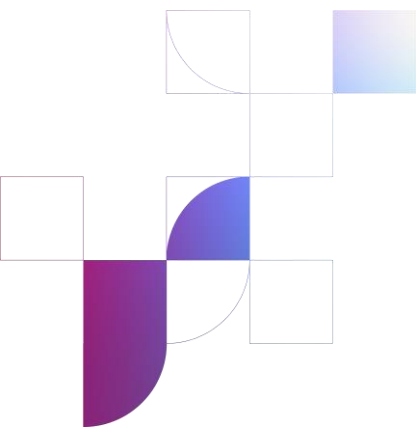


BEREC Opinion on the Commission Implementing Regulation (EU) 2016/2286 on Fair Use Policy and the Sustainability mechanism



30 March 2023

Contents

Executive summary	2
BEREC's findings regarding FUP measures.....	2
BEREC's findings regarding the derogation mechanism	3
Areas for future improvement	3
1. Introduction	6
2. Analysis of FUP	6
2.1. Overall performance of the FUP	6
2.2. Relevance and coherence of FUP with the Roaming Regulation and the overall telecom regulatory framework.....	11
2.3. Assessment of the effectiveness of FUP measures for operators	11
2.3.1. Residence/stable link criterion	12
2.3.2. Four-month window.....	12
2.3.3. Open data bundle limits	13
2.3.4. Pre-paid limits.....	13
2.3.5. Other control mechanisms	13
2.4. BEREC assessment of the effects for consumers of FUP measures.....	14
2.5. Supervision of FUP rules	20
2.6. Efficiency of the FUP	21
2.7. Conclusion regarding the FUP measures.....	21
3. Analysis of Derogation Rules	22
3.1. Overall performance of the derogation rules	22
3.2. Assessment of sustainability problems for operators	23
3.3. Functioning of the Derogation mechanism and its effectiveness for operators and consumers.....	24
3.4. Efficiency of the derogation rules.....	26
3.5. Conclusion regarding the derogation rules.....	27
4. Forward looking questions	27
4.1. Areas for future improvement of the rules	27
4.1.1. Clarification of regulatory provisions	28
4.1.2. Clarifications of the transparency provisions	28
4.1.3. Design of the FUP	29
4.2. Further limitation of the measures under a FUP to exceptional cases	30
4.2.1. Conclusions	33
4.3. Alternative measures	34
4.4. Conclusion	35
5. Annex 1 - Summary of the Call for input about the review of the CIR on the FUP and Sustainability	38
a. General comments	38
b. Fair usage policy	40
c. Sustainability	47
d. Wholesale prices	49
e. Other issues	55

Executive summary

In response to the European Commission's (EC) request for expert views on the Commission Implementing Regulation 2016/2286 (hereinafter CIR), BEREC has analysed data collected for the roaming data report (formerly, IR BMK and Transparency and Comparability Reports) and the responses by stakeholders to a call for input in November and December 2022.

BEREC's findings regarding FUP measures

Based on these analyses, BEREC observes that the Fair Use Policy (FUP) mechanisms foreseen by the CIR have been used by MNOs and MVNOs alike to prevent anomalous usage of regulated roaming services. In addition, the relatively low volumes consumed that are surcharged (RLAH+ because of exceeding the FUP) shows that their subscribers mostly consumed roaming volumes consistent with their respective tariff plans (i.e. did not face restrictions due to FUP application).

BEREC confirms that the FUP remains relevant and coherent with Regulation (EU) 2022/612 of the European Parliament and of the Council of 6 April 2022 on roaming on public mobile communications networks within the Union (hereafter "Roaming Regulation") and the overall telecommunications regulation framework. The analysis of RLAH+ volumes¹ due to FUP measures shows that volumes being surcharged are low (4,6 % of the total RLAH data volume in 2022), which indicates that consumers have been able to benefit from RLAH and the FUP seems to affect customers only in limited circumstances.

As regards the effectiveness of the FUP measures, it can be observed that the implementation of the **residence/stable link criterion** has steadily declined since the introduction of RLAH. The implementation of the **four-month observation window** has also declined in comparison to 2018. However, both FUP measures are still useful to roaming providers to reduce the possibility of arbitrage or avoiding anomalous roaming.

The **open data bundle** is the most popular FUP measure and respondents considered this to be the most effective tool. As the formula used for the calculation of the open data bundle leads to increasing data limits when regulated caps decrease, users with above average data usage most probably are adequately protected also in the years to come.

The usage of **prepaid limits** has remained consistently low, reaching its peak of implementation in 2022. **Other control mechanisms**, i.e. SIM cards used mostly or exclusively for roaming or the sequential use of multiple SIM cards by the same customer while roaming, have shown an uptake, but retain a relatively low share.

NRAs monitored the FUPs notified to them by the roaming providers and carried out **supervisory measures**, such as checking the general terms and conditions and processing complaints. The monitoring conducted annually in the scope of the BEREC reports, for

¹ RLAH+ volumes, are volumes that are charged with a surcharge in addition to the domestic price, because of either exceeding the FUP or because an operator is granted a derogation.

instance, shows that roaming providers have complied with their obligations to provide information in the Welcome SMS. While there was a spike in the number of NRAs receiving over 200 complaints in 2022, the **overall low** numbers of **complaints** received about roaming indicate that consumers have benefitted from increasingly harmonised implementation of FUPs and facilitated coordination between NRAs. Compared to the number of tourists and roaming subscribers, BEREC concludes that subscribers do not face issues with understanding the FUP and derogation rules.

BEREC's findings regarding the derogation mechanism

BEREC confirms that the derogation mechanism appears to ensure the sustainability of domestic charging models, as the decline of applications for derogations follows the decline of the wholesale price caps. The derogation mechanism remains useful, which was also underlined by stakeholders.

Roaming providers continue to avail themselves of this mechanism, even though the number of applications for derogation declined by 77 % between 2017 and 2022. The types of roaming provider receiving a derogation were quite heterogeneous and included MNOs, MVNOs and light resellers with different market shares, who did not always make use of derogations when they were granted to them.

Along with the total number of applications, the number of rejected applications has also been declining. The rejection of an application was often due to incomplete data and do not appear to have led to a market exit of roaming providers.

NRAs assess applications for derogations for sustainability reasons based on relevant objective factors as required by the Roaming Regulation. For the majority of roaming providers, the applications for derogation required up to 20 person days to be prepared, while NRAs spent on average 28 person days for examining each derogation.

BEREC did not find any evidence of increased domestic or RoW prices following the introduction of RLAH, or negative consequences due to the 3 % negative roaming margin required by Article 10 CIR.

Areas for future improvement

Based on BEREC's monitoring and the feedback received during the call for input, there seems to be some room to further simplifying the rules. On the one hand, the transparency provisions can be difficult to comprehend for subscribers: it should therefore be further clarified that RLAH only addresses periodic travelling. An information campaign could be useful to raise general awareness, as the Welcome SMS already contains sufficient information. In addition, an information could also contribute to clarify further more the difference between roaming and international calls.

In general, as the average retail revenue per user (ARRPU) remains quite heterogeneous throughout the EU/EEA, BEREC still does not see a homogeneous convergence of pricing at

domestic levels. The risk of distortion of competition appears to be low and no serious arbitrage offers have been brought to BEREC's attention and FUP might have contributed to this. The FUP rules currently appear to address the needs of cross-border workers, Erasmus students spending shorter periods abroad (i.e. opting in for 2-month academic terms or blended mobility) and digital nomads. Although some criticism was received, stakeholders overall supported the continuation of the FUP measures and the sustainability derogations. As noted above, the FUP measures – while important – can be difficult to implement for roaming providers. However, BEREC considers that for the FUP rules – with the exception of the “other objective indicators” – the implementation has already been carried out by the operators, and therefore no major changes that require further technical implementation should be foreseen.

BEREC recognises that the stable link concept is complex in parts. However, it takes into account of the fact that end users can move freely within the EU while also having a stable link in a certain Member State for a time, regardless of their actual place of residence. For this reason, BEREC supports the continued inclusion of this measure in the CIR.

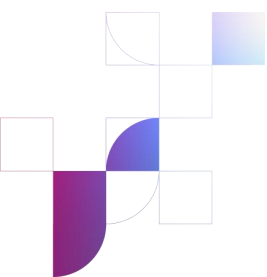
In BEREC's view, the open data bundles FUP measure has in practice proved limiting anomalous usage, in particular in the case of unlimited domestic data tariff plans. This is especially due to the simple application of the calculation compared to the implementation of other FUP measures. In BEREC's view, roaming providers should be able to continue availing themselves of this measure.

With regard to adapting the formula to calculate a minimum roaming allowance, BEREC emphasises that a potential change to the formula, as demanded by many roaming providers, must take into utmost account that roaming customers should enjoy an approximate data volume like at home while traveling the Union. However, BEREC would welcome a clarification in a possible new CIR that in cases where the calculation of a minimum roaming allowance exceeds the national data volume, the roaming allowance should be set to equal the domestic allowance.

BEREC takes note of the comments submitted by stakeholders regarding the control mechanism. However, in BEREC's view, a general abolition of this measure or reduction to only one indicator (either prevailing presence or prevailing usage) is not advisable. While the initial implementation was difficult and costly for most roaming providers, it is still the best way to detect abusive and anomalous usage without restricting the use pre-emptively or unnecessarily for end users.

In the case of possible adaptations of the corresponding provisions, BEREC underlines that even smaller adjustments should be carefully evaluated as further modifications to the existing control mechanism could be expensive to implement for roaming providers.

The pre-pay limits on the other hand appear to be too complex to implement, as the calculation is very dynamic, and are not often used by operators. Therefore, BEREC believes that this provision should be substantially amended (or even deleted).



As the derogation rules appear to work effectively, BEREC does not propose any major changes, however would like to refer to the proposals made in the BEREC Opinion of 2019 that suggested small adjustments.



1. Introduction

In a letter received on 30 June 2022, the Commission asked BEREC to provide its expert views on the CIR based on the data collected by BEREC and the NRAs to support its evaluation and possible preparation of the impact assessment and a proposal for a new CIR.

Article 7 (1) Roaming Regulation stipulates that the Commission periodically reviews its implementing acts on the application of FUPs and sustainability derogations. The manner of this review is set out in Recital 29. In particular, the Commission should evaluate whether a sustainable provision of roaming services at domestic prices for periodic travelling and the limitation of the application and effects of the measures under a FUP to exceptional cases are possible. For this evaluation, the Commission should take market conditions, consumption and travel patterns, the evolution and convergence of pricing and the observable risk of distortion of competition into account.

In the Annex to the letter, the Commission included a list of questions which BEREC should address. These included seven questions (excl. sub-questions) on the overall performance of the FUP and the derogation rules and three forward-looking questions.

The data used for the preparation of this Opinion is based on BEREC's recurring data collections on roaming published in the 29th BEREC International Roaming Benchmark Data and Monitoring Report². This publication merges the previous data collections for the International Roaming BEREC Benchmark Data Report,³ as well as the Report on transparency and comparability of international roaming tariffs.⁴ In addition, BEREC also uses the input received from stakeholders provided in November/December 2022 via the call for input opened by BEREC. A short summary of the inputs received and some feedback is included in the various chapters. A full summary is available in the Annex to this Report.

2. Analysis of FUP

2.1. Overall performance of the FUP

EC questions:

In BEREC's view, to what extent has the FUP and derogation implementing rules achieved its objectives indicated in Art. 5 and Art. 6 of:

a) preventing abusive or anomalous usage of regulated retail roaming services by roaming customers, such as the use of such services by roaming customers in a Member State other

² www.berec.europa.eu

³ <https://www.berec.europa.eu/en/document-categories/berec/reports/international-roaming-berec-benchmark-data-report-april-2021-september-2021-and-berec-report-on-western-balkan-roaming-april-2021-september-2021>

⁴ <https://www.berec.europa.eu/en/document-categories/berec/reports/9th-berec-report-on-transparency-and-comparability-of-international-roaming-tariffs>

than that of their domestic provider for purposes other than periodic travel?

b) enabling the roaming provider's customers to consume volumes of regulated retail roaming services at the applicable domestic retail price that are consistent with their respective tariff plans?

BEREC analysed the data it has collected about the number of operators having implemented the different types of FUP envisaged in the CIR as well as the data on RLAH+ volumes due to different types of FUP in order to understand whether these rules have contributed to preventing abusive or anomalous usage of regulated retail roaming services by roaming customers. Anomalous usage refers to the use of roaming services by customers roaming in a Member State other than that of their domestic provider for purposes other than periodic travel.

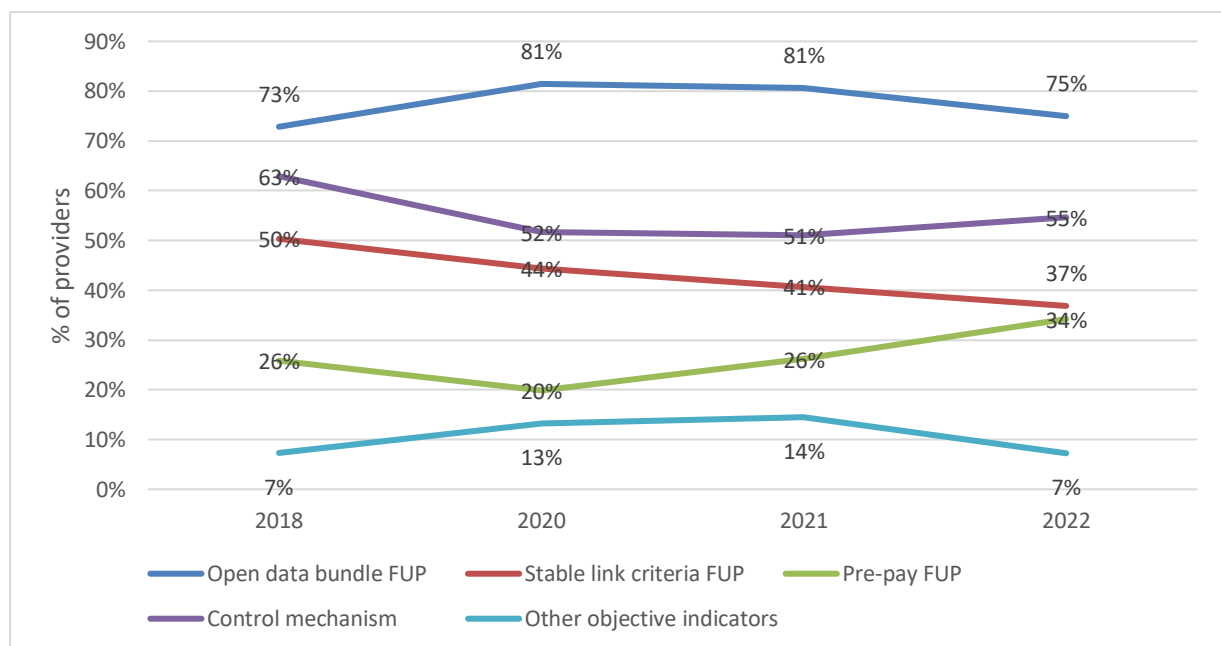


Figure 1 Ratio of operators implemented different types of FUP measures (based on data collected by BEREC for T&C report).

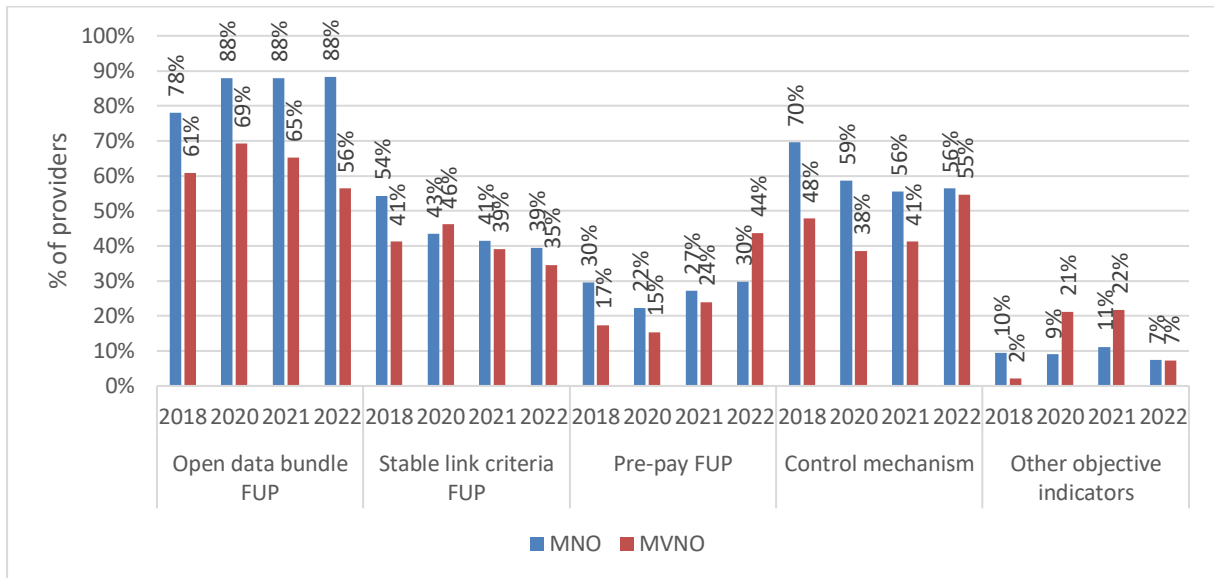


Figure 2 FUP implementations of MNOs and MVNOs (2018, 2020, 2021, 2022).

