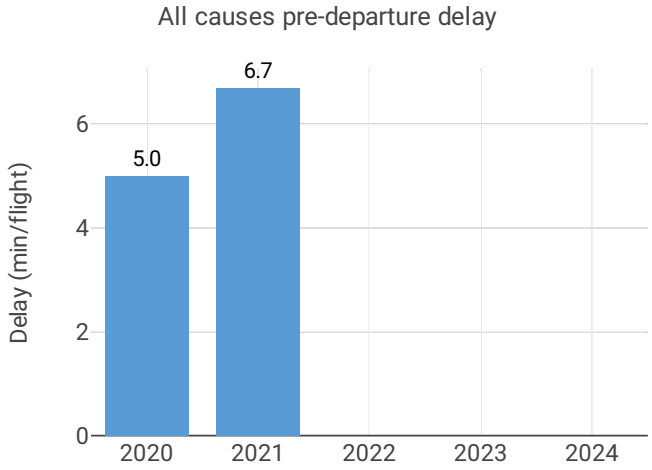
Focus on arrival ATFM delay

Norway has identified four airports as subject to RP2 monitoring. However, in accordance with IR (EU) 2019/317 and the traffic figures, only two of these airports (Oslo (EGNM) and Bergen (ENBR)) must be monitored for pre-departure delays. Oslo (A-CDM implemented) is the only Norwegian airport that has finished the full implementation of the Airport Operator Data Flow required for the monitoring of these pre-departure delays. As reported in RP2, it seems the ATM system is not ready to implement the APDF at Bergen. Avinor Flysikring AS, the service provider in Norway, is still considering alternate solution, but needs to take into account the additional cost required.
Traffic at the ensemble of these four Norwegian airports in 2021 was still 40% lower than in 2019.
Average arrival ATFM delays in 2021 was 0.01 min/arr, compared to 0.03 min/arr in 2020.
ATFM slot adherence has slightly improved (2021: 98.6%; 2020: 98.4%).

Arrival ATFM delays in 2021 decreased and became marginal at all Norwegian airports and disappeared at Trondheim (ENVA).
Oslo (ENGM; 2019: 0.31 min/arr; 2020: 0.05 min/arr; 2021: 0.01 min/arr) only observed marginal delays in the last two months of the year with 95% attributed to weather.
Bergen (ENBR) registered weather related delays only in January, and Stavanger (ENZV) only had 21 minutes of delay in March attributed to ATC equipment.

The provisional national target on arrival ATFM delay in 2021 was met.
In accordance with Article 3 (3) (a) of Implementing Regulation (EU) 2020/1627: The incentive scheme shall cover only the calendar years 2022 to 2024.
According to the Norwegian monitoring report: *The actual terminal and airport ANS ATFM arrival delay per flight of 0,01 min./flt. in 2021 is significant below the national target set to 0,50 min./flt. Actual performance was so far in RP3 much better than the terminal capacity target*

4.3.2 Other terminal performance indicators (PI#1-3)



Airport level

	Avg arrival ATFM delay (KPI#2)				Slot adherence (PI#1)			
Airport name	2020	2021	2022	2023	2020	2021	2022	2023
Bergen/Flesland	0.01	0.01	NA	NA	98.9%	98.4%	NA%	NA%
Oslo/Gardermoen	0.05	0.01	NA	NA	98.4%	99.4%	NA%	NA%
Stavanger/Sola	0.03	0.01	NA	NA	97.4%	93.2%	NA%	NA%
Trondheim/Vaernes	0.03	NA	NA	NA	98.9%	98.0%	NA%	NA%

	ATC pre departure delay (PI#2)				All causes pre departure delay (PI#3)			
Airport name	2020	2021	2022	2023	2020	2021	2022	2023
Bergen/Flesland	NA	NA	NA	NA	NA	NA	NA	NA
Oslo/Gardermoen	0.05	0.06	NA	NA	5.0	6.7	NA	NA
Stavanger/Sola	NA	NA	NA	NA	NA	NA	NA	NA
Trondheim/Vaernes	NA	NA	NA	NA	NA	NA	NA	NA

Focus on performance indicators at airport level

ATFM slot adherence

With the drastic drop in traffic, the share of regulated departures from Norwegian airports virtually disappeared until July 2021.
All Norwegian airports showed adherence above 93% and the national average was 98.6%, very similar to the observed performance in 2020 (98.4%). With regard to the 1.4% of flights that did not adhere, 1% was early and 0.4% was late.