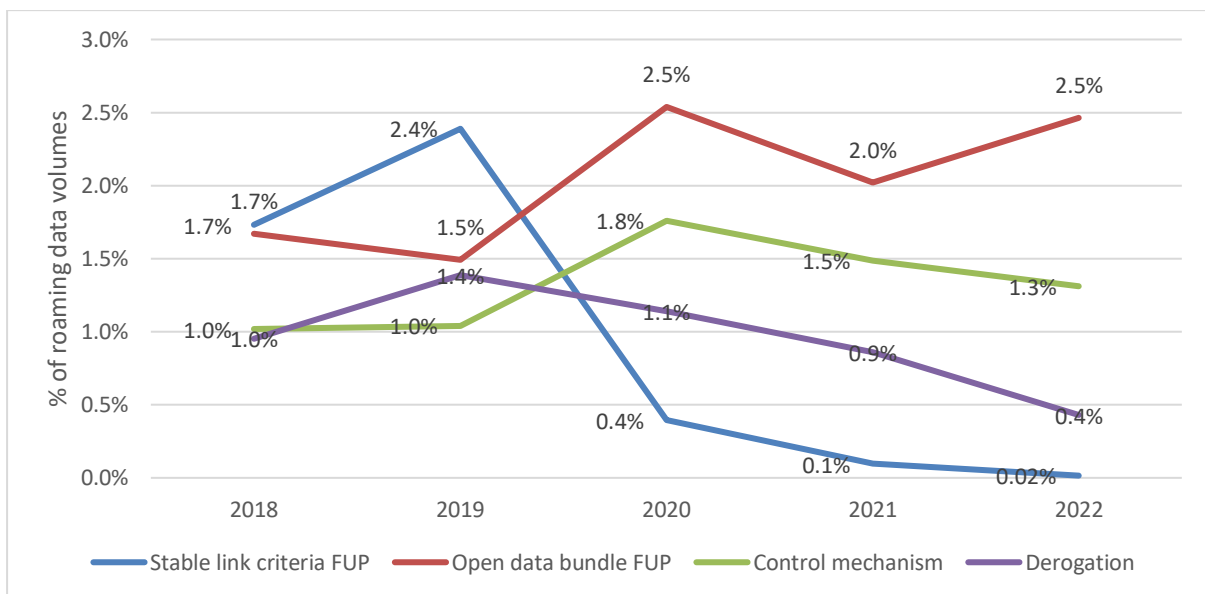


Figure 3 Ratio of RLAH+ data volumes from different FUP measures and sustainability derogation on total EU/EEA data roaming volumes (Q1 2018 – Q3 2022).

From the data presented in the three graphs above it could be concluded that specific types of FUP measures have been widely implemented by roaming providers. This is especially the case for open data bundle FUP and to a lesser extent for the control mechanism FUP, stable link FUP and pre-pay FUP (Figure 1 **Error! Reference source not found.**). FUPs based on other objective indicators are less popular among roaming providers.

In addition, the significantly low share of RLAH+ volumes due to applied FUP measures as well as from derogation/sustainability applications in Figure 3, confirm that FUP rules have enabled the roaming providers’ customers to consume volumes of regulated retail roaming



services at the applicable domestic retail price that are consistent with their respective tariff plans.

Looking at the FUP measures implemented by MNOs and MVNOs/resellers, some FUP measures remain consistently more popular among one type of provider (Figure 2). This is the case in particular for the open data bundle FUP, which was implemented by 56 % of responding MVNOs/resellers in comparison to 88 % of MNOs in 2022. One of the reasons may be that MVNOs more often have lower volumes included in the packages, which in turn leads to lower roaming volumes, and a separate limit might not be needed.

According to the feedback received during the call for input, many respondents stress the need to retain the FUP measures because of its instrumental role in limiting anomalous roaming consumption, especially for MVNOs.

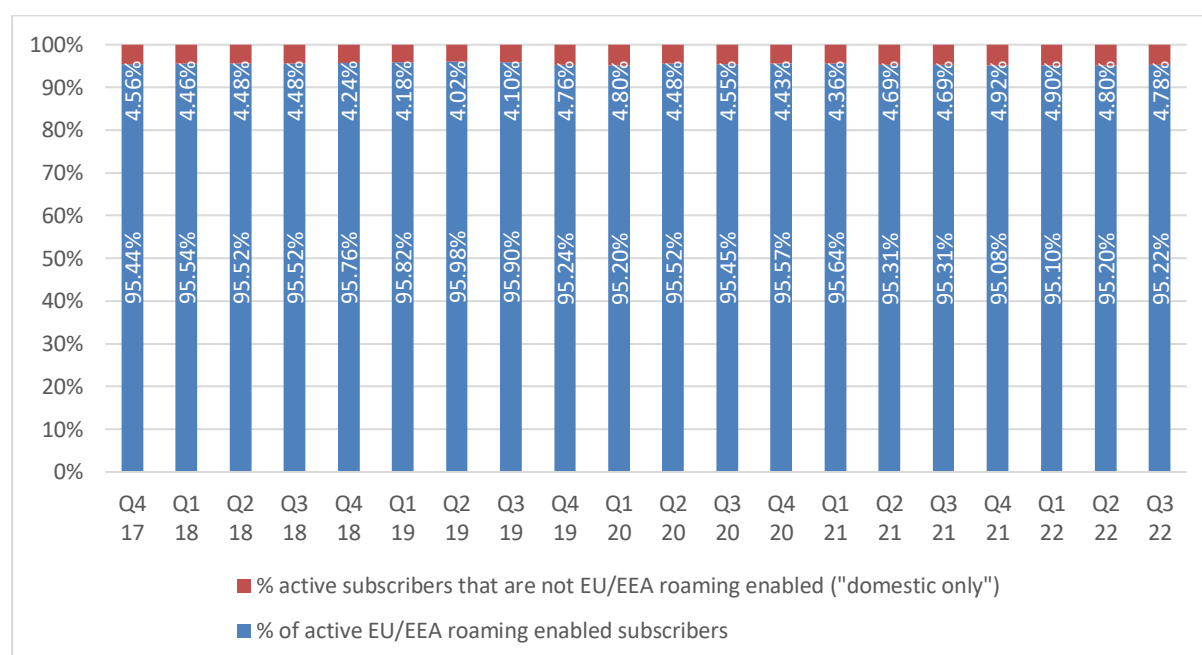


Figure 4 Comparison of the EEA average of the share of roaming enabled and domestic-only subscribers (Q4 2017 – Q3 2022).⁵

⁵ In the most recent round of data collections, some countries misinterpreted subscriber indicators, where corporate subscribers were mistakenly excluded from reporting as postpaid and prepaid subscribers. This led to a significantly lower subscriber base than usual. Unfortunately, BEREC was not able to solve this issue within the deadlines for publication.

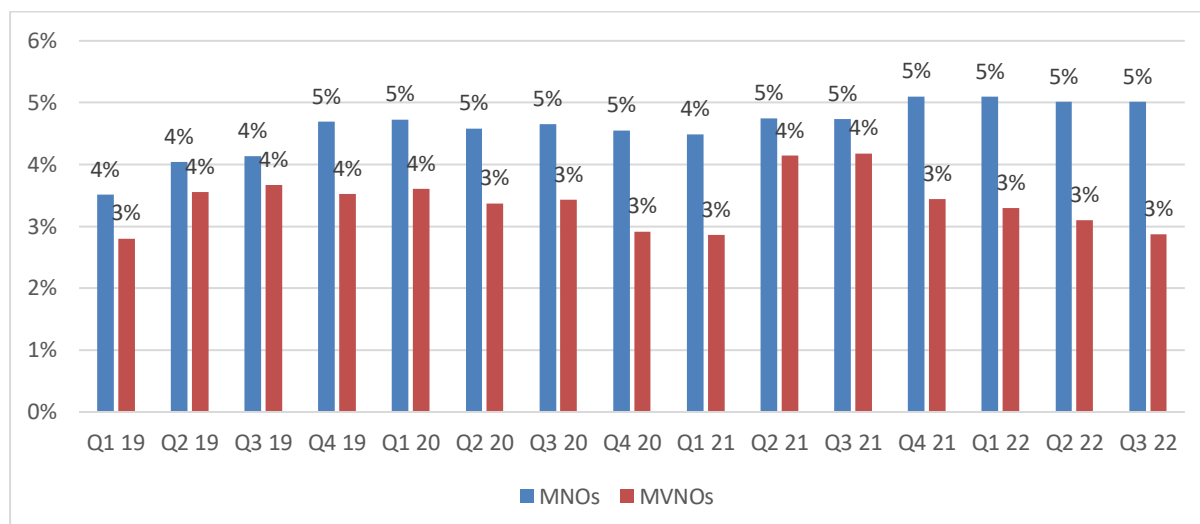


Figure 5 Comparison of the share of domestic-only subscribers of MNOs and MVNOs (Q1 2019 – Q3 2022).⁶

Another option for providers to limit the wholesale costs ensuing from the roaming usage of subscribers is to offer tariffs on a domestic-only basis. As can be seen from the EEA average presented in Figure 4, only a low percentage of subscribers can be categorised as domestic-only (4,78 % in Q3 2022), and this average has remained quite stable over time. This indicates that, overall, domestic-only tariffs are not implemented as a primary tool for limiting the expenses incurred by roaming providers. At country-level, there can, however, be significant differences: While the share of domestic-only subscribers in Q3 2022 exceeds 10 % only in 4 countries, this share can vary between 0,01 % and 45,26 %. As shown in Figure 5, the percentage of domestic only tariffs is quite similar for MNOs and MVNOs.

Stakeholder answer to the call for input: Stakeholders have in their replies to BEREC underlined the importance of FUPs. They argue that the existing FUPs are still necessary and important to maintain sustainability, especially for smaller operators. FUPs have allowed the development of unlimited data packages for the benefit of consumers and have prevented abusive behaviour of roaming customers, avoiding negative effects on market players. Some also highlight that FUPs will become even more crucial in a M2M scenario, where the FUP allows operators to prevent massive use of their M2M solution abroad, which would open up the doors for harmful arbitrage.

However, all respondents ask for simplifications, in order to make the FUPs transparent and easy to understand for customers, easy to implement for network operators, and based on cost-effective solutions. According to the input received, the costs of implementing the monitoring mechanism were much higher than what operators could earn from RLAH and this might be a disincentive for applying it.

⁶ In the most recent round of data collections, some countries misinterpreted subscriber indicators, where corporate subscribers were mistakenly excluded from reporting as postpaid and prepaid subscribers. This led to a significantly lower subscriber base than usual. Unfortunately, BEREC was not able to solve this issue within the deadlines for publication.

2.2. Relevance and coherence of FUP with the Roaming Regulation and the overall telecom regulatory framework

EC question:

Would BEREC consider the FUP and derogation rules relevant and coherent with the Roaming Regulation and the overall telecom regulatory framework?

BEREC considers that FUP rules are relevant and coherent with the Roaming Regulation as the purpose of it is to enable a single market in case of periodic travel. The FUP mechanism is relevant and coherent with the telecom regulatory framework as it intends to prevent permanent roaming of mobile subscribers and its implications. The objective of the telecom regulatory framework is to: (a) implement an internal market in electronic communications networks and services that results in the deployment and take-up of very high capacity networks, sustainable competition, interoperability of electronic communications services, accessibility, security of networks and services and end user benefits; and (b) ensure the provision throughout the Union of good quality, affordable, publicly available services through effective competition and choice, to deal with circumstances in which the needs of end users, including those with disabilities, for accessing the services on an equal basis with others, are not satisfactorily met by the market, and to guarantee the necessary end user rights.

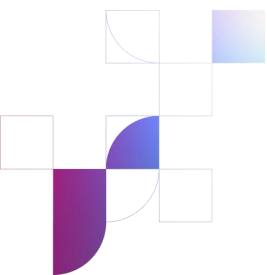
BEREC notes that it is necessary to distinguish between permanent roaming for mobile subscribers and permanent roaming for connected devices and objects. While both entail the use of roaming services over long periods of time, the provisions for RLAH included in the Roaming Regulation only apply to cases of periodic travel. When the condition of periodic travel is not fulfilled, roaming usage by mobile subscribers (including those of connected devices and objects) becomes, by definition, anomalous. In case of persistent anomalous roaming, roaming providers would not have an incentive to invest in ensuring good quality connectivity for the benefit of end users. Therefore, the objectives of the framework would be compromised. For connected devices and objects, on the other hand, permanent roaming is necessary to allow the development of specialised offers, however the price caps for those services are not obligatory but roaming providers may apply offers tailored to connected objects/devices.

2.3. Assessment of the effectiveness of FUP measures for operators

EC questions:

How would BEREC assess the effectiveness for operators of FUP measures?

Please add an assessment per category (Residence/ stable link criterion, four-month window, open data bundle limits, pre-paid limits and other control mechanism)



2.3.1. Residence/stable link criterion

According to BEREC's data in Figure 1 **Error! Reference source not found.**, the stable link criterion is implemented by 37 % of the responding providers in 2022. This number decreased from 50 % of respondents in 2018.

RLAH+ volumes from the application of stable links (Figure 3) were only 0.02 % in 2022. This is also a decrease from 1.7 % in 2018. This means that the implementation of stable link criterion is the category that contributes with the lowest volume to the total RLAH+ volumes.

Stakeholder answer to the call for input: *A group of roaming providers argues that the mechanism for proving this criterion is ineffective. Any customer can provide a copy of their ID, even in cases when they work/study abroad, and their ID still includes the address of their residence on the territory of that particular Member State.*

2.3.2. Four-month window

BEREC's data for 2022 in Figure 1 shows that the four-month window control mechanism is implemented by 55 % of the responding operators. This is a lower rate of implementations than for open data bundle and it is also a slight decrease from the figures for 2018 when 63 % of respondents implemented the control mechanism.

The volume of RLAH+ for data due to the four-month window control mechanism is only 1.3 % of the total volume for 2022, which however also includes the volumes defined as RLAH+ due to other indicators like long inactivity of SIM cards or sequential use of SIM cards. There has been a slight increase over the years (from 1 % in 2018), however this is probably not significant enough to indicate any trends.

Stakeholder answer to the call for input: *Several respondents have mentioned that fair use rules which foresee the (ex post) monitoring of roaming vs domestic presence and traffic are extremely costly and complex to implement. Therefore, in some cases, operators have decided not to use this tool at all.*

One group of roaming providers argues that the requirement of prevailing consumption of regulated roaming services over domestic and non-EU consumption is not objective and unjustifiably discriminates users who make little use of both domestic and roaming services, although such users generate lower costs for roaming providers than so-called heavy users. In case of unlimited tariff plans, this indicator can be easily influenced by the user at no extra cost for them, e.g. by increasing domestic consumption instead of reducing roaming consumption. This would even further increase the costs on the part of the service provider.

According to these respondents, the application of this FUP measure leads to a situation in which two subscribers of the same domestic tariff plan, consuming regulated roaming services in the same way (e.g. 100 minutes) and using roaming for the same period (and thus also domestically), will be charged differently for using regulated roaming services. The charging (i.e. application of an additional surcharge or its absence) would only depend on the volumes used domestically and would be inversely proportional to domestic consumption. This means that a user who consumes more domestic services will pay less when roaming. The

respondents believe this leads to an absurd situation in which a customer who generates higher costs (with the same subscription value) must be treated better than the one generating generally lower costs.

Roaming providers also argue that the four-month observation period is too long from the perspective of occasional travels that are in the scope of the Roaming Regulation. The usual travelling abroad patterns do not exceed a one-month period.

2.3.3. Open data bundle limits

Open data bundle is most widely implemented among roaming providers according to BEREC's data. About 75 % of the respondents used this measure in 2022. In 2018, 73 % of respondents used this FUP, which increased to 81 % in 2020 and 2021.

This measure also generates the highest volume of RLAH + for data compared to other FUP measures, however the volumes are still at a low level (2,5 % in 2022). The figures implies that open data bundle seems to be viewed as the most efficient FUP measure which roaming providers can implement.

Stakeholder answer to the call for input: *Some respondents conclude that this measure is the most effective one amongst the options offered by the Roaming Regulation. A defined roaming allowance should be extended also to voice and SMS, at least in case of national voice and/or SMS unlimited offers.*

2.3.4. Pre-paid limits

Pre-paid limits were implemented by 34 % of roaming providers in 2022. It is an increase from the 2018 level of 26 %. The somewhat low implementation percentage might be due to less providers offering prepaid than post-paid contracts, or due to the fact that bundles are usually offered to prepaid subscribers and these are preferred over metered tariffs.

2.3.5. Other control mechanisms

The data collected by BEREC shows that based on the implementation of other control mechanisms (SIM cards used mostly or exclusively for roaming, as well as the sequential use of multiple SIM cards by the same customer while roaming) is the least popular mechanism. While it did increase to 13 % and 14 % respectively in 2020 and 2021, the percentage of operators having implemented this measure has fallen again to about 7 % in 2022.

The volume of RLAH+ for data due to other control mechanisms is only 1,3 % of total volume for 2022, which however also includes the volumes defined as RLAH+ due to the four-month window.

Stakeholder answer to the call for input: *According to the respondents, other control mechanisms cannot be applied as long as pre-pay customers are not registered, i.e., their identity is not known. Therefore, the existing mechanism should be replaced by a significantly simpler one.*

2.4. BEREC assessment of the effects for consumers of FUP measures

EC question:

Have consumers been able to benefit from sufficient data at RLAH conditions while periodically travelling?

According to Figure 3, RLAH+ volumes due to FUP measures are very low – about 4,3 % of the total RLAH data volume in 2022. This indicates that few of the roaming customers have actually exceeded the limit defined in the FUP. Following from this, consumers have to a large degree been able to benefit from the RLAH conditions.

EC question:

Have the rules ensured harmonized and coherent implementation of fair use policies that roaming providers might apply to consumers?

BEREC has worked extensively to produce guidelines that should be easy and understandable, and at the same time sufficiently detailed, to ensure a harmonized implementation of the rules. BEREC has also facilitated a close coordination between the NRAs, all the way from the introduction of the Regulation and through the different reviews. This has secured a predictable implementation by the roaming providers, across the EU/EEA.

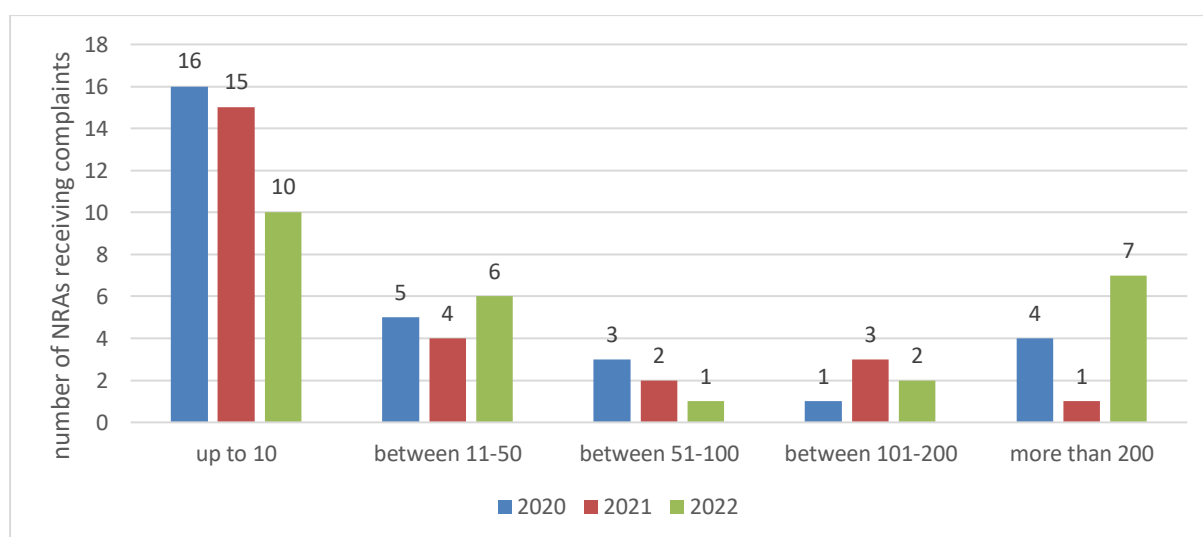


Figure 6 NRAs grouped by number of complaints.⁷

As Figure 6 shows, overall, the number of complaints received by NRAs regarding international roaming are quite low. The majority of NRAs received less than 50 complaints combined during a year, with only very few NRAs receiving higher numbers of complaints. It is noted, however, that the number of NRAs receiving more than 200 complaints, has seen a

⁷ Previously, the questionnaire used the following categories: 0, 1-10, 11-50, 51-100, 101-200, 201-400, 401-600. These were subsumed into the categories visible in the graph.

rise in 2022. The complaints received by these NRAs are mostly related to FUP, inadvertent roaming and lack of information. Although this development warrants some attention, BEREC still believes that the overall trend underlines the notion that the implementation of the FUP rules by the providers has all in all been coherent.

EC questions:

Have the consumers been properly informed about the rules and rights? (complaints on application of the transparency rules, complaints regarding lack of information, and possible indications from NRA supervisions)

Do the consumers have a sufficient understanding of the FUP and derogation rules?

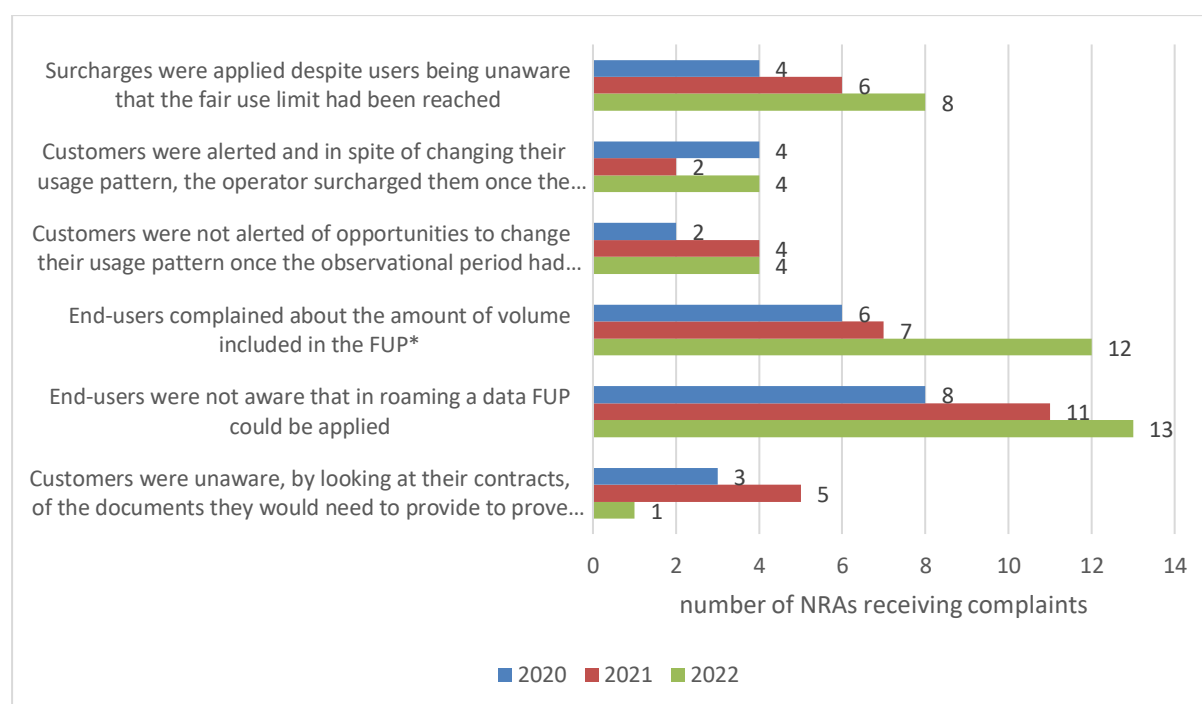


Figure 7 Number of NRAs that have received complaints related to FUP measures.⁸

According to BEREC data more than half of the NRAs have received complaints from consumers related to the transparency of FUP measures. The number of complaints received related to FUPs has in general been low: 11 NRAs received up to ten complaints about FUP-related topics, five NRAs received between 11 and 50 complaints, one NRA received between 51 and 100 complaints and one NRA received between 101 and 200 complaints.

It seems from Figure 7 that the development in numbers of complaints indicates that consumers have some difficulty in understanding the FUP and derogation rules. It is reasonable to pay attention to this development for the next reports. One could consider these data against data about tourism statistics,⁹ which indicates that about 20 million EU residents

⁸ The periods taken into consideration are: September 2019 – July 2020, August 2020 – July 2021, September 2021 – August 2022.

* This category used to be formulated as "end users complained about the value of the FUP".

⁹ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tourism_statistics

in 2021 travelled abroad for at least one night. It is reasonable to expect this number to increase or be stable when the 2022-numbers are published. Therefore, it still seems reasonable to conclude that there are overall a limited number of complaints.

EC question:

Have NRAs conducted any supervision/monitoring of the transparency obligations related to the automatic messages, i.e. whether operators inform customers by way of automatic message and whether the automatic message includes all the information required by the Roaming Regulation?

NRAs have collected data from roaming providers on an annual basis regarding the obligations related to the automatic welcome SMS. The feedback from roaming providers about which information is included in the automatic welcome message is shown in Figure 8. This is one source which allows NRAs to monitor the application of the transparency measures.

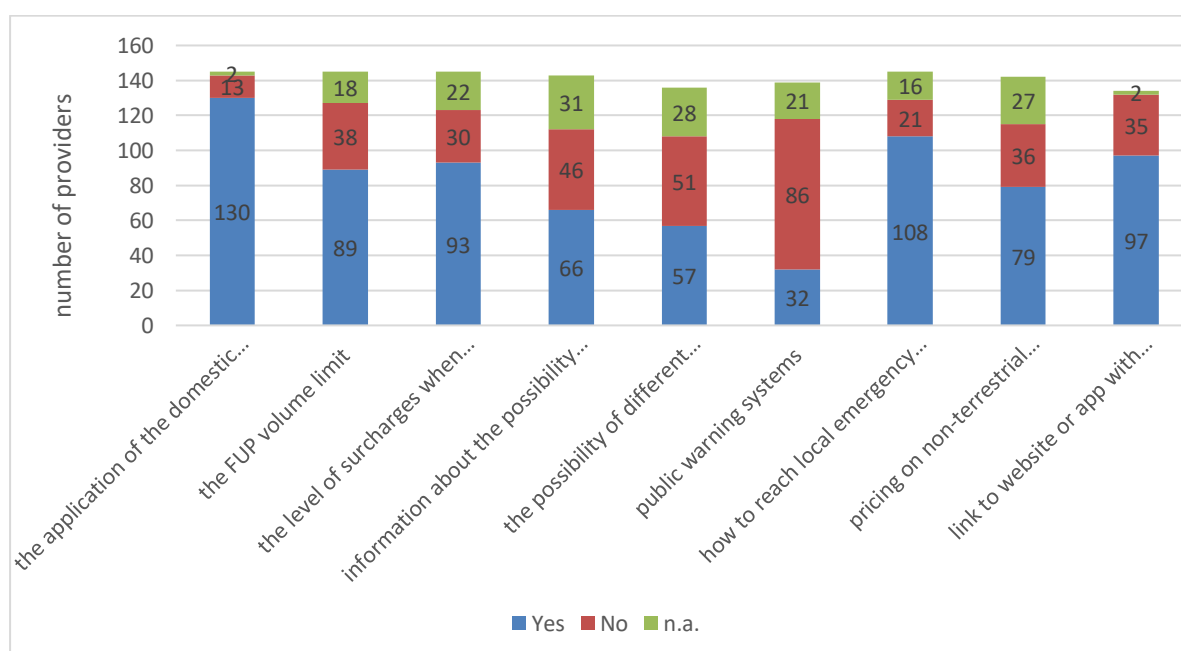


Figure 8 Feedback of roaming providers on information included in the automatic message (2022).

EC question:

To what extent have operators applied the residence and stable link requirement and how effective/efficient has it been to ensure fair usage of regulated roaming services?

According to BEREC's data (see Figure 1), the stable link criterion is implemented by 37 % of responding operators in 2022. It is a decrease from 50 % in 2018.

RLAH+ volumes from the application of stable links amounted to only 0.02 % in 2022, which is a decrease from 1.7 % in 2018 (see Figure 3 **Error! Reference source not found.**). This means that the lowest RLAH+ volumes are generated from the implementation of stable link criterion. Even though the RLAH+ volumes generated due to residence and stable link

requirements are low, this does not mean that these requirements are not important. They might play an important role for some roaming providers in reducing the possibility for arbitrage due to price differences between countries, and/or avoiding widespread use of anomalous roaming.

EC question:

Has FUP had any positive or negative effects on consumption of regulated roaming services?

According to **Error! Reference source not found.** and **Error! Reference source not found.** the prevailing trend seems to be an increase in average roaming data usage, from Q4 2019 to Q3 2022. The average monthly volume of data consumed by roaming subscribers¹⁰ by Q3 2022 is about 1.41 GB, while the value for Q4 2019 was 0.46 GB. Average roaming consumption by RLAH subscribers on a per-month basis has increased from 0,53 GB in Q4 2019 to 1,39 GB in Q3 2022.

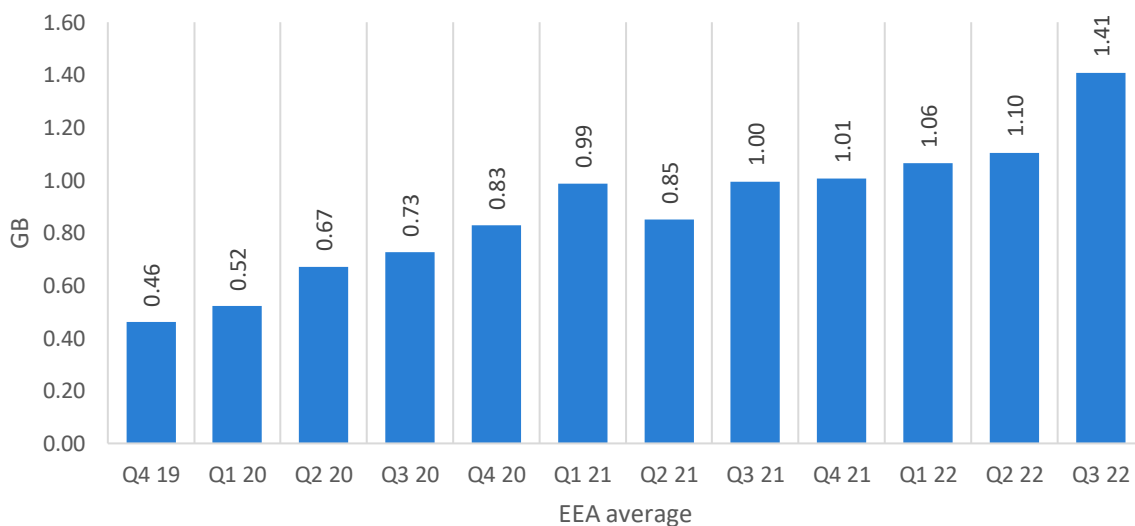


Figure 9 EEA average of the monthly roaming data consumption based on the total number of subscribers¹¹

¹⁰ In the most recent round of data collections, some countries misinterpreted subscriber indicators, where corporate subscribers were mistakenly excluded from reporting as postpaid and prepaid subscribers. This led to a significantly lower subscriber base than usual. Unfortunately, BEREC was not able to solve this issue within the deadlines for publication.

¹¹ Figure 23 in the 29th BEREC Report on International Roaming BEREC Benchmark Data and Transparency and Comparability Report of International Roaming Tariffs

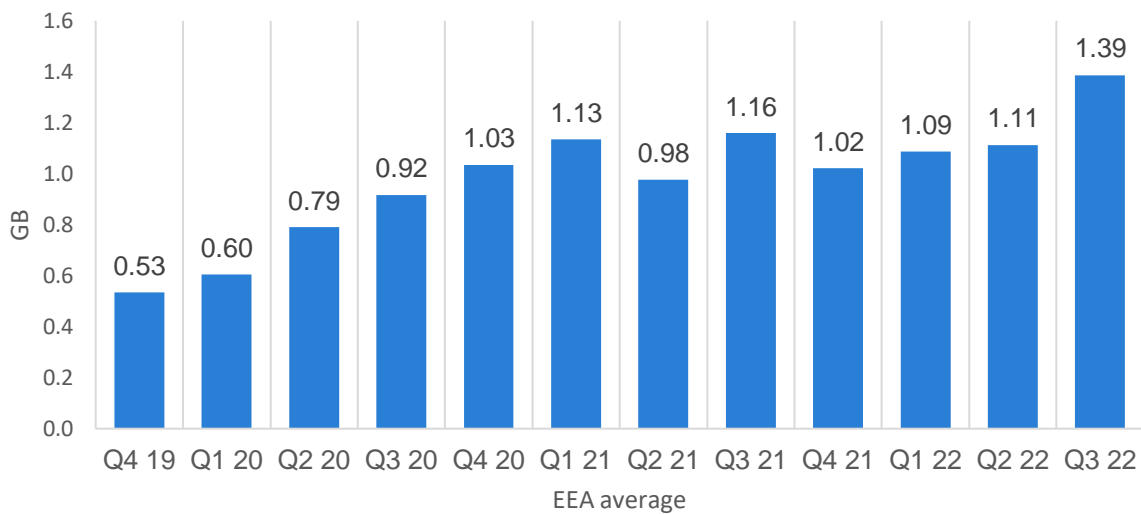


Figure 10 EEA average of the monthly RLAH roaming data consumption based on the number of RLAH subscribers¹²

In comparison, it can be observed that the average EEA domestic data consumption for Q3 2022 was 11.13 GB while for Q4 2019 it was 4.60 GB (Figure 11).

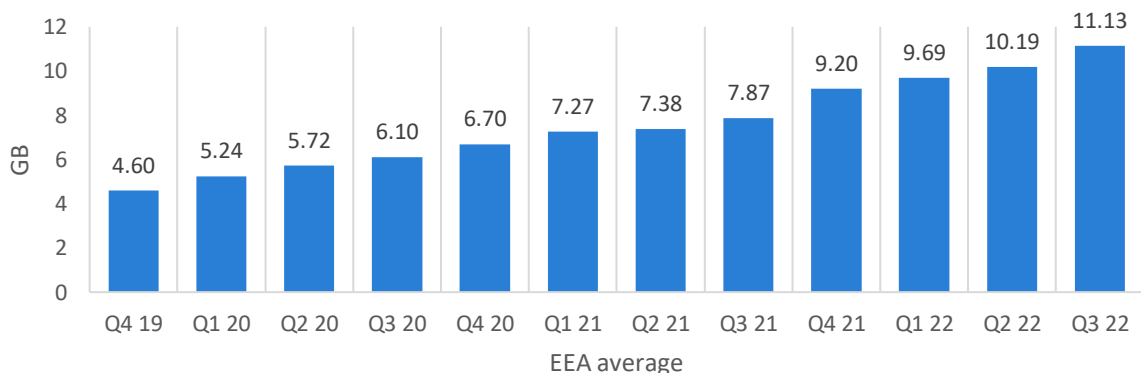


Figure 11 EEA average of the monthly domestic data consumption in the EEA¹³

Compared to Q3 2019, this corresponds to an increase in domestic average data usage of about 144 %, and an increase in monthly roaming average data usage of about 60 % in the case of RLAH subscribers and 161% in the case of all types of roaming. Therefore, it seems that the FUP measures have not had any negative effects on the consumption of regulated data roaming services. Also, the fact that RLAH+ volumes due to users exceeding their open data bundle limit are quite modest, this appears to further support this conclusion.