ATC pre-departure delay

The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at Oslo but not implemented at Bergen. Therefore the monitoring of this indicator in Norway is limited to Oslo.
The performance at Oslo remains good and similar to the 2020 value (ENGM; 2019: 0.14 min/dep.; 2020: 0.05 min/dep.; 2021: 0.06 min/dep.)

All causes pre-departure delay

The calculation of the All causes pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at Oslo but not implemented at Bergen. Therefore the monitoring of this indicator in Norway is limited to Oslo.
The total (all causes) delay in the actual off block time at Oslo increased in 2021 (ENGM: 2020: 5.01 min/dep.; 2021: 6.74 min/dep.) but still resulting in the lowest value among the RP3 monitored airports. The highest delays per flight were observed in December, averaging more than 12 min/dep.

5 COST-EFFIENCY - NORWAY

5.1 PRB monitoring

• The en route 2020/2021 actual unit cost of Norway was 83.07 €2017, -1.8% lower than the determined unit cost (84.59 €2017). The terminal actual unit cost was 305.85 €2017, +1.2% higher than the determined unit cost (302.34 €2017).

• The en route 2021 actual service units (1,445K) were +2.8% higher than determined (1,407K).

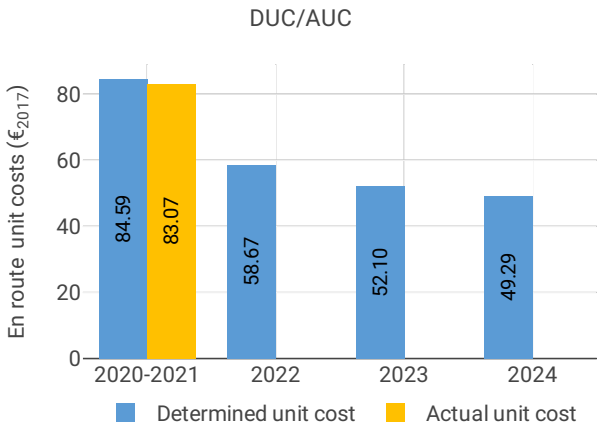
• In 2021, actual total costs were -0.8 M€2017 (-0.7%) lower compared to determined costs. The reduction was mainly driven by -1.0 M€2017 lower staff costs (-1.4%), and -0.8 M€2017 lower depreciation costs (-5.9%) mainly due the decommissioning of radar components.

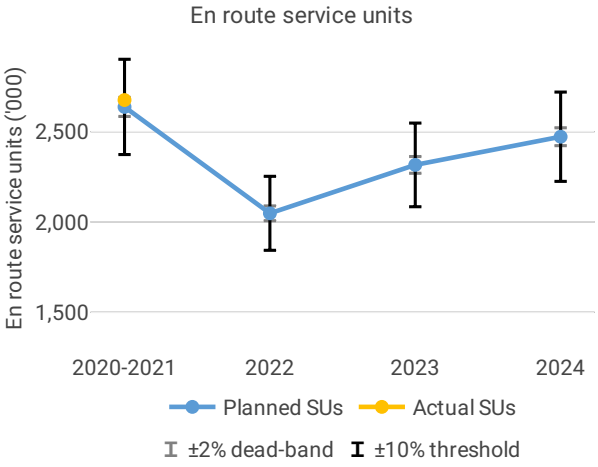
• Avinor ANS spent 20.6 M€2017 in 2021 related to costs of investments, +1.9% higher than the determined (20.3 M€2017), caused by a higher net book value than planned, specifically due to the increase of investment in a new ATM-system.

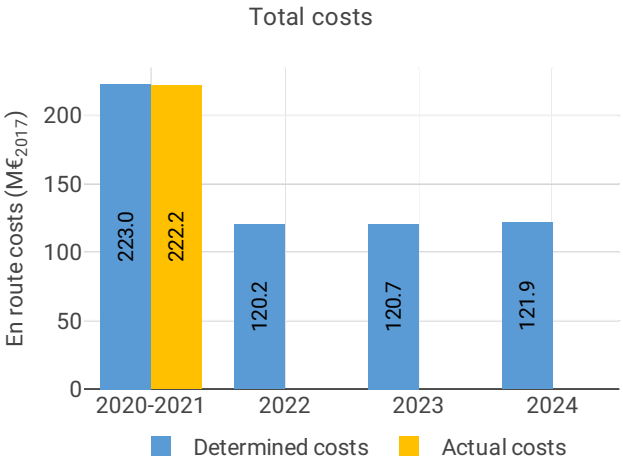
• The en route actual unit cost incurred by users in 2020/2021 was 48.11€, while the terminal actual unit cost incurred by users was 159.82€.