EC question:

¹² Figure 8 in the 29th BEREC Report on International Roaming BEREC Benchmark Data and Transparency and Comparability Report of International Roaming Tariffs

¹³ Figure 4 in the 29th BEREC Report on International Roaming BEREC Benchmark Data and Transparency and Comparability Report of International Roaming Tariffs

Are the open data bundle limits sufficient to cover also the consumption of the category of users that have above average data usage?

BEREC does not collect data on specific user groups. It is therefore difficult to say anything definitive about whether high volume users feel that the open data bundle limits arrangements meet their needs. There are, however, some observations that can be made:

First, the volume of RLAH+ compared to RLAH (see Figure 3) is fairly low. Presumably, high-volume users have already selected tariffs that meet their domestic needs. All in all, the RLAH arrangement is designed to let these users spend the majority of the data included in their tariff/bundle while travelling in the EU/EEA as well.

Second, the algorithm for computing the actual open data bundle limit for a tariff has a built-in mathematical effect: as the regulated caps decrease, the resulting data limit will increase, allowing these users to consume more data roaming volumes. This will benefit all users but especially those with larger and more expensive data bundles.

EC question:

How would BEREC assess the number of consumers affected by the application of FUP in terms of hitting the limits and paying surcharges - Are the effects of the measures under a FUP limited to exceptional cases (see Recital 29)?

Figure 12 shows the share of subscribers that has been affected by the application of FUP measures in terms of hitting the limits and paying surcharges based on the RLAH subscribers that have been roaming at least once in the concerned quarter.

Since April 2018, the percentage of active RLAH subscribers that failed to prove stable links has varied between 0.27-1.61 % per quarter. The share of subscribers identified as having abusive or anomalous usage, out of active RLAH subscribers, has varied between 1.0-3.7 %. Exceeding the open data bundles or pre-pay tariffs are the two categories of FUP which have the highest percentage of subscribers hitting the limits, and the percentage has varied between 2.13-4.69 %.

The peaks in the figure below are mainly due to very low numbers of subscribers travelling in these quarters, which means that the number of subscribers that hit the limits have a larger effect. The peaks are closely related to the pandemic. When evaluating the share of subscribers that were hit by the FUP, the peaks should be disregarded.

When comparing the number of subscribers affected by the FUP with the total number of active subscribers, the share of subscribers that did not provide stable links was below 2 % in all quarters. The share of subscribers that was identified as having abusive or anomalous usage was less than 4 % in all quarters and the share of subscribers that exceeded the FUP for open data bundles was less than 5 % in all quarters.

BEREC considers that these numbers show that the FUP limits only affect subscribers in limited cases.



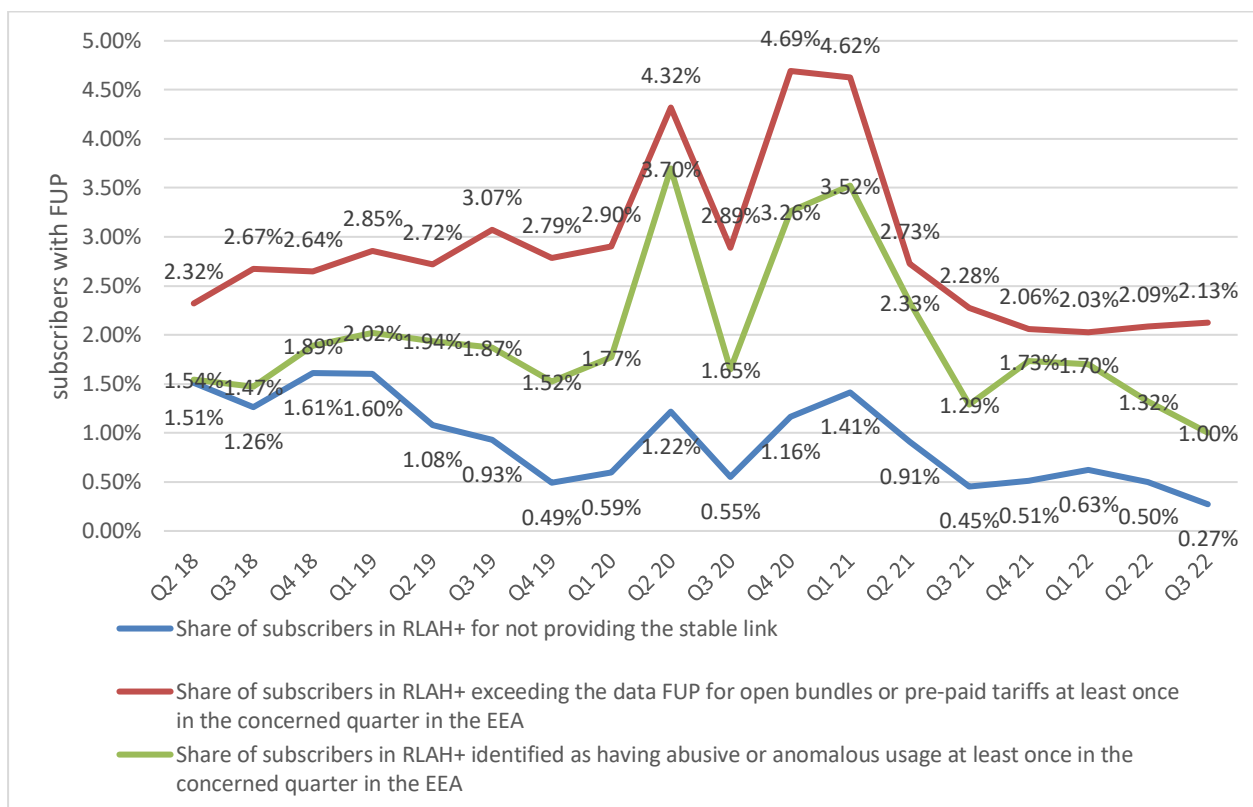


Figure 12 Share of subscribers affected by a FUP from the number of RLAH subscribers that were roaming at least once in the concerned quarter in the EEA (Q2 18 – Q3 22).¹⁴

2.5. Supervision of FUP rules

EC question:

To what extent has the implementation of Fair Use Policy rules detailed in the Roaming Regulation and in the Implementing Regulation been supervised by NRAs (Art. 11a)? What have been the findings of any formal or informal supervision/monitoring?

Article 5 (2) CIR foresees the obligation for roaming providers to notify any FUP. The current version of Article 5 (2) does not include an indication of the timing for notifying the application of a FUP (before/with/after start of a tariff plan) by roaming providers. The CIR contains no detailed provisions for the review of the submitted FUPs. NRAs obtain knowledge of the application of the different FUPs to this extent and are thus put in a position as to ensure compliance with the detailed FUP rules at an early stage.

Besides Article 5 (2) CIR, NRAs constantly carry out supervisory measures. These supervisory measures in particular include checking the general terms and conditions of tariff plans offered

¹⁴ In the most recent round of data collections, some countries misinterpreted subscriber indicators, where corporate subscribers were mistakenly excluded from reporting as postpaid and prepaid subscribers. This led to a significantly lower subscriber base than usual. Unfortunately, BEREC was not able to solve this issue within the deadlines for publication.

domestically. In addition to checking whether international roaming is offered, such examinations of the general terms and conditions also include checking whether FUPs are implemented and, if so, whether they comply with the Roaming Regulation.

Consumer complaints are a proven compliance tool in the regulatory practice of monitoring and supervising the RLAH provisions. As already shown in Figure 7, most NRAs received complaints from end-users who were not aware that for data roaming a data FUP could be applied. Although there have been customer complaints about the application of FUPs, BEREC would like to stress that the total number of complaints is quite low.

As a consequence of the monitoring/supervision outlined above, NRAs have ensured compliance with any applied FUP by initiating proceedings or by insisting on compliance with regulations.

2.6. Efficiency of the FUP

EC questions:

How would BEREC assess the efficiency (cost-benefit relation) of the FUP and derogation rules, as regards the administrative and regulatory costs (a) borne by the NRAs and (b) borne by the operators (taking also into consideration the input received in the monitoring exercise)?

What is the cost of implementing/monitoring FUP?

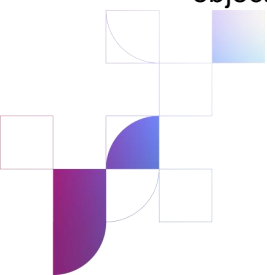
Out of the 87 answers BEREC received in its survey in 2019, as an estimation of the effort put in throughout 2019 for running (not implementing) the FUP provisions, 18 MNOs reported they need up to 20 person days, 14 MNOs need up to 40 person days, 3 MNOs up to 60 person days, and 14 MNOs more than 60 persons days (the maximum is 1.000 person days).

Out of the 106 answers received from MVNOs, 32 of them required up to 20 person days, 7 MVNOs up to 40 person days, 15 MVNOs up to 60 person days and 3 MVNOs more than 60 person days (up to maximum of 215 person days).

The administrative and regulatory costs borne by the NRAs is not systematically monitored by BEREC since they are mostly related to the gathering of the roaming data used for the supervision and monitoring of the regulation and to addressing consumer complaints about FUP. As regards the first task, the compilation of the three yearly data collections into one by the latest roaming regulation is in the direction of decreasing the relevant costs. As regards the second, this depends on the number of complaints which are relatively low (see Figure 6). It can be expected that the costs borne by NRAs are lower than the costs borne by operators implementing the various FUP measures.

2.7. Conclusion regarding the FUP measures

The results of the BEREC analysis show that the FUP rules seem to have achieved the objectives of preventing abusive or anomalous usage of regulated retail roaming services by



roaming customers and have enabled the roaming providers' customers to consume volumes of regulated retail roaming services at the applicable domestic retail price that are consistent with their respective tariff plans.

Some FUP rules measures remain consistently more popular and more efficient, in particular the open data bundle FUP measure. In contrast, the stable link measure is not widely implemented but might play an important role for some roaming providers to avoid the widespread use of anomalous roaming. The implementation of the four-month window seems to be viewed as complex and costly by roaming providers, and therefore the number of providers implementing it seems to be declining.

According to BEREC, the FUP rules provided the necessary tools to roaming providers to ensure the sustainability of their domestic charging model. They are relevant and coherent with the Roaming Regulation, as the purpose of the Regulation is to enable the single market in cases of periodic travel, and with the telecom regulatory framework, as they intend to prevent permanent roaming and its implications. Nevertheless, BEREC notes that it is necessary to distinguish between permanent roaming for mobile subscribers and permanent roaming of mobile subscribers with connected devices and objects, which for them is necessary to allow the development of specialised offers, in particular as the price caps for mobile subscribers do not apply to offers tailored to connected object in permanent roaming. Moreover, the FUP rules have not had negative effects on the consumption of regulated data roaming services as the volume of RLAH+ compared to RLAH is very low.

3. Analysis of Derogation Rules

3.1. Overall performance of the derogation rules

EC questions:

In BEREC's view, to what extent has the FUP and derogation implementing rules achieved its objectives indicated in Art.5 and Art.6 of ensuring the sustainability of its domestic charging model?

Would BEREC consider the FUP and derogation rules relevant and coherent with the Roaming Regulation and the overall telecom regulatory framework?

As can be seen in Figure 13, the rules included in the CIR appear to have provided the necessary tools for operators to ensure the sustainability of their domestic charging model. At the initial stage of RLAH status – when wholesale rates were significantly higher than currently – many roaming providers applied for a derogation and a significant percentage were granted. After four years, the number of roaming providers applying for such a derogation is significantly lower – this is also due to the fact that wholesale roaming rates are continuing to decrease. The latest indications verify the achievement of the relevant objective of the sustainability rules.



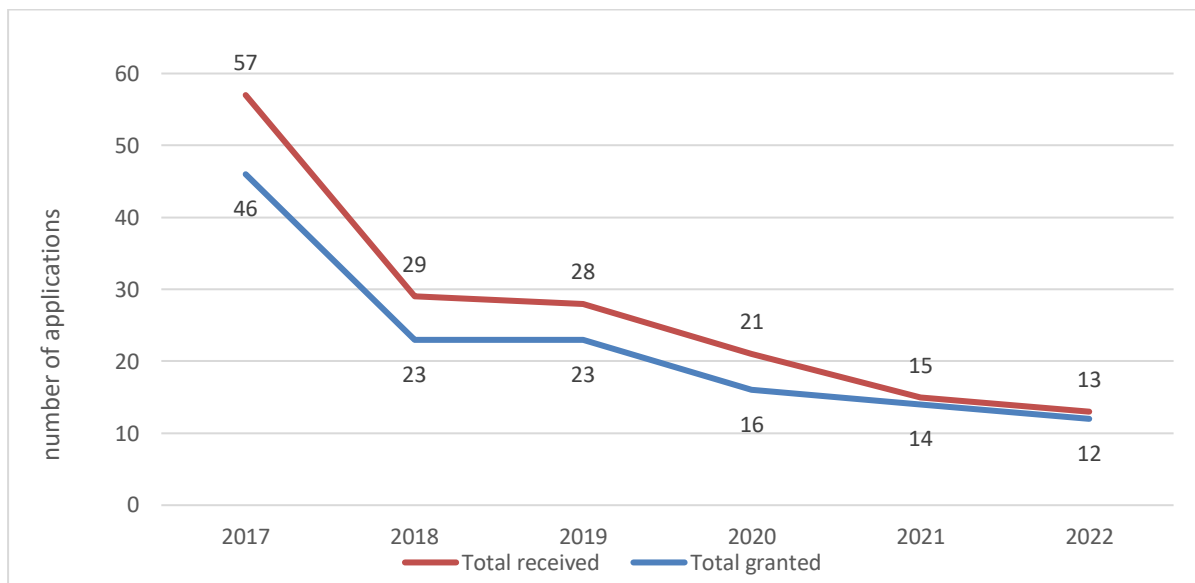


Figure 13 Number of derogation applications (based on data collected by BEREC for T&C report).

In conclusion, according to BEREC's data, the CIR rules for derogations have achieved their objectives as indicated in Article 5 and Article 6 of the Roaming Regulation. Derogation rules are also relevant and coherent with the Roaming Regulation as the regulation aims at preventing distortion of the domestic market. As mentioned above, the derogation rules provided the necessary tool for roaming providers to ensure the sustainability of their domestic charging model.

Stakeholder answer to the call for input: *In the course of the call for input, several respondents underlined the need to retain the derogation mechanism, while cautioning that due to domestic competition constraints, roaming providers and MVNOs in particular may not be able to implement surcharges based on derogations.*

3.2. Assessment of sustainability problems for operators

EC question:

Has FUP prevented sustainability problems for operators (number of derogations, no market exit etc.)

When analysing the development of sustainability applications received, BEREC notes that they have declined: from 57 in 2017 (entry into force of the Roaming Regulation) down to 13 by 2022. This represents a decline of 77 % over the time period.

NRAs were asked about consequences for those applicants whose request was refused. It turns out that about 60% of them are still in the market, and they are usually minor players in the domestic market landscape. Some of the refusals were due to incomplete data in the applications and NRAs believe that the derogation instrument was more viewed as a potential safety net. For the ones that actually left the market (40% from those applying for a derogation), the NRAs consider that this was not due to their derogations being refused. There

seems to be other reasons, like consolidations, a (very) limited market share or a generally challenging economic situation.

Based on these findings, BEREC understands that the FUP mechanisms available to the roaming providers have had a positive effect in preventing sustainability problems. BEREC also observes that the decrease in wholesale price caps has contributed to fewer derogation applications.

3.3. Functioning of the Derogation mechanism and its effectiveness for operators and consumers

EC questions:

How many requests for derogations since i) the introduction of the RLAH rules, ii) per year have the NRAs received from the MNOs and MVNOs?

How many operators (MNOs and MVNOs indicated separately) have been authorised to apply a surcharge on regulated roaming services (indicate separately authorisation and renewals), due to having a negative mobile services margin and a negative roaming retail net margin?

Since the introduction of the RLAH rules, the NRAs have received 163 requests for derogations with an average of 27 requests per year. The number of requests decreased from 57 requests in 2017 to 13 in 2021 (a decrease of 77 % in 2022 compared to 2017). Figure 13 presents the year-to-year evolution of derogation applications.

At the beginning of RLAH, most of the roaming providers who were granted derogations were MNOs and MVNOs (36 % for each category) and 28 % were resellers. From June 2017 to August 2019, most of the derogations were granted to light MVNOs (50 % in 2018 and 43 % in 2019), followed by MNOs (30 % in 2018 and 35 % in 2019). During the same years, up to 20 % and 22 % of full MVNOs were granted a derogation.

Most of the providers that were granted a derogation have a small market share. However, in three countries, applications from MNOs with about 30 % market share each were granted, accounting in total for between 90-100 % of the total national market from 2017 to 14 June 2018. In 2019, in one country, the market shares of the MNOs that were granted derogation amounted to 99 % of the total national market and, for a second country, the corresponding number was 46 %, which illustrates that RLAH has different effects in different markets.

Many operators have applied for a derogation when the RLAH rules were introduced and a significant percentage of them were granted. After four years, the number of roaming providers applying for such derogation is significantly lower – this is also due to the fact that wholesale roaming rates are lower.

EC question:



Is the mechanism and the methodology for assessing possibilities of derogations to the abolition of retail roaming charges provided by the regulation and the implementing act working effectively to ensure the sustainability of the roaming market?

The number of derogations granted shows that the sustainability rules work effectively. Since the beginning of the RLAH rules, many derogations have been granted and few rejected. The number of derogations is decreasing, which can be explained by the decreasing of wholesale roaming rates, but the derogation mechanism is still being used and useful.

EC question:

Has the NRA based the assessment of the sustainability of the domestic charging model on relevant objective factors specific to the roaming provider, including objective variations between roaming providers in the Member State concerned and the level of domestic prices and revenues?

The NRAs have assessed the sustainability of the domestic charging model on relevant objective factors specific to the roaming provider as required by the regulation, including data on the overall volumes of regulated retail roaming services provided by the applicant roaming providers projected over a period of 12 months, financial accounts of the applicants and all necessary data used to determine the mobile services margin and the overall actual and projected costs and revenues of providing regulated roaming services over the relevant period.

EC question:

To what extent have the roaming providers, applied a surcharge to regulated retail roaming services only to the extent necessary to recover all relevant costs of providing such services? Are there cases where roaming providers did not apply a surcharge even when they were granted a derogation?

In 2018, 25 % of operators who were granted a derogation made use of the derogation. This use of derogations increased in 2019 up to 50 % of roaming providers who were granted a derogation, but decreased again to 39 % in 2020. In 2018, eight roaming providers declared that they apply surcharges to all roaming services (voice, SMS, data) and to all types of roaming consumption. The same number of other roaming providers declared that they do not apply any surcharges. While in the beginning of the RLAH, the level of the surcharges was set at the regulated wholesale caps or below for all services, from 2018, few NRAs accepted surcharges above caps for data roaming (two NRAs in 2018 and one in 2019).

EC question:

How efficient has the application of the derogation mechanism been to prevent the evolution of domestic prices or so-called 'waterbed effect'?

In the legislative process of negotiating the Roaming Regulation, where RLAH was introduced, many stakeholders, including BEREC, voiced concerns about the potential impact on domestic and rest of world (RoW) roaming prices. However, as the analysis in the BEREC International Roaming Benchmark Reports shows, the introduction of RLAH, after introducing RLAH+, had no major impact on prices or consumption patterns for both domestic and RoW

services. Furthermore, according to the data received for the transparency and comparability of roaming tariffs questionnaire, there is currently no indication that RLAH has any serious impact on the availability of domestic offers, which is further corroborated by the evidence that the overall domestic tariff structure in most cases remains unchanged. The derogation mechanism may have prevented the increase of domestic prices when RLAH came into force.

EC questions:

In the applications leading to authorisation of surcharges, what are the negative roaming margins as informed by operators when requesting the derogation / the extent of the negative roaming margins recognised in NRAs decisions to authorise surcharges and what are the arrangements concerning the surcharge declared in the applications for authorisations (see Art. 11c of the CIR)

Does BEREC consider the 3 % (Art.10) limit for the negative roaming margin as a limit that worked appropriately considering the sustainability objectives of the derogations?

As mentioned above, NRAs were asked about consequences for the operators which received a refusal. It turns out that about 60% of them are still in the market, and they are usually minor players in terms of market shares in the domestic market landscape. Some of the refusals were due to incomplete data submitted in the applications and NRAs believe that the derogation instrument was more viewed as a potential safety net. For the ones that actually left the market, the NRAs consider that this was not due to their derogations being refused. There seems to be other reasons for their market exit, like consolidation, a (very) limited market share or a generally challenging economic situation.

On the basis of the above it could be concluded that the 3% margin has not introduced issues in the sustainability objectives of the derogations.

3.4. Efficiency of the derogation rules

EC questions:

How would BEREC assess the efficiency (cost-benefit relation) of the FUP and derogation rules, as regards the administrative and regulatory costs (a) borne by the NRAs and (b) borne by the operators (taking also into consideration the input received in the monitoring exercise)?

What is the cost for operators of requesting derogations? How many requests for derogations does the NRAs receive yearly? What is the cost for NRAs of assessing derogations?

In relation to the application for sustainability derogations, BEREC's data shows that out of the 14 MNOs that applied for sustainability derogations, 7 MNOs spent up to 20 person days, 2 MNOs up to 40 person days, 2 MNOs up to 60 person days and 3 MNOs more than 601 person days. For MVNOs, the data shows that 24 MVNOs had a workload up to 10 person days and 5 MVNOs reported a workload of more than 10 person days (up to the maximum of 30 working days). In total, 10 NRAs dealt with sustainability derogations and the person days spent varied between 8 and 427. The number of person days are to a large degree dependent

on the number of applications. On average, NRAs spent about 28 person days per derogation.¹⁵

With regard to the question about the number of requests for derogations the NRAs receive yearly, BEREC refers to the answers in question 1 and 3.2.a).

Stakeholder answer to the call for input: *Some respondents underline the need to maintain the sustainability derogation mechanism, especially for small operators and MVNOs, in a manner which is achievable for roaming providers, and underline that the mechanism is difficult to apply in practice as regard the effect on the competitiveness it can have on operators applying the authorised surcharges. Another respondent (PIIT) asks for the deletion of the requirement that the negative margin on regulated roaming services must exceed 3 % of EBIDTA margin and claims that roaming providers should be entitled to compensate any losses related to RLAH. In addition, this respondent (PIIT) also asks for a clear statement that changes of price lists to implement surcharges authorised by NRAs result from the implementation of the Roaming Regulation and not a commercial decision, which allows subscribers to terminate their contracts.*

3.5. Conclusion regarding the derogation rules

Since the introduction of the RLAH rules, the sustainability derogation rules work effectively. Of the submitted derogations, most have been granted, mostly to providers with a small market share, and very few were rejected. Even if the number of derogations is decreasing, which can be explained by the decrease of wholesale roaming rates, the derogation mechanism is still used and useful. It may have also prevented the increase of domestic prices when RLAH came into force and the 3 % limit for the negative margin has not introduced issues in the sustainability objectives of the derogations.

4. Forward looking questions

4.1. Areas for future improvement of the rules

EC question:

Has BEREC identified any part of the FUP and derogation rules as defined in the Implementing regulation where there is room for improvement in terms of simplification, elimination of regulatory burden or reduction of associated costs?

Based on BEREC's work in the last years since the Roaming Regulation and especially the CIR came into force, conclusions can be drawn for possible adjustments.¹⁶ BEREC launched

¹⁵ Based on the feedback received to the joint EC/BEREC survey in 2019.

¹⁶ [BoR \(19\) 101 BEREC Opinion on the functioning of the roaming market, as input to the Commission's evaluation;](#)



a call for input in December 2022, which resulted in a total of nine responses that were analysed in the preparation of this Opinion (see Annex). Overall, roaming providers and BEREC agree that the rules on the FUP and derogation as defined in the CIR in general should be retained to maintain the sustainability of roaming within the Union.

From all inputs mentioned above, a few areas were identified by the NRAs or roaming providers which could merit possible improvements regarding the FUP and derogation rules as defined in the CIR.

4.1.1. Clarification of regulatory provisions

With regard to Article 5 (1) CIR, BEREC identified some room for improvement and potential for further clarifying this provision. As already stated above in chapter 2.5, Article 5 (1) CIR could mention details to be included in the notification of FUP measures to NRAs and should also include provisions about the timing of this notification.¹⁷

4.1.2. Clarifications of the transparency provisions

Most of the NRAs considered no major changes to the transparency provisions to be necessary, as already stated in the BEREC Opinion of 2019¹⁸ and 2020.¹⁹ However, the obligations in the Roaming Regulation and CIR are rather complex, therefore, NRAs have published and kept up to date FAQs as well as general explanatory information on their websites²⁰ since RLAH entered into force in 2017.

Summary of the stakeholder call for input: *According to the contributions of roaming providers to BEREC's Opinion of 2019, there seems to be a certain need for clarification within the wording of the CIR. Roaming providers recommended clarifying the provisions of the CIR to offer a more understandable text for roaming providers and especially for roaming customers, as the FUP is quite difficult to communicate to management, customers and agents. In addition, there seems to be the need for new and clearer definitions such as for alternative tariffs or open data bundles. In the accompanying call for input, it was also mentioned that there should be the possibility to exchange non-aggregated data, respecting privacy regulation, to allow the access seeker to better enforce the FUP, preventing fraud and other abusive behaviours.*

¹⁷ See also BEREC input on EC's request for the preparation of the legislative proposal for the new roaming regulations; BoR (20) 131, p. 11

¹⁸ <https://www.berec.europa.eu/en/document-categories/berec/opinions/berec-opinion-on-the-functioning-of-the-roaming-market-as-input-to-ec-evaluation>

¹⁹ <https://www.berec.europa.eu/en/document-categories/berec/opinions/berec-input-on-ec-request-for-the-preparation-of-the-legislative-proposal-for-the-new-roaming-regulations>

²⁰ E.g. BNetzA - FAQ: Häufige Fragen zum Thema EU-Roaming, RTR (https://www.rtr.at/TKP/was_wir_tun/telekommunikation/konsumentenservice/information/informationen_fuer_konsumenten/TKKS_Roaming.de.html)

4.1.3. Design of the FUP

In general, regarding any FUP measure, BEREC notes that the rules are rather complex and a certain degree of simplification and clarification could be envisaged. On the one hand, this may lead to more informed customers, fewer consumer complaints and greater acceptance of the RLAH concept. On the other hand, any changes should be done with great care taking into account any potential implementation costs for roaming providers and effects on customers.

4.1.3.1. Stable link

While the stable link criterion has not been frequently used, BEREC supports retaining this measure in the CIR as it could play a significant role for some roaming providers to counter widespread use of anomalous roaming.

Summary of the stakeholder call for input: *According to roaming providers, the current definition of stable link on the one hand may be too complex and on the other hand does not take into consideration specific circumstances such as unemployment where customers may receive financial support. Furthermore, stakeholders proposed changes to Article 4 (1) CIR to allow for unregulated offers for customers who claim not to have a stable link (e.g. tourists from RoW), or for surcharges for such customers stating not to have a stable link from the beginning of the contract.*

4.1.3.2. Control mechanism

Based on the data analysed and the input received, BEREC concludes that this measure appears to be challenging to implement. Considering the implementation costs and any impact on consumers, BEREC would favour a cautious approach to changing the rules in the CIR regarding this mechanism, as even small changes could entail high implementation costs.

Summary of the stakeholder call for input: *According to the respondents, the rules laid down in Article 4 (4) CIR to apply the control mechanism in particular with a view to the four-month observation window could also be improved to make it clear that roaming providers would not be required to restart the observation window once the customer suspected of anomalous usage logs on the home network. MNOs and MVNOs identified room for improvements and/or clarification with regard to the control mechanism as necessary: According to mainly MNOs, the observation period in particular should be shortened (e.g. one or two months) along with the associated alert period. This was repeatedly mentioned in the accompanying joint survey in 2019, in the current call for input and also in the preparation of the BEREC retail roaming Guidelines. In this context, stakeholders also proposed that non-EU roaming presence or consumption should not be treated like domestic for the purpose of observatory window.*

From the point of view of some MNOs, it is not mandatory to observe both the presence and the consumption indicator. As an alternative, some respondents suggest that only one indicator should be determined as prevailing to determine anomalous roaming usage. In this context, the only relevant indicator for this FUP measure should be the prevalence of traffic

performed in roaming versus the domestic one. Alternatively, it was also suggested to lower the threshold in Article 4 (4) CIR to 25 % of presence and 25 % of usage within the observation window of four months.

With a view to surcharging within the control mechanism, stakeholders mentioned that in case a misuse had been detected, immediate surcharging should be possible without prior additional warning. According to these stakeholders, surcharging should be applicable to all roaming services, even in cases where only one service was misused. Lastly, these stakeholders suggested that surcharges should be retrospectively applicable to the entire period in which the misuse was determined.

4.1.3.3. Open data bundles

BEREC notes that the open data bundle measure appears to be the most popular FUP option, as it is widely used by roaming providers. BEREC therefore supports the continuation of both this FUP measure and the formula for calculating the data limit. BEREC considers it necessary to clarify the rules applicable when the formula for calculating a FUP for open data bundles yields a higher roaming allowance than the domestic allowance. For the avoidance of doubt in such cases, BEREC recommends the rule to set the roaming allowance to be equal to the domestic allowance. This would ensure that end users can use roaming services to the extent that they can be used at home, while preventing a situation where end users can use more data volumes while roaming than in the domestic context.

Summary of the stakeholder call for input: *BEREC recognises that some roaming providers see a need for further improvements regarding the open data bundle FUP, as wholesale caps for roaming data are decreasing. According to some roaming providers, the multiplier of 2 should be deleted from the formula for calculating the fair use limits, mainly because this leads to a total wholesale cost for the roaming provider greater than the value paid by the customer. This point was also brought up by stakeholders during the call for input as well as the public consultation of the draft BEREC retail roaming Guidelines.*

Because of the many suggestions of improvement from roaming providers, the open data bundle FUP seems to be very practicable, especially in comparison with other FUPs. This is probably also the reason why many roaming providers in the actual call for input are considering expanding the (ex-ante) limitation to all roaming services, which means also to – at least unlimited – voice and SMS.

Another suggested improvement by roaming providers is to limit the data volumes of pre-paid tariff plans. The main argument raised is that limiting pre-paid plans is too complex from a technical as well as from the customers' perspective.

4.2. Further limitation of the measures under a FUP to exceptional cases

EC questions:



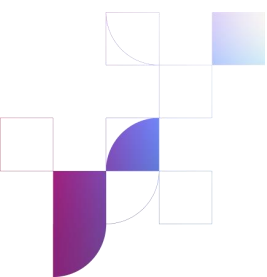
The co-legislators indicated (see Recital 29) the need to assess if considering market conditions, consumption and travel patterns, the evolution and convergence of pricing and the observable risk of distortion of competition, these indicators would allow for a possibility of further limiting the application and effects of the measures under a fair use policy to exceptional cases still enabling the sustainable provision of roaming services at domestic prices for periodic travel.

Is the evolution of the pricing for mobile communications converging or is the price gap difference between the Member States still significant?

What is the observable risk of distortion of competition according to BEREC?

The latest available domestic ARRPU (see Figure 14) show that the EEA average ARRPU in Q3 2022 was around 12.62 Euro. However, comparing the different Member States, this picture becomes quite heterogenous, hence average retail prices still vary very much among the Member States.

As stated further above, BEREC underlines that the measures in the Roaming Regulation are sufficient to ensure the sustainability of the domestic pricing model and prevent distortion due to the application of RLAH. The biggest danger to the domestic pricing model is posed by arbitrage offers with SIM cards, where cheap offers from one country may be used permanently in another country with relative expensive offers. Such practices could still undermine the sustainability of domestic pricing models and negatively impact domestic competition. However, as explained further above, there are effective measures in the Roaming Regulation to prevent such arbitrage offers. To BEREC's knowledge, no evidence of harmful arbitrage offers exists to date.



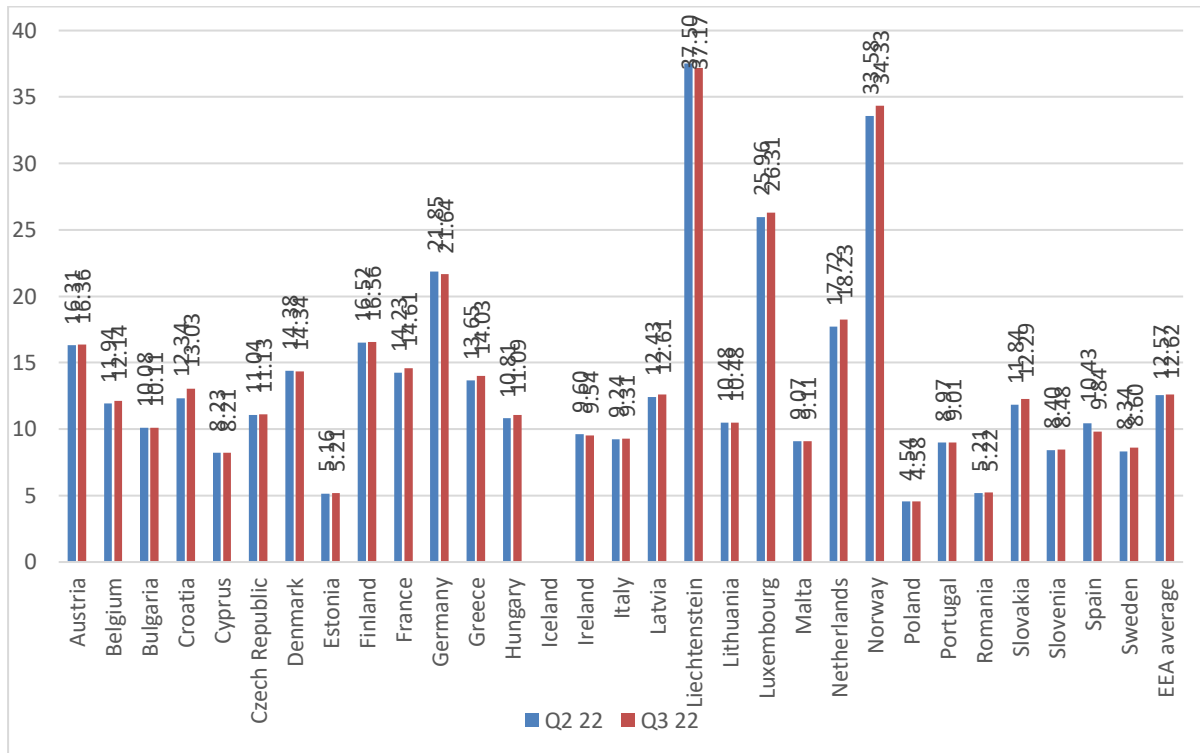


Figure 14 Domestic mobile service: monthly retail revenue per total number of subscribers (ARRPU).²¹

EC question:

Have there been consumer complaints or other elements indicating that travel patterns would not be sufficiently covered by the RLAH rules?