5.2 En route charging zone

5.2.1 Unit cost (KPI#1)

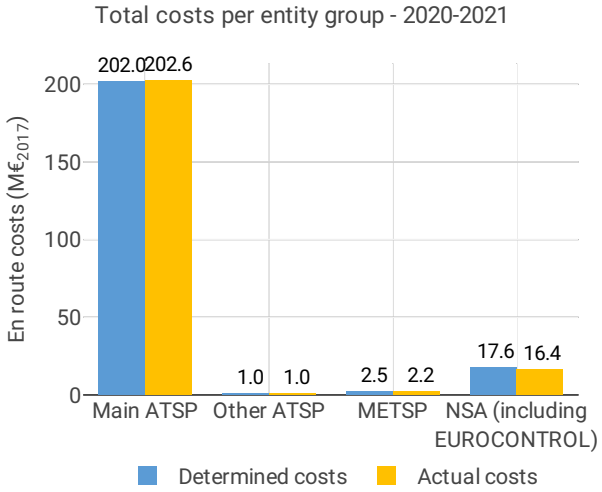


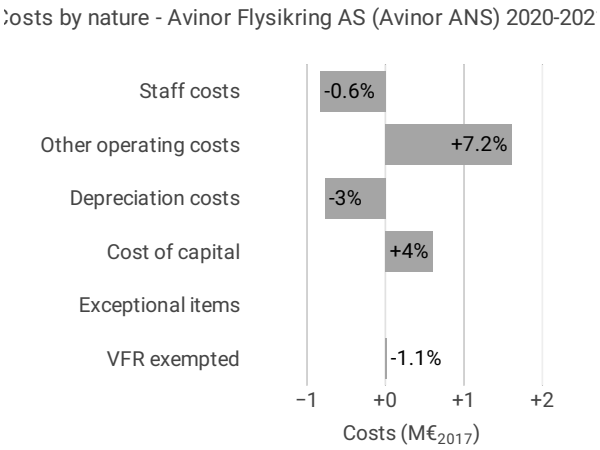




Actual and determined data

Total costs - nominal (M€)	2020-2021	2022	2023	2024
Actual costs	237	NA	NA	NA
Determined costs	236	130	133	136
Difference costs	1	NA	NA	NA
Inflation assumptions	**2020-2021**	**2022**	**2023**	**2024**
Determined inflation rate	NA	2.0%	2.0%	2.0%
Determined inflation index	NA	111.2	113.4	115.6
Actual inflation rate	NA	NA	NA	NA
Actual inflation index	NA	NA	NA	NA
Difference inflation index (p.p.)	NA	NA	NA	NA





Focus on unit cost

AUC vs. DUC

In the combined year 2020-2021, the en route AUC was -1.8% (or -14.16 NOK2017, -1.52 €2017) lower than the planned DUC. This results from the combination of higher than planned TSUs (+1.5%) and slightly lower than planned en route costs in real terms (-0.4%, or -7.3 MNOK2017, -0.8 M€2017).

En route service units

The difference between actual and planned TSUs (+1.5%) falls within the ±2% dead band. Hence the resulting additional revenue is kept by the ANSPs.

En route costs by entity

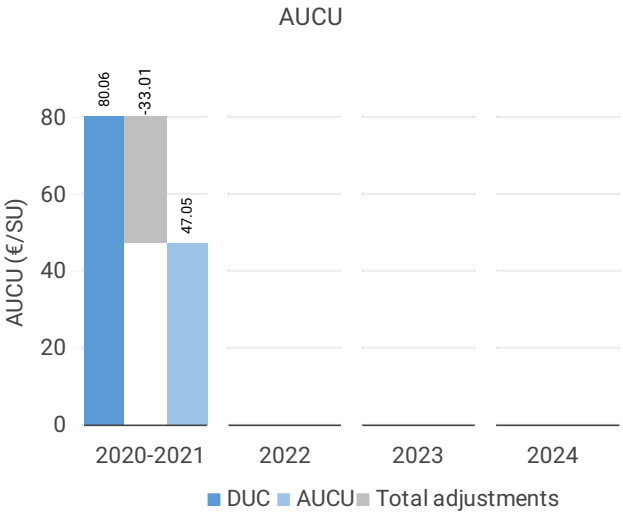
Actual real en route costs are -0.4% (or -0.8 M€2017) lower than planned. This is driven by the NSA/EUROCONTROL (-6.7%, or -1.2 M€2017) and the MET service provider (-8.0%, or -0.2 M€2017), while actual costs of the main ANSP (Avinor) and the other ANSP (KJE) are close to planned costs (+0.3% and -0.7%, respectively).