According to BEREC's analysis based on Figure 3 and the data received about consumer complaints (see Figure 7), there is no evidence that travel patterns are not sufficiently covered by the RLAH rules. Figure 7 shows that some customers filed complaints about the FUP. However, the number of complaints was in general low (less than 10): 11 NRAs received up to ten complaints about FUP-related topics, five NRAs received between 11 and 50 complaints, one NRA received between 51 and 100 complaints and one NRA received between 101 and 200 complaints.

EC question:

Do the FUP rules sufficiently address different forms of travel patterns and cross-border consumers (e.g. cross-border workers, digital nomads, Erasmus students)?

According to BEREC's understanding of the Roaming Regulation, cross-border workers should be sufficiently addressed with the FUP rules, especially as the control mechanism

²¹ In the most recent round of data collections, some countries misinterpreted subscriber indicators, where corporate subscribers were mistakenly excluded from reporting as postpaid and prepaid subscribers. This led to a significantly lower subscriber base than usual and thus to higher ARRPU. Unfortunately, BEREC was not able to solve this issue within the deadlines for publication.

(which might have an effect on them) includes provisions that same day travel does not count as a roaming day. Therefore, the prevailing consumption criteria might not be met for most of them. Furthermore, to BEREC's knowledge, NRAs have not received any complaints from cross-border workers.

For most of the Erasmus students, the observation window of four months might be also sufficient, especially those with one academic term. Erasmus students doing more academic terms might meet the criteria of prevailing presence and consumption measure abroad and might then be subject to surcharge. However, if Erasmus students spend a longer time abroad, they can also make use of local SIM cards.

Digital nomads, who are typically thought of as having a higher data usage, might on the one hand run into surcharges for roaming services, as they might meet especially the prevailing consumption criterion when residing abroad for longer periods or they might exceed the roaming data limits in case of open bundles. On the other hand, this type of customers might have domestic tariffs with high data volumes, hence high roaming volumes, or might make use of special offers. In any case, BEREC does not have any evidence (e.g. from consumer complaints or other data) that this type of users faces such a problem.

Stakeholder answer to the call for input: *None of the stakeholders advocated for limiting the measures under a FUP, e.g. by increasing the volumes or allowing for more flexibility for roaming users. Instead, stakeholders proposed changes resulting in a stricter regime than that of the current prevailing objective indicators measure.*

Regarding the prevailing consumption and presence indicators, stakeholders suggested to reduce the threshold from 50 % to levels of 30 % or even 25 %, to separately apply volume and presence indicators, or even remove the presence indicator requirement from the CIR. Regarding the observation window, stakeholders suggested to reduce the period from four months to two months or even one month.

Regarding the possibility to apply surcharges in accordance with the control mechanism, stakeholders have made the following remarks:

- *The surcharge should be applied as soon as the customer receives the communication that they have reached a xx % threshold and not wait four months.*
- *The surcharge should be applied to all services (voice, SMS, data) even if the threshold is exceeded for one service only, for example voice. Otherwise, a roaming provider would hardly recover the extra expenses paid during the period in which anomalous usage was observed.*
- *The different FUPs are considered to be additive, due to the different rationales for their introduction: stakeholders interpret this to mean that a surcharge applied due to Article 6 CIR (derogation for sustainability) can be added to surcharges due to roaming data allowance.*

4.2.1. Conclusions

As mentioned above, despite the proposals put forward by some stakeholders to make changes to the control mechanisms, BEREC has not identified any specific need to amend

the existing measures as the current prevailing consumption and presence requirements for the control mechanism are necessary to prevent permanent roaming of mobile subscribers while still allowing cross-border workers/people living in border areas or Erasmus students to make use of RLAH. In addition, BEREC notes that in case the EC considers any changes, they should be done with care taking any additional implementation costs into account. Furthermore, the decrease of data wholesale roaming caps also increases the available data roaming limits for the end users. End users with an open data bundle FUP are therefore with the current rules well-protected in the future.

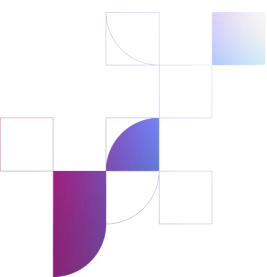
4.3. Alternative measures

EC question:

What kind of alternative measure could BEREC propose for further limiting the application and effects of the measures under a fair use policy to exceptional cases? What could be the expected impacts of these alternative measures on the sustainability of operators to provide regulated roaming services and the expected impacts on consumers?

Based on the information provided by the operators via the roaming questionnaires (mainly the transparency and comparability part), it appears that not all roaming providers implement fair use policy measures even in cases of suspected excessive usage of regulated retail roaming services by roaming customers. The reasons for this vary from the relative administrative difficulty of implementing these measures (not limited to smaller providers) to steadily decreasing maximum wholesale charges (especially for data services), which creates the possibility for some roaming providers to voluntarily allow even permanent roaming for mobile subscribers. Considering this and the relatively well functioning international roaming market, BEREC does not see a necessity for including measures that are not already part of the new Regulation (including the further gradual reduction of the wholesale caps). Regarding possible further limits to the application of FUP measures, BEREC suggests two possible approaches:

- Transparency related measures: It should be made clearer for roaming customers that RLAH applies only to periodic travelling and international calls are not covered. BEREC however does not propose to change the transparency measures, instead this could be done in form of a thorough information campaign that stresses the limits of permissible usage of roaming services (e.g. arbitrage, when customers try to replace their domestic service provider) and explain the difference between roaming and international communications.
- Wholesale related measures: The maximum wholesale charges were already substantially reduced under the new Roaming Regulation and are to be further reduced (especially for data services), which makes the provision of roaming services more sustainable for roaming providers with more competitive offers. One possible measure



could be to impose an obligation to pass on discounts²² that MNOs receive from their wholesale roaming partners (visited network operators), which would benefit the roaming providers with no direct wholesale contracts with operators of visited networks (mainly MVNOs). This measure is highly optional and might have a negative cost-to-benefit ratio. The effect on the sustainability of providing roaming services would likely be rather positive, as would be the potential impact on consumers. However, another negative impact could be the increased administrative burden on the side of roaming providers and NRAs alike.

Stakeholder answer to the call for input: *During the call for input, a few stakeholders shared their suggestions for improving the sustainability of providing roaming services which could be considered as further alternative measures. One of them (Cicada Exchange) is advertising for the increased use of electronic (online) trading platforms, which would replace the face-to-face negotiation processes in making wholesale roaming deals and possibly contribute to lowering the margins. This stakeholder claims that prices negotiated through these platforms are 40 % cheaper, making the market more efficient and competitive. To support willingness of providers (especially those being part of a larger group) to sell wholesale roaming services via these trading platforms, Cicada Exchange suggests imposing an obligation to “sell on the home market when buying on a foreign market”. In BEREC’s view, it is clear that the use of such trading platforms may play a stronger role in the future. One major setback is that the small roaming providers such as MVNOs do not often negotiate their own wholesale roaming agreements, but instead rely on their domestic host operator. Another stakeholder (Liberty Global) suggested allowing the exchange of non-aggregated data in a way which respects privacy regulation in order to better detect anomalous behaviour of customers while roaming. The practical details of such an arrangement would deserve to be described in further detail.*

4.4. Conclusion

BEREC’s view with regard to the proposed improvements for the roaming providers can be summarised as follows:

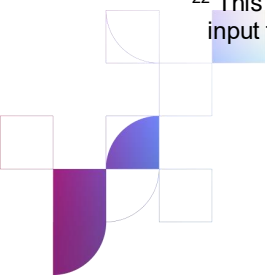
Stable links

BEREC further recognises that the stable link concept is in parts complex, but it takes into account that end users can move freely within the EU and also have a stable link in a certain Member State for a time, regardless of their actual place of residence.

Open data bundles

The open data bundles FUP has proven in practice to limit roaming consumption effectively, in particular for unlimited domestic data tariff plans. This is especially due to the simple application of the calculation compared to other FUPs.

²² This option was first analyzed in the BoR (19) 101 BEREC Opinion on the functioning of the roaming market, as input to the Commission’s evaluation as one of more possible measures to improve the sustainability for MVNOs.



With regard to adapting the formula to calculate a minimum roaming allowance, BEREC emphasises that a potential change to the formula, as demanded by many roaming providers, must take into utmost account that roaming customers should enjoy an approximate data volume while traveling in the Union like at home.

In addition, BEREC would welcome a clarification in a possible new CIR that in cases where the calculation of a minimum roaming allowance exceeds the national data volume, the roaming allowance should be set to equal the domestic allowance.

Objective indicators / control mechanism

BEREC takes note of the comments on the objective indicators. However, in BEREC's view, a general abolition or reduction to only one indicator is not advisable. While the initial implementation has been difficult and costly for most roaming providers, it is still the best way to detect abusive and anomalous usage without restricting the use prematurely or unnecessarily for end users.

In the case of possible adaptations of the corresponding provisions, BEREC points out that even smaller adjustments should be carefully evaluated as further modifications to the existing control mechanism could be expensive for roaming providers.

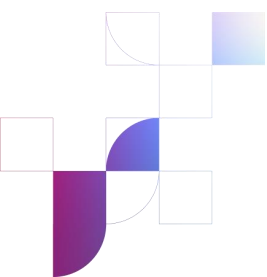
Limiting pre-pay plans

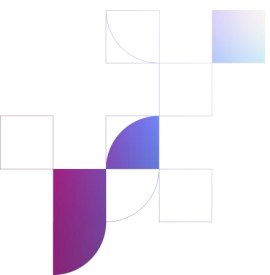
The limit for pre-pay plans is quite complex to implement, as the calculation is very dynamic. This might be the reason why this measure, according to the information received from NRAs, is not very often implemented by roaming providers. Therefore, BEREC proposes the EC to further analyse a potential deletion of this FUP from the CIR.

Derogation

Since the introduction of the RLAH rules, the sustainability derogation rules work effectively. Most derogation applications have been granted, mostly to providers with small market share, and few were rejected. Even if the number of derogations is decreasing, which can be explained by the decreasing wholesale roaming rates, the derogation mechanism is still used and useful. BEREC only proposes minor changes to the derogation mechanism, which already pointed out in the BEREC Opinion from 2019:

- Adjusting the mobile services margin definition in Article 2 CIR in order to be consistent with Articles 7, 8 and 9 CIR
- Taking the costs for the provision of balanced traffic into account when estimating the mobile services margin
- Incorporating in Article 6 (2) CIR the possibility to provide in exceptional cases complementary detailed documentation for justifying deviations
- Aligning the volume forecasting methodology of Article 6 (1) CIR with the methodology for calculating costs and revenues.





5. Annex 1 - Summary of the Call for input about the review of the CIR on the FUP and Sustainability

This Annex summarises the responses sent by stakeholders to the call for input about the review of the European Commission Implementing Regulation on the Fair Use Policy and Sustainability of the Roaming Regulation. The BEREC call for input was open from 18 November to 5 December 2022. Stakeholders were invited to submit their inputs about the functioning of the CIR and their suggestions for improvements/changes taking especially the requirements of the Roaming Regulation laid down in Article 7(2) and (3) and in recitals 28-30 into account. In response to the consultation, BEREC received 9 contributions from the following stakeholders²³:

1. Cicada Exchange (Cicada);
2. Contributor 1 (Confidential);
3. Contributor 2 (Confidential);
4. ETNO-GSMA;
5. Freenet;
6. Liberty Global;
7. MVNO Europe;
8. PIIT;
9. SIPGATE.

a. General comments

Overall, the stakeholders welcome the opportunity to provide feedback on the CIR.

Liberty Global considers the FUP as a useful mechanism to prevent anomalous and abusive behaviour, ensuring operators can maintain high standards of service for domestic and roaming customers alike. However, certain aspects of its implementation could be improved.

Liberty Global supports the principle of the FUP and utilises various elements of it across its operations. It enables operators to provide customers with a roaming experience on par with their domestic services while preventing anomalous and abusive behaviour. However, certain aspects, in particular the elements relating to charges, are complex and onerous to enforce in practice.

Additionally, the restriction of assessment to abusive behaviour solely to aggregate data may prevent the detection of certain customers engaging in abusive practices, such as permanent roaming. This has adverse impacts on both the visited operator and the access seeker.

Liberty Global suggests allowing for some degree of exchange of non-aggregated data, respecting privacy regulation, to allow the access seeker to better enforce the FUP, preventing fraud and other abusive behaviours, which is detrimental to other customers. This also allows for greater ability to use the less stringent measures outlined under Guideline 35 in BEREC's

²³ In alphabetical order.

retail roaming Guidelines, rather than using more stringent measures which may inadvertently adversely impact non-abusive customers.

MVNO Europe insists that it is necessary that any suggested modifications to the CIR should be the subject of a full public consultation, enabling stakeholders to present and if necessary defend their interests.

MVNO Europe adds that any suggestions from third parties to the effect that fair use limits and/or sustainability derogations would be less justified than before, or could be reduced or even phased out, should be considered with the utmost caution, as they may have the effect of reducing competition, negatively affecting end user interests.

Contributor 1 highlights that the timeframe provided by BEREC to the stakeholders to respond to the call for input is too short to address properly such a delicate and complex issue, which has an important impact on the undertaking's business and is not compliant with the BEREC Regulation providing explicitly that "*BEREC shall, where appropriate, consult interested parties and give them the opportunity to comment within a reasonable period having regard to the complexity of the matter. (...), that period shall not be shorter than 30 days (...)*". Thus, it is deemed necessary that a two-stage consultation, consisting of a call for input and a consultation on the BEREC text opinion should be taken into consideration, considering also that there is sufficient time to do so, as the Roaming Regulation does not set a deadline for the review of the implementation act but instead provides that "*Implementing Regulation (EU) 2016/2286 shall continue to apply until the date of application of a new implementing act adopted pursuant to paragraph 1 of this Article*" (Article 7 (5) CIR).

Contributor 1 believes that the Roaming Regulation and the CIR have been working well, have also allowed MVNOs to provide roaming services, and should not be removed for the following reasons:

- The International BEREC Roaming Benchmark of March 2022 shows that the demand for roaming mobile consumption, although impacted by the COVID-19 pandemic, has rapidly recovered. There has been a rapid increase in the volume of roaming calls (i.e. Q4 2019 the average EEA roaming calls traffic made was 5.199,52 MM/min and in Q3 2021 it reached 6.073,37MM/min) as well as the one of roaming data traffic (i.e. Q4 2019 the retail data traffic was 131,45 MM/GB and in Q3 of 2021 it reached 328,78 MM/GB).
- The FUP and the derogation mechanism are still necessary and essential to maintain the sustainability of providing roaming services, especially with regard to MVNOs, which are paying roaming wholesale prices which are near the wholesale roaming caps and which are higher than the wholesale prices paid for domestic access. Although the wholesale roaming caps have been reduced with the new Roaming Regulation, it emerges from the 28th International Roaming Benchmark of March 2022 that the MVNOs situation has not changed. In fact, it has been acknowledged that: a) "*The wholesale prices that MVNOs pay are higher than the total average wholesale rates analysed (...) and stay close to the cap prices of the Roaming Regulation*"; b) "*that*

payments made by MVNOs to the host operators for wholesale roaming services are in general higher than the average wholesale prices”.

Therefore it is clear that it is necessary to maintain both the FUP and the derogation mechanism in order to ensure roaming sustainability for smaller operators.

Contributor 2 states that the Fair Use policies have allowed the development of unlimited data packages for the benefit of consumers and have prevented abusive behaviour of roaming customers, avoiding detriment of market players, with important consequences on the sector balance. Considering fair use policies’ elimination, even if gradual, would significantly modify the entire framework of the measure adopted in 2016 and open the possibility of systematic circumvention of the rule hampering the level of competition among EU operators and reducing benefits for customers, like elimination of unlimited offers.

Contributor 2 believes that Fair Use measures should be understood as structural, permanent and efficient measures aimed at permanently protecting the sustainability of regulated roaming in the EU and, as such, should be simplified, in order to make them transparent and easy to understand for customers, easy to implement for network operators as well as based on a cost-effective solution.

Cicada informs that the scope of the consultation is extremely limited and by that limitation fails to address a number of pertinent issues. There are obligations placed on BEREC and the European Commission by the European legislator in Regulation 2022/612 to monitor the performance of Online Trading Platforms and to monitor their impact on pricing and to monitor the impact of these online trading platforms on the roaming market more generally. Specifically, Recitals 21 and 66 (set out an explicit obligation on the Commission to report on online trading platforms) which is given legal effect in Article 21 dealing with future reviews.

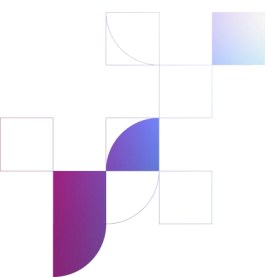
It is not possible to consider the question of FUP and Sustainability without reference to the overall price levels that are prevailing in the market and to whom those price levels are available (whether to certain MNOs, MVNOs or others).

ETNO-GSMA believes that the possibility to apply FUP is a fundamental feature of the “Roam-Like-at-Home” regime, which enables the operators to prevent losses caused by users using roaming services for purposes other than periodic travel.

ETNO-GSMA sees that this element of the roaming service conditions will become even more crucial in a M2M scenario, where FUP allows operators to prevent massive use of their M2M solution abroad, which would open up the doors for harmful arbitrage.

b. Fair usage policy

MVNO Europe states that any modifications, notably to Article 4 on Fair use, entail major risks of debasing the already precarious roaming economics for MVNOs, which typically make wholesale roaming outpayments at or near the level of the wholesale caps for data contained in Article 11 Roaming Regulation.