En route costs for the main ANSP at charging zone level

The slightly higher than planned en route costs in real terms for Avinor (+0.3%, or +0.6 M€2017) result from the combination of:

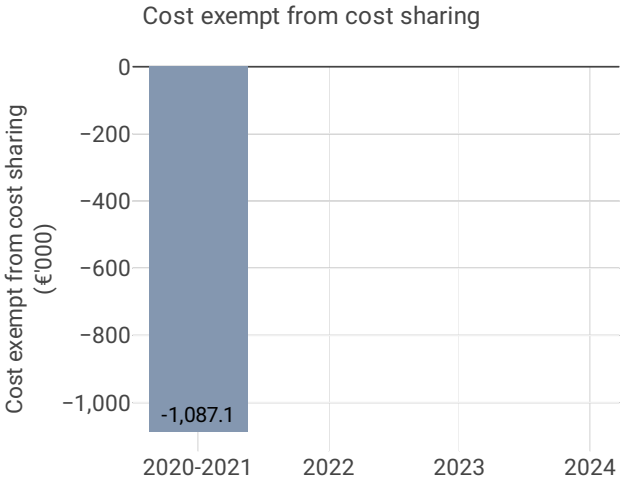
- slightly lower staff costs (-0.6%);
- higher other operating costs (+7.2%), mainly explained by the decommissioning of radar components (one-off effect), increase in rent at Bodo ACC relating to security and capitalisation of ADQ-investment (capitalized in the mother company Avinor AS and accounted as an intercompany purchase/other operating costs in Avinor ANS);
- lower depreciation (-3.0%), mainly due to the radar components decommissioning;
- higher cost of capital (+4.0%), driven by a higher investment level mainly relating to the new ATM system and the NORWAM project; and,
- slightly lower than planned deduction for VFR exempted flights (-1.1%).

5.2.2 Actual unit cost incurred by the users (AUCU) (PI#1)



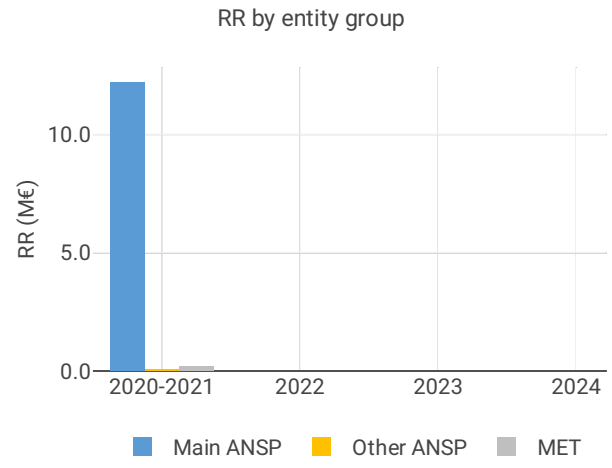
AUCU components (€/SU) – 2020-2021

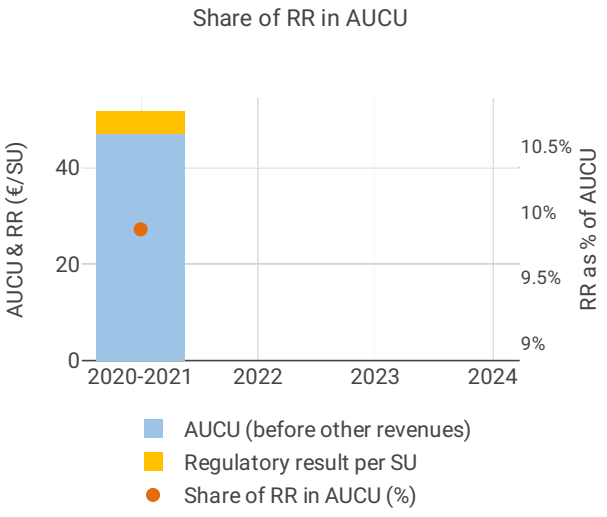
Components of the AUCU in 2020-2021	€/SU
DUC	**80.06**
Inflation adjustment	0.52
Cost exempt from cost-sharing	-0.41
Traffic risk sharing adjustment	0.00
Traffic adj. (costs not TRS)	-0.10
Finantial incentives	0.00
Modulation of charges	0.00
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	-33.02
Total adjustments	-33.01
AUCU	**47.05**
AUCU vs. DUC	**-41.2%**