The objective reality that MVNOs are facing is that the rate of increase of monthly mobile data volume consumption is greater than the rate of reduction of the wholesale charges they effectively pay for wholesale data roaming services. As time advances, the economics for MVNOs therefore become increasingly problematic, and may in more and more cases over time, become unsustainable.

For this reason, as already done during the discussions on the revision of the Roaming Regulation, **MVNO Europe** suggests to adapt the formula for the data roaming limit. The maintenance of the current formula (domestic retail price of open data bundle, excluding VAT, corresponding to the entire billing period divided by regulated maximum wholesale roaming charge, multiplied by 2) could result in a negative margin for MVNOs (for their entire business, on account of the major losses they can incur from providing retail roaming services).

MVNO Europe considers it essential that the multiplication by 2 is removed from Article 4 (2) CIR.

MVNO Europe comments on objective indicators of abusive usage. The control mechanism of the current CIR foresees to regularly check customers' behaviour in terms of utilization and presence within a four-month control period. Within this four-month period, abusive usage occurs if more than 50 % of usage and more than 50 % of presence are jointly observed in an EU country other than the home country. Such a mechanism grants customers full legal backing if SIM cards are used up to 50 % of the time in another country, other than the home country.

MVNO Europe considers that it is necessary to lower the threshold in Article 4 (4) CIR to 25 % of presence and 25 % of usage within the control period of four months.

PIIT presents the position of Polish Mobile Network Operators and states that FUP is currently the only mechanism that allows Polish MNOs to safeguard their legitimate interests against permanent usage of roaming services (that is going beyond periodic travels) by roaming customers and therefore should be maintained. However, **PIIT** would like to point out that, in its current form, it does not protect Polish operators sufficiently enough against anomalous and abusive use of regulated roaming services. Therefore, current mechanism should be limited to what is necessary to use regulated roaming services for periodic travels.

Withdrawal of such mechanism or its relaxation poses a high risk to commonly available unlimited tariff plans in Poland, their current affordable price levels and opens way for harmful arbitrages. Changes that would limit operators' ability to shape domestic retail offers should also be avoided. EU legislator should refrain from introducing provisions preferring concrete tariff plans, e.g. unlimited data packages.

PIIT comments on observation mechanism. Taking the average rates of Poles roaming in the EU into account, the current observation mechanism, set forth in Article 4 (4) CIR, defines too long an observatory window (four months) to ensure adequate protection against the risk of anomalous or abusive usage by roaming customers, i.e. going beyond periodic travel within the territory of the EU. The indication of prevailing consumption of regulated roaming services over domestic and non-EU consumption is not objective and unjustifiably discriminates users who make little use of both domestic and roaming services, although such users generate

lower costs for operators than the so-called heavy users. In case of unlimited tariff plans this indicator can be easily and free of cost, influenced by the user, e.g. by increasing domestic consumption instead of reducing roaming consumption. This would even further increase the costs on the part of the service provider.

Its application leads to the situation in which two subscribers of the same domestic tariff plan, consuming regulated roaming services in the same way (e.g. 100 minutes) and roaming for the same period (and thus also domestically), will be charged differently for using regulated roaming services. The charging (i.e. application of an additional surcharge or its absence) would only depend on the volumes used domestically and would be inversely proportional to domestic consumption. This means that a user who consumes more domestic services will pay less when roaming. This leads to an absurd situation in which a customer that generates higher costs (with the same subscription value) must be treated better than the one generating generally lower costs.

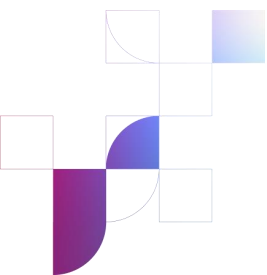
At the same time, due to the subjective nature, the user can easily circumvent the fair use policy applied by the roaming provider, in particular in unlimited tariffs. While the prevailing presence indicator is of an objective character, the relation between domestic and roaming consumption can be easily modified by the user in his favour not only by reducing roaming usage, but also by increasing domestic consumption. In unlimited tariff plans, this does not generate any additional domestic costs for the user (but it does for his provider). It is enough for the user to make several lengthy calls with another number (e.g. prepaid) before going abroad, which will constitute for him an appropriate buffer against prevailing consumption in regulated roaming.

In order to objectify the approach to all end users and to reflect periodical travels, **PIIT** requires the following amendments:

- shortening of observatory window from four to one month;
- introduction of the possibility to separately apply presence and consumption indicators in regulated roaming;
- non-EU roaming presence or consumption should not be treated like domestic for the purpose of observatory window.

PIIT provides its view on *Open Data Bundle Limit*. The mechanism provided for open data packages does not ensure a sustainable business model, since it only allows for the recovery of half of the costs for the provision of roaming services (due to the "2" multiplier). Therefore, the current rules should be changed in a way that would adequately protect the legitimate interest of telecommunications undertakings.

The mechanism provided for in Article 4 (2) CIR for open data packages should be extended to other services (voice calls, SMS, MMS), if they are covered by unlimited tariff plans or such plans in which the price for a given package divided by the volume of services is lower than the regulated wholesale price for a given traffic fraction (similarly as in the case of open data packages).



At the same time, **PIIT** believes that one mechanism should apply to all services. This is due to the fact that the subscription covers all types of services. There is therefore no justification for referring it to only one type of service. The adopted multiplier of "2" has no justification either. No business model will be sustainable as long as the regulation only allows half of the cost of data transmission used abroad to be recovered.

Therefore **PIIT** asks for introduction of the following modifications:

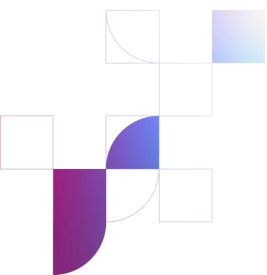
- application of the mechanism provided for open data packets to unlimited packages of voice calls, SMS and MMS messages;
- the mechanism should be applicable to all services. The subscription fee for such an open package of data, voice calls, SMS and MMS messages should be divided proportionally between services according to the scheme established by the service provider. Subsequently, an appropriate part of the subscription amount would constitute the basis for calculating the volume of given services available at no additional charge;
- reducing the multiplier from 2 to 1 at the most.

Contributor 1 states that FUP, by limiting the data that can be provided to the customers in roaming like at home, allows MVNOs not to go under costs. Hence, until the roaming wholesale caps are not aligned with the domestic wholesale caps, it is necessary that this mechanism remains in place. If some changes should be made, it should be changes that render the FUP mechanism simpler and that go in the direction of alleviating the burden on smaller operators, for instance providing for the removal of the doubling of the FUP volume, which would bring the domestic prices and the wholesale prices much closer and make the roaming regulation more sustainable.

Contributor 1 invites BEREC to:

- not remove the safeguard mechanisms of the FUP and the sustainability mechanism provided in the Roaming Regulation and as detailed in the European Commission Implementing Regulation, which are still rendering roaming sustainable for MVNOs. Its removal should only be considered when the roaming wholesale caps are reduced to the level of the wholesale domestic ones. This is also in line with the approach expressed by BEREC in its supplementary analysis on wholesale roaming costs, where it stated that *"the wholesale roaming caps should be reduced further in order to increase the competitive strength for MVNOs"*.
- Eventually modify the FUP formula by removing the doubling of the FUP formula to reinforce the sustainability of roaming.

Contributor 2 adds that FUPs are too stringent now. If at the beginning they could be assumed as providing a safe harbour for roaming customers, now after the substantial success and the very high level of compliance of roaming providers with the new RLAH rules, fair use policies should be considered to grant roaming providers a safeguard from



opportunistic behaviours of few clusters of customers, de facto reducing the overall benefit for all customers.

In order to do that few advice is provided below, but one point stands above all others: the oddness of calculating the day of presence in roaming used in the objective indicators FU policy (ex. Article 4 (4) CIR).

Presence data are easily detectable only in case of traffic performed, otherwise, in absence of traffic, a deep investigation on network systems is needed and currently such information is not stored for billing purposes, impeding to prove presence in case of traffic absence in case of disputes.

Moreover, current definition of presence, as reported in Article 4 (4) CIR:

*For the purpose of the second, third and fifth subparagraph, **any day** when a roaming customer has **logged on to the domestic network** shall be **counted as a day of domestic presence** of that customer.* de facto impede to apply such indicator to:

- cross border customers that perform almost all their traffic in roaming but in the evening log to the domestic network, or
- one- or two-day journey, typical in the business market, that will never be accounted for roaming days even if in a large part that day traffic is likely performed in roaming.

Presence only (without traffic) in EEA country different from domestic one is not expensive, at wholesale level, for roaming providers (maybe except for M2M, where a fee could be due even only for presence), on the opposite of traffic that involves direct and pay per use wholesale costs.

Considering above mentioned, **Contributor 2** suggests eliminating from the objective indicator FUP the presence parameter for its cumbersome handling and very limited effectiveness in contrast of abusive behaviour. The only objective indicator should therefore be the prevalence of traffic performed in roaming versus the domestic one.

Contributor 2 comments on roaming data allowance for open data bundle. In the case of "open data bundle" FUP, as defined in Article 2 (2) (c) CIR, a predefined roaming data allowance (RDA) can be defined to be exploited at domestic conditions, and a (capped) surcharge can be applied on the exceeding traffic according to the procedures described in Article 4 (2) CIR.

Contributor 2 has implemented the Fair use RDA policy considering it the most effective one among the possibilities allowed by the CIR. Such an easy and effective measure shall be extended also to voice and SMS, at least in case of national voice and/or SMS unlimited offers.

Moreover, data wholesale cap reduction results in a reduced effectiveness of its power of deterrence. The deterrence effectiveness of such a measure should be maintained for example reducing the coefficient 2 that currently multiplies the ratio of retail offer price (VAT excluded) to wholesale cap data.

Contributor 2 adds that according to Article 4 (4) CIR an operator can define measures to establish if a customer has prevailing roaming consumption hampering profit and loss evaluation behind the RLAH offer adopted. Currently (according to paragraph 5 of Article 4 (4)) to detect an abusive usage of regulated retail roaming services both indicators of consumption and presence shall indicate a prevailing usage in roaming.

Such double check on two so different indicators makes it very complex to detect abusive usage of regulated retail roaming services and it is also very complex to communicate to the customers.

As a matter of fact, a) consumption data are available on billing systems and are usually stored, and easily available on operator systems, for 6 months for billing disputes; b) presence data are easily detectable only in case of traffic performed, otherwise need deep investigation on network systems that currently are not stored for billing purposes.

According to the successful widespread diffusion of RLAH services across EU, **Contributor 2** believes that such strong provision regarding both indicators of consumption and presence can be lightened in favour of a single indicator.

The only indicator that should be used is consumption for:

- its widespread availability across the company systems;
- its easy processing;
- its effectiveness in detecting extra costs sustained by the roaming service provider.

Contributor 2 adds that on top of the adoption of a single indicator process to detect abusive behaviour, further improvement can be introduced.

- A four-month observation period is considered too long for an effective detection of opportunistic customer behaviours. A reduction to two months could be assumed a good compromise, considering that RLAH has been introduced for “*customers [...] periodically travelling within the Union*”.
- For the same reason “prevalence“ of roaming traffic should be reduced from 50 % down to, for example, 30 % of the total customer traffic in the observation period.
- The minimum observation period after applying the surcharge in case of abusive behaviour should be defined as a month, in order to make effective the process: shorter minimum observation period (for example week or day) are too heavy from a computational point of view.
- Surcharge application procedure: currently the surcharge could be applied only after a *warn and wait* process where the roaming provider has to notify the customer of a prevalent roaming usage, wait for a period of time and, only if the customer has not modified its behaviour could apply the surcharge: such a process makes surcharge application ineffective. Rules should be modified allowing that the surcharge could be applied as soon as the customer receives the communication that he/she has reached a

xx% threshold of usage while roaming in the EEA, provided that the customer is duly informed in advance of the applicability of such FUP.

- In addition, surcharge could be applied to all services provided (voice, SMS, data) even if the threshold is exceeded for one service (for example voice) only: otherwise a roaming provider would hardly recover the extra expenses paid during the (observation) period characterized by an abusive behaviour.
- Moreover, it should be clearly stated that the different fair use policies are additive, due to their different ratio behind their introduction: i.e. surcharge applied due to Article 6 CIR (derogation for sustainability) can be added to the surcharge due to roaming data allowance.

Contributor 2 believes that operators will foresee procedures to handle complaints and eventually restore improper charges.

In the view of **ETNO-GSMA**, the Fair use policy provisions not only need to be maintained but would benefit from improvements and simplification due to the current high complexity of the existing control mechanism.

ETNO-GSMA points out that the CIR should be defined in a way where any controls are transparent and easy to understand for customers, easy to implement and track for network operators, and based on cost-efficient solutions. **ETNO-GSMA** therefore continue to believe that when reviewing the Implementing Regulation, the Fair use policy provisions should be changed concerning open data bundles, limits on voice/SMS, simplification of four-month window rule, and proof of normal residence or stable links.

Fair use rules that foresee the (ex post) monitoring of roaming vs domestic presence and traffic are extremely costly and complex to implement. Therefore, in some cases, operators have decided not to use this tool at all.

The (ex-ante) setting of a fair use limit on open data bundles also presents challenges e.g., it a) does not protect operators from providing the service below cost, and b) will be watered down in the event of a further reduction of wholesale caps.

To improve the existing provisions of the Fair use policy set out in the CIR, **ETNO-GSMA** requests that the following points should be considered:

- *Data allowance on open data bundles* (to be once and not twice the volume purchased at wholesale price): When RLAH was introduced, it was ruled that due to potential discount agreements on the wholesale side, the RLAH data usage must be twice the volume that can be purchased by an operator at wholesale level from the whole retail price charged from the customers for all services included in the bundle of the monthly subscription fee. Hence, the current methodology multiplies the wholesale-based amount by a factor of two (2 x domestic retail price/wholesale price for the entire bundle). This methodology is becoming increasingly out of sync with reality and inhibits operators' incentives to add data into mid- and low-end rate plans. Due to the glide path included in the Regulation, the wholesale data prices are, at the end of the current Regulation, significantly lower than in

the beginning. Therefore, there is no reason to keep the multiplier two in the Fair use rule. The amount of fair use data is sufficient also without multiplier of 2 when compared to the normal needs of end users which shall be covered by the Fair use policy. Additionally, the multiplier 2 may result in operators paying more for the wholesale roaming services than what they can charge their end users. For these reasons, **ETNO-GSMA** suggests the multiplier 2 is removed.

- *Introduction of limits for voice/SMS:* Absence of a voice/SMS limit may lead to significant interconnection fraud to various number ranges and a limit should be introduced to effectively prevent abusive/anomalous use of RLAH. This would also be preferable for the understanding of the mechanism by the customers who prefer to manage their consumption vis a vis limits instead of paying extra charges.
- *Simplification of four-months window rule:* The rule (more of 50 % of the days and more of 50 % of usage in roaming in at least four consecutive months), which enables the identification of permanent roamers is too complex to implement and to apply in practice. Besides being complicated to implement, the four-month observation period is also very long from the perspective of occasional travel that is in the scope of the Roaming Regulation. The usual travelling abroad patterns do not exceed one-month period. Furthermore, the following two criteria cannot be applied, as long as prepay customers are not registered, i.e., their identity is not known: a) long inactivity and use mostly in roaming; b) subscription and sequential use of multiple SIM cards by the same customer. Therefore, the existing mechanism should be replaced by a significantly simpler one, for example a fixed period per annum. In doing so the focus should be on a fair share between domestic and roaming usage which eliminates elements of potential end-user circumvention.
- *Proof of normal residence or stable links:* The mechanism for proving this criterion is ineffective. Any customer can provide a copy of the ID, even in cases when they work/study abroad, and their ID still includes the address of their residence on the territory of that particular Member State.

c. Sustainability

MVNO Europe points out that the manner in which a request for a sustainability derogation is assessed must certainly be such as to remain achievable for operators in the real world. Furthermore, any assessment of new derogations should take the huge difference of the wholesale rates which are paid by MVNOs and the rates that are paid by MNOs into account. Therefore, the sustainability mechanism needs to be maintained especially for small operators (in a manner which is achievable for operators).

MVNO Europe considers that sustainability derogations must remain a possibility for operators to avail themselves of where needed.

PIIT believes that there is no basis for the current criterion adopted for the assessment of the presence or absence of a sustainable model of domestic charges, namely that the operator's negative margin on provision of regulated roaming services must exceed 3 % of the EBIDTA

margin in order to be eligible for surcharges. Operators should be entitled to compensate any losses related to RLAH. Additionally, change of pricelists to implement additional fees which result from NRA's consent to apply surcharges, should always be treated as a change of conditions which results from the implementation of Roaming Regulation, not as a commercial decision. In other cases, even a positive decision of the NRA allowing for additional surcharges could not be implemented in order to compensate for negative margin because the consequences would be to allow the customers to churn.

Therefore **PIIT** asks for:

- Deletion of the requirement that the negative margin on regulated roaming services must exceed 3 % of EBIDTA margin.
- Clearly state that implementation of NRAs decisions allowing for additional surcharge results from implementation of Roaming Regulation and is not a commercial decision of operators.