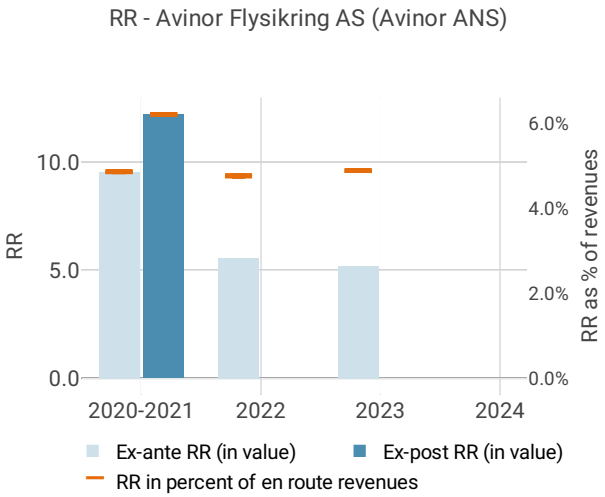


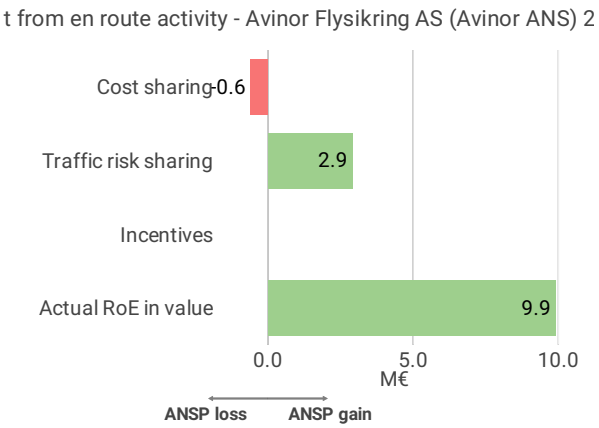
Cost exempt from cost sharing by item - 2020-2021	€'000	€/SU
New and existing investments	0.0	0.00
Competent authorities and qualified entities costs	-19.0	-0.01
Eurocontrol costs	-1,068.2	-0.40
Pension costs	0.0	0.00
Interest on loans	0.0	0.00
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**-1,087.1**	**-0.41**

5.2.3 Regulatory result (RR)







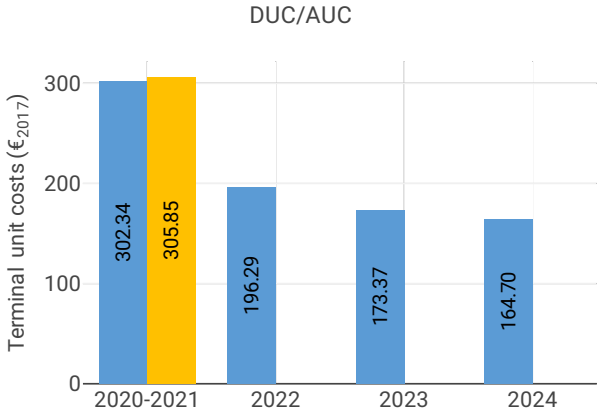


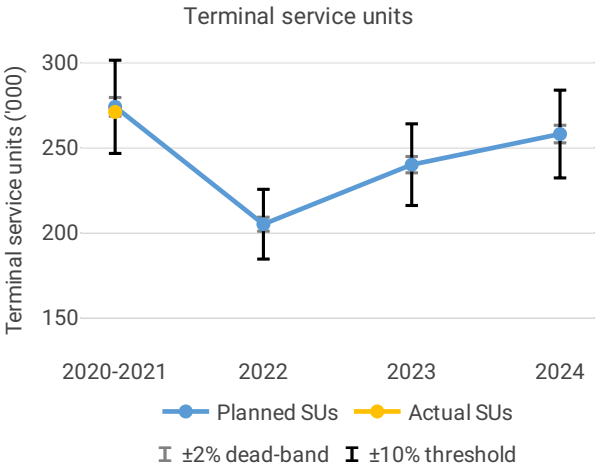
Focus on regulatory result

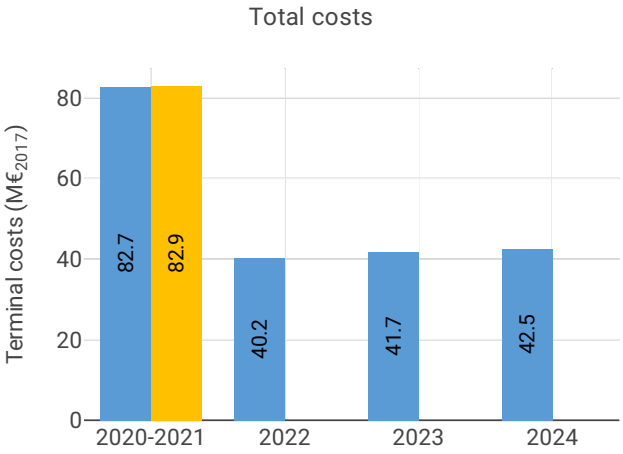
Avinor net gain on activity in Norway en route charging zone in the combined year 2020-2021
A net gain of Avinor of +26.5 MNOK (+2.6 M€), results from a combination of a loss of -2.9 MNOK arising from the cost sharing mechanism and a gain of +29.4 MNOK arising from the traffic risk sharing mechanism.
Avinor overall regulatory results (RR) for the en route activity
Ex-post, the overall RR corresponding to the net gain from the en route activity mentioned above (+26.5 MNOK) and the RoE (+103.2 MNOK) amounts to a gain of +129.7 MNOK (6.3% of the en route revenues). The resulting ex-post rate of return on equity is 12.8%. Please see also **Note 2** above.

5.3 Terminal charging zone

5.3.1 Unit cost (KPI#1)

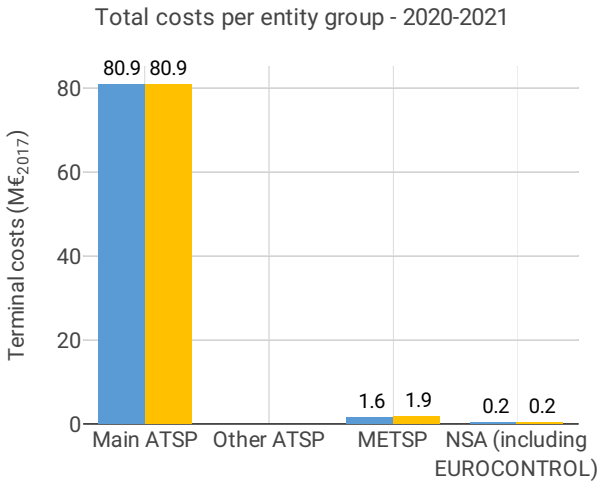


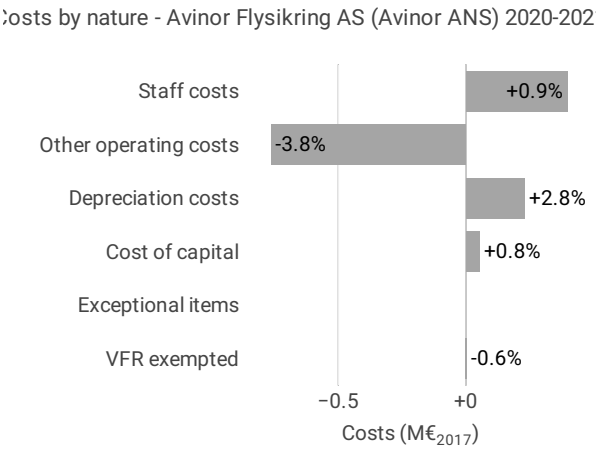




Actual and determined data

Total costs - nominal (M€)	2020-2021	2022	2023	2024
Actual costs	89	NA	NA	NA
Determined costs	88	44	46	48
Difference costs	1	NA	NA	NA
Inflation assumptions	**2020-2021**	**2022**	**2023**	**2024**
Determined inflation rate	NA	2.0%	2.0%	2.0%
Determined inflation index	NA	111.2	113.4	115.6
Actual inflation rate	NA	NA	NA	NA
Actual inflation index	NA	NA	NA	NA
Difference inflation index (p.p.)	NA	NA	NA	NA





Focus on unit cost

AUC vs. DUC

In the combined year 2020-2021, the terminal AUC was +1.2% (or +32.83 NOK2017, +3.52 €2017) higher than the planned DUC. This results from the combination of slightly lower than planned TNSUs (-0.9%) and slightly higher than planned terminal costs in real terms (+0.3%, or +2.0 MNOK2017, +0.2 M€2017).