Contributor 1 notes that the derogation mechanism avoids an increase in retail prices by allowing the recovery of the costs related to the roaming services through the application of a surcharge. Such mechanism, however, being in principle appropriate, is of difficult application in practice, as correctly reported by BEREC which highlighted that *“operators granted a derogation still strive to apply RLAH as far as possible in order to remain competitive in the market”*. The parsimony in using the derogation is indeed due to the fact, that by applying the surcharges authorized by their respective National Regulatory Authority, operators will not be competitive anymore in the market. This particular issue has been already stressed in the Staff Working Document of the European Commission, which stated how many MNOs and MVNOs still offer large volumes of roaming services without surcharges to their subscribers, despite the derogation, in order to remain competitive in their domestic market or *“where they apply the surcharge, the latter is drastically reduced (...) so that the concerned customers do substantially benefit from a massive decrease in roaming prices even in such cases”*. This aspect should be taken into consideration by BEREC when reviewing the CIR on the derogation mechanism.

Therefore **Contributor 1** invites BEREC to maintain the derogation mechanism in place as it is but to investigate further the issue regarding its application, in terms of competitiveness in the market of MVNOs, which are the ones using mostly the derogation.

Contributor 2 comments on stable link. RLAH offers are limited by the regulation to customers having a stable link with the country of the provider of domestic services. An operator can verify if the customer has a stable link both before subscription or later on. Currently, in the absence of any evidence of a stable link, the roaming provider can apply the allowed surcharges on any service provided.

Contributor 2 believes that the CIR should be modified explicitly allowing that, if the absence of a stable link is detected before subscription, the roaming provider can propose dedicated offers with roaming offered at commercial, and non-regulated, conditions, instead of applying a surcharge to all the services provided. This could be the case of citizens from outside the

EEA who are in EEA only for tourism purpose for a limited time without any stable link since the beginning of the subscription.

d. Wholesale prices

Sipgate states that MNOs and MVNOs should be treated differently to ensure a fair level of competition. When it comes to wholesale prices, the current roaming regime does not differentiate between MNOs and MVNOs. Price caps for minutes, SMS and data are regulated on the same level for both types of networks.

The main difference between the companies is that MVNOs are technically unable to welcome inbound roamers into their network. The mobile customer from abroad is even unable to “see” and select the MVNO network. Thus, MVNOs are unable to generate revenues from inbound roaming which in turn means that they are unable to subsidize outbound roaming charges for their retail customers. This is a substantial downwind for the competitiveness of MVNOs. Furthermore, most MVNOs pay roaming fees at the exact level of the current roaming regulation - other than MNOs that belong to larger companies that operate networks in several countries within the European Union, giving them the chance to negotiate wholesale rates lower than regulated with other large network providers. **Sipgate** kindly asks BEREC to consider a regime with different wholesale caps for MNOs and MVNOs.

Freenet states that the current Roaming Regulation with wholesale caps for regulated data roaming services, SMS and calls is not sustainable as it puts independent service providers like **Freenet** and MVNOs at a competitive disadvantage. Already today, the increasing data use in roaming will lead to a strong increase in roaming charges. Not only are the wholesale caps still too far away from actual costs, but double billing by mobile network operators is widening the price-cost gap to the detriment of MVNOs and independent service providers like **Freenet**. It is foreseeable that MVNOs and independent service providers will no longer be able to offer retail tariffs that include EU-Roaming. As a result, the MVNOs and independent service providers will lose competitiveness in the retail market, which will lead to considerable disadvantages for the end users.

Freenet adds that as an independent service provider, **Freenet** competes with the mobile network operators (Telekom, Vodafone, Telefónica) on the end-customer markets and is at the same time dependent on their wholesale services. For technical reasons, **Freenet** can only obtain roaming services in other EU countries for its end customers, for example with a Telekom SIM card, via Telekom. Other mobile network operators cannot provide these services in the Telekom network for **Freenet**. In particular, **Freenet** cannot obtain the roaming services directly from the foreign mobile network operators, as they cannot distinguish between Telekom SIM cards for **Freenet** customers and other Telekom SIM cards.

This results in the difficult situation that there is a market for roaming services for end customers with, for example, a Telekom SIM card, on which Telekom is the only provider and thus a monopolist. As a company without competitors, Telekom is directly subject to the requirements of Section 19 GWB (*Gesetz gegen Wettbewerbsbeschränkungen. English - Act against Restraints of Competition*). This competitively disadvantageous situation for a service

provider such as **Freenet** does not only apply to Telekom, but also with SIM cards of the other mobile network operators. In the so-called retail-minus model, **Freenet** as a wholesaler obtains the services from the mobile network operators at a price that results from the retail tariff minus a discount for the saved distribution costs of the mobile network operators. The EU roaming services are included in the retail tariffs of the respective mobile network operators without the retail customers having to pay additional fees for them.

However, the billing of roaming costs to **Freenet** means that an additional charge must be paid to the mobile network operators for a service included in the end customer tariff at the wholesale level of **Freenet**.

By charging such an additional fee, **Freenet** is hindered as a direct competitor of the mobile network operators. The imposition of roaming charges in the amount of the wholesale caps by the mobile network operators on service providers results in **Freenet** having to cover not only the costs of distribution and its own profit margin but also the roaming costs from its distribution margin.

As a service provider in the retail-minus model, however, **Freenet** must be in a position to achieve prices that correspond to the retail prices of the mobile network operators with distribution costs that are no higher than those of the distribution of the mobile network operators. The charging of additional costs outside the distribution costs, in this case the charging of roaming fees, means that even if **Freenet's** distribution is as efficient as that of the mobile network operators, it is no longer in a position to achieve the retail prices of the mobile network operators.

The mobile network operators assume that their retail tariffs are calculated in such a way that the roaming charges they have to pay to other European mobile network operators are also covered. From the point of view of the mobile network operators' sales, products are therefore available which also include EU roaming without additional charges. Conversely, there can be no recognizable interest on the part of the mobile network operators to be additionally reimbursed for such cost components that are included in the end customer price and are not distribution costs.

Since mobile network operators do not charge roaming fees at all to their customers, charging roaming fees to service providers constitutes a competitive restraint and thus a violation of the prohibition of unfair restraint. This hinders **Freenet's** competitive opportunities to a considerable extent.

Freenet emphasises that in the context of sustainable roaming regulation, not only must wholesale caps be reduced without delay, but the double use of independent service providers and MVNOs must also be prevented definitely in order to maintain competitiveness to the benefit of end users.

Cicada seeks to address the fundamental problem of high prices in the wholesale roaming markets globally. Where a legal mechanism exists (as in the European Economic Area) price caps for wholesale international roaming were put in place in order to control the level of charges. However, these capped prices are significantly higher than national roaming rates where traffic balancing does not occur. In addition to high wholesale roaming prices, the

process for concluding contracts is very difficult and today, many roaming contracts are not negotiated and either roll-over (for up to 10 years in certain instances) or revert to predetermined default pricing established at the time in which the original roaming contract was agreed and which is normally, extremely high. The process for setting roaming terms is extremely limiting and could not cope in its current form if the number of participants were to increase. These issues will be greatly exacerbated when 5G gains traction because of an increase in data traffic volumes and the proliferation of market offerings and actors with cross-border needs.

This is critical to an understanding of sustainability and FUP – ultimately, FUP and sustainability require operators to navigate between domestic retail rates which reflect their cost of production as their input cost to domestic tariffs and wholesale roaming charges in the EU which reflect the input cost for roaming charges and the differential between these costs. Within any national market, MVNOs can operate on the basis of national roaming. National roaming is a wholesale roaming product which allows operators to provide domestic services on a sustainable basis and without reference to a FUP. National roaming is essentially identical to international roaming except that national roaming is much cheaper than international roaming. International roaming is more expensive because there is a cartel arrangement in place. The roaming cartel meets twice a year in different parts of the world in order to set prices for future periods. The roaming cartel allows operators to make the setting of the price for one product dependent on the setting of prices for a second unrelated product at the same time. Using this mechanism, prices can be kept high.

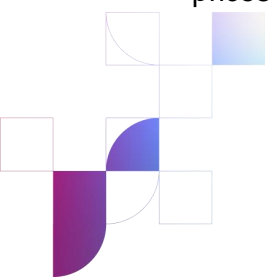
Cicada has a number of members outside the EU but only two members within the EU. This is not a consequence of the market circumstances but rather it reflects an understanding that the cartel arrangement is under threat.

What **Cicada** observes is that trades conducted through the platform to date generally lead to a price decrease in the range of 40 % from the previously reported pricing on those routes.

In order for sustainability and fair use policy to be relegated to the past, costs for international roaming within the EU needs to approximate national roaming prices. However, international roaming prices are inexorably higher than national prices with no ostensible justification other than the cartel that exists in the market.

Currently, operators meet and set prices for one service (route A->B) and simultaneously set prices for a completely separate and unrelated service (route B->A). The only purpose of this practice to set prices for both inbound and outbound traffic is to ensure that prices are kept as high as possible by forcing traffic balancing. This is the reason that national roaming prices are a fraction of the cost for the identical service, international roaming.

Cicada adds that traffic balancing is “the” problem in wholesale pricing. Wholesale roaming prices are too high. The problem for consumers is that they either go beyond Fair Use Policy and pay roaming surcharges or have roaming service limited (e.g. by not having 4G services available to them even when it should be). The reason wholesale roaming prices are too high is because of the way commercial prices are set – roaming managers meet in person to set prices.



Wholesale price setting is designed to balance traffic in the first instance and only then to deal with price. If traffic is perfectly in balance, the price is irrelevant (net payments are zero).

The European legislators recognised this and in 2015 imposed a requirement on BEREC to track the price difference between balanced and unbalanced wholesale traffic. In that first report from Q3 2016, BEREC found that balanced voice call traffic was 17 % more expensive than unbalanced, a feature that persists today at approximately the same level.

MVNOs are an extreme case because they have no ability to balance traffic since they have no network of their own – hence they get a really poor wholesale roaming price in general. MNOs with low domestic market share and/or not part of large groups face a similar problem as they have less traffic to balance.

Cicada provides the solution. Giving MNOs and MVNOs the opportunity to trade without balancing – via an online trading platform or exchange will allow a normal market dynamic to determine prices. An anonymous and ‘one-way’ trading platform would allow market driven prices to emerge which can be expected to move towards cost. Existing negotiation processes (bilateral negotiations) are unaffected by such a proposal and can continue exactly as before in parallel.

BEREC continues to collect data on this phenomenon (*International Roaming BEREC Benchmark Data Report April 2021- September 2021*). Effectively the current cartel in mobile roaming acts to make prices less important than it would otherwise be. The price of balanced traffic is irrelevant – whether the price is 1 or 100, the net cost (by definition) is zero. As a consequence, operators set prices higher if there is a revenue objective to be met, or set the price low if cost is a priority (these are notional headline costs and revenues, the net result is always zero). So balanced traffic is 0.89 EUR per GB in Sweden, but it is 0.33 EUR for unbalanced traffic. Similarly in Belgium, a balanced GB is more than twice the price of an unbalanced GB. However, in Germany, Italy and Denmark for example, the price of balanced traffic is much less than the price of unbalanced traffic (note that this may also be used to have blended prices that are less than the price cap even if the actual price for unbalanced traffic is higher than the price cap).

While **Cicada** can appreciate that this cartel arrangement might enjoy an exemption in Europe under Article 101(3) TFEU, since there may be a concern that there could be failure to conclude agreements for international roaming and that otherwise international roaming might cease to be available.

However, in the current circumstances, where a one-way exchange exists, where the competitive dynamic visible in national roaming can be replicated, allowing the continued price setting cartel in roaming is indefensible.

Cicada also provides the proposal for a Wireless Capacity Exchange. Creating a broad wholesale market for wireless capacity does not start from a blank canvas. There is already capacity trading for two types of wireless capacity which are either bespoke or highly structured. National Roaming or MVNOs buy wireless capacity within national markets which is negotiated on an individual basis with specific technological solutions, terms and conditions to each agreement, International Roaming on the other hand is traded as a standardised

product with pricing and volume terms varying between parties. The current system of trading for international roaming looks inefficient in its structure and operation. International Roaming agreements are negotiated at what can be best described as “bazaars” that are organised twice a year by the GSMA (allowing only its members to participate). At those events MNOs send their delegates to specific locations for a week to participate in the negotiations (e.g. Marrakesh) and then the participating operators arrive with teams that ‘speed-date’ from table to table. Large routes are negotiated often, thinner routes are rarely updated (the long tail). Even a big team will only get a limited number of deals negotiated. Certain deals are negotiated outside this structure but only very rarely. The logistic nightmare of the “bazaar model” gets much worse in a bilateral context.

This can be considered the first major problem in the roaming market which is a process problem arising from the fact that organised as it is, a relatively small and finite number of transactions can take place. However, this process problem is relatively trivial compared to the second issue which is pricing.

The price differences between national roaming and international roaming capacity should be very small and the pricing ought to be relatively similar, even if there are some minor additional elements (mostly optional and in the control of operators). In practice however, national roaming leads to much lower wholesale pricing than international roaming. There is clearly a wholesale market failure which has driven the currently regulated wholesale pricing.

As argued elsewhere, the market failure alluded to has at its root cause the structure of the roaming contracts negotiated and this manifests itself as a structural problem at the wholesale roaming level. Where multiple networks with fixed costs vie for marginal traffic, economics suggest that very low rates will evolve, all other things being equal. However, such low rates have not evolved for international roaming, even though in the similar context of national roaming very low rates have evolved. **Cicada** raise the question why is this so? Several authors have identified traffic balancing, which forms a central part of contract negotiations, as the key in the problem. Negotiations between the operators typically revolve around agreeing to balance or swap traffic to the greatest extent possible, and then to apply a marginal rate to the remaining traffic. This has two major impacts: (a) balancing traffic distorts the price signal and makes prices less important at the wholesale level, because if traffic is perfectly balanced, the price is irrelevant (net payments are zero) and if traffic is close to being balanced, the price agreed becomes less important; and (b) it excludes smaller operators from competing in the wholesale market to a significant extent, because they have less traffic to balance off with larger operators. They also have less opportunity cost (less existing traffic) and more to gain (since they are more likely to win traffic in a straight price competition) by competing in the wholesale market, so their exclusion is important. The proposition that traffic balancing is at the core of the problem in the roaming market has been largely accepted by both the Commission and BEREC in their reviews of the roaming market.

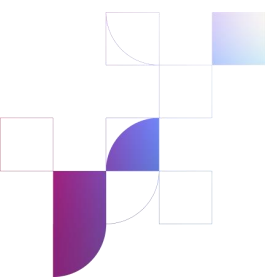
There are therefore two major problems that need to be addressed in wholesale roaming markets. The first one is related to the process: if many more contracts need to be concluded (e.g. if participation was not constrained to MNOs), the continuation of the current model would not be practically possible. The second one is related to pricing and the high level of wholesale pricing that results from the structure of contracts.

One way to address this is to establish an electronic trading exchange for wireless capacity. This would allow access to capacity to anyone, even if the supply of capacity rests with network operators, so that anyone with a good idea would not be constrained by the logistics. The analysis set out highlights that breaking the link between inbound and outbound traffic is crucial for establishing a competitive wholesale roaming market by making the price the central aspect of any transaction. In this way, all operators can compete on the wholesale market and with lower wholesale prices operators can compete at the retail level. However, large operators with a significant geographic footprint, especially those who have a significant inbound balance of traffic, have a limited incentive to move away from the current system of pricing even though they would likely support a system that improved the process problem.

Cicada now operates its online trading platform using the same infrastructure as Europe's largest energy exchange. To make the transition to a mobile roaming exchange trading as seamless as possible, the exchange mirrors the current transaction 'form' as much as possible. Two main products are offered (1) a combined product that incorporates (a) Voice (b) SMS and (c) Data and (2) a data only product, these are the products traded today. The exchange has a relatively small number of Members for the moment but prices observed in trading are at least 40 % cheaper than the prevailing prices. **Cicada** also seeks to address both the process and the pricing issue. The exchange is governed by all relevant financial regulations and the products traded comply with the basic tenets of financial regulation – notably there is transparent pricing and anonymous participation in trades for both the buyer and seller. Judging from the performance of other commodity markets, pricing can be expected to move towards marginal cost over such an exchange which could obviate the need for continued regulation of wholesale pricing in the future and allow both FUP and Sustainability provisions to be withdrawn.

One major condition for the success of such an exchange platform is the extent to which larger group companies who currently enjoy a competitive advantage under the existing roaming structure would be willing to participate in any new trading mechanism that is more transparent in pricing. Clearly, certain larger markets in Europe such as Spain (Vodafone, Telefonica and Orange), Germany (Vodafone, T-Mobile and Telefonica) are exclusively or almost exclusively supplied by these larger group firms. Firms in another country would normally be happy to sell their roaming capacity online at a much lower rate, provided they were in a position to purchase capacity in each and every corresponding EU country. An obligation to sell on the home market when buying on a foreign market might resolve this problem. It may be that it will require each and every MNO in Europe to purchase and sell a percentage of their capacity on such a trading platform.

Cicada calls on BEREC to examine the mandatory participation of all EU mobile network operators on an online exchange. **Cicada** also calls on BEREC to work with DG Competition and DG Connect to examine mechanisms to shut down the current cartel operating in wholesale roaming markets.



e. Other issues

PIIT points out changes of prices due to fluctuations in exchange rates. The new roaming regulation obliges operators which are not in EURO zone to implement changes to retail prices two times a year. From 1 January 2023 **PIIT** will be obliged to implement changes to price lists due to a decrease of maximum wholesale fee for 1 GB. Additionally in May 2023 **PIIT** will be obliged to adjust prices to EUR exchange rates from 1Q 2023. This obliges **PIIT** to incur costs twice. **PIIT** are of the opinion that due to costs of implementation, adjustment to exchange rates should only take place in case when local currencies are depreciating and price adjustment should allow to maintain real value expressed in EUR and allow to compensate costs of implementation. In any case, adjustment of process to exchange rates should be treated as a change of conditions of service which results from implementation of the Roaming Regulation.