Terminal service units

The difference between actual and planned TNSUs (-0.9%) falls within the ±2% dead band. Hence the resulting loss in terminal revenue is borne by the ANSPs.

Terminal costs by entity

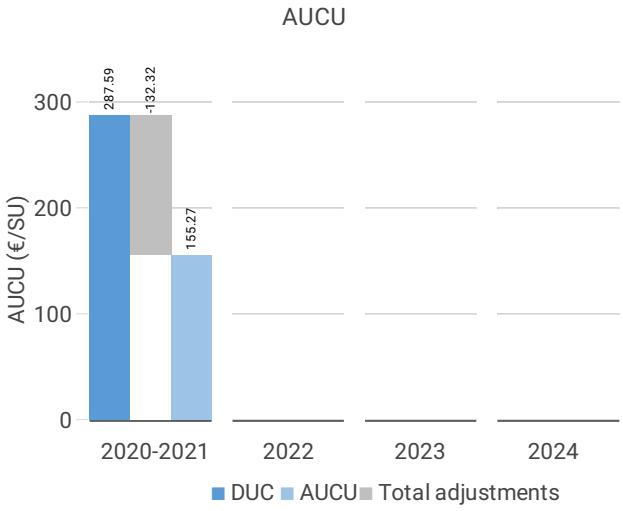
Actual real terminal costs are +0.3% (or +0.2 M€2017) higher than planned. This is driven by the MET service provider (+18.9%, or +0.3 M€2017), while the actual costs of the main ANSP (Avinor) and the NSA are close to the determined costs (-0.1% and -2.8%, respectively).

Terminal costs for the main ANSP at charging zone level

The slightly lower than planned terminal costs in real terms for Avinor (-0.1%, or -0.1 M€2017) result from the combination of:

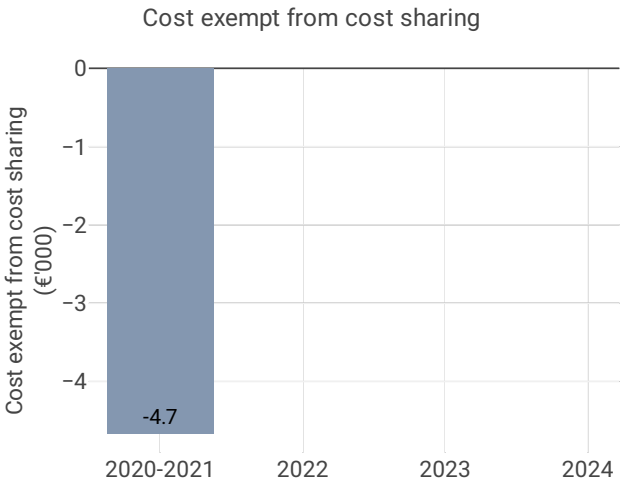
- slightly higher staff costs (+0.9%);
- lower other operating costs (-3.8%), mainly due to cost-savings in travel expenses and external support;
- slightly higher depreciation and cost of capital (+2.8% and +0.8%, respectively), due to the higher cost of investment relating to the new radar at Oslo airport and IT equipment; and,
- slightly lower than planned deduction for VFR exempted flights (-0.6%).

5.3.2 Actual unit cost incurred by the users (AUCU) (PI#1)



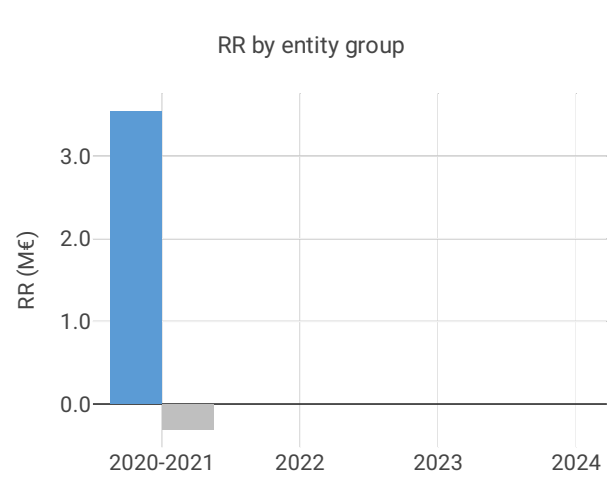
AUCU components (€/SU) – 2020-2021

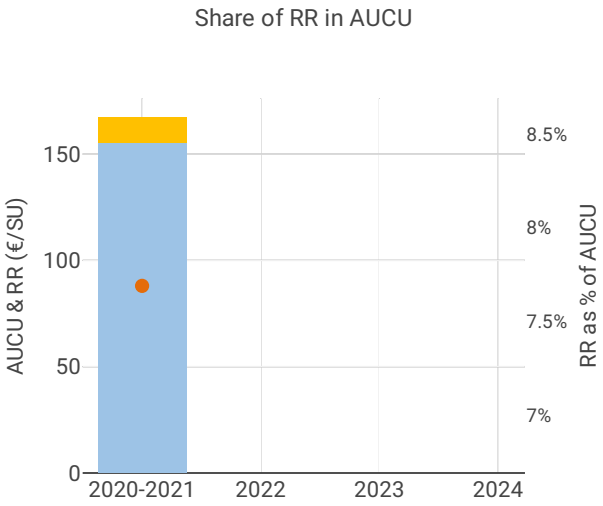
Components of the AUCU in 2020-2021	€/SU
DUC	**287.59**
Inflation adjustment	2.07
Cost exempt from cost-sharing	-0.02
Traffic risk sharing adjustment	0.00
Traffic adj. (costs not TRS)	0.06
Finantial incentives	0.00
Modulation of charges	0.00
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	-134.42
Total adjustments	-132.32
AUCU	**155.27**
AUCU vs. DUC	**-46.0%**

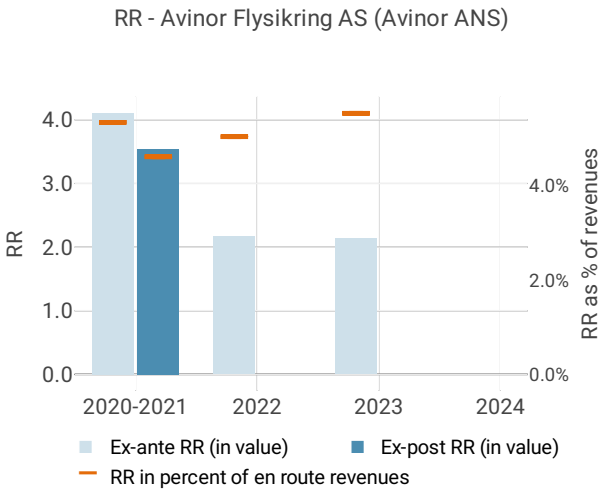


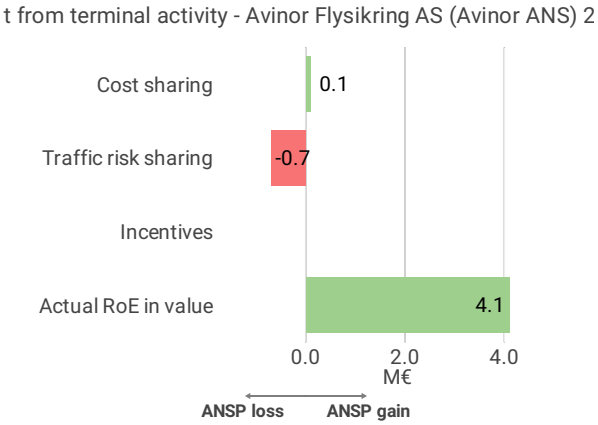
Cost exempt from cost sharing by item - 2020-2021	€'000	€/SU
New and existing investments	0.0	0.00
Competent authorities and qualified entities costs	-4.7	-0.02
Eurocontrol costs	0.0	0.00
Pension costs	0.0	0.00
Interest on loans	0.0	0.00
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**-4.7**	**-0.02**

5.3.3 Regulatory result (RR)









Focus on regulatory result

Avinor net loss on activity in Norway terminal charging zone in the combined year 2020-2021
Avinor incurred a net loss of -3.4 MNOK (-0.3 M€), resulting from a combination of a gain of +3.8 MNOK arising from the cost sharing mechanism and a loss of
-7.2 MNOK arising from the traffic risk sharing mechanism.
Avinor overall regulatory results (RR) for the terminal activity
Ex-post, the overall RR corresponding to the net loss from the terminal activity mentioned above (-3.4 MNOK) and the RoE (+43.1 MNOK) amounts to a gain of +39.8 MNOK (4.9% of the terminal revenues). The resulting ex-post rate of return on equity is 9.4%. Please see also **Note 2** above.