

Somalia ICT Price Basket Indicators (IPB):

Methodologies, Guidelines and Performance



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October, 2024

Foreword



I am honored to present this report on “ICT Price Basket Indicators (IPB): Methodologies, Guidelines, and Performance.” This report signifies a significant step in Somalia’s journey to enhance the affordability and accessibility of telecommunication services. In today’s rapidly evolving digital landscape, ensuring affordability is fundamental to providing equal access to ICT’s benefits for all citizens. The methodologies outlined in this report are essential for shaping data-driven policies that improve service affordability, foster transparency, and support Somalia’s socio-economic development.

The National Communications Authority (NCA) of Somalia is committed to adhering to global best practices, as outlined by the Organisation for Economic Co-operation and Development (OECD) and the International Telecommunication Union (ITU). By embracing these internationally recognized methods for ICT price baskets, our goal is to ensure fair pricing structures for fixed and mobile broadband services, leading to a more transparent and competitive telecommunications market.

I want to express my appreciation to the team led by Eng. Naima Hassan and the team members Yasin Abdulahi, Shukri Ismail, and Abdulkahdir Hassan from the Interconnection, Wholesale, and Universal Access Department of the NCA for their exceptional efforts in providing the required documents for this report. Their valuable input and feedback were crucial in enhancing the draft, guaranteeing the report’s accuracy and relevance to Somalia.

I also thank the Economic and Social Commission for Western Asia (ESCWA) and the national stakeholders for their invaluable contributions in shaping this report’s guidelines and performance assessments. Their dedication and collaborative efforts have played a crucial role in advancing Somalia’s ICT sector and improving our ranking in global ICT assessments, bringing us closer to achieving our national objectives.

Looking forward, the recommendations in this report provide a clear pathway for improving the regulatory framework that oversees pricing in the telecommunications sector. Promoting competition and transparency, as well as consistently monitoring price basket indicators, can establish a stronger foundation for more affordable telecom services in Somalia. These steps will promote a more equitable market and position Somalia as a regional leader in ICT development, contributing to greater economic inclusion and growth. I encourage all stakeholders to approach this report’s recommendations with optimism and determination as we collectively work toward advancing Somalia’s digital future.

Mr. Mustaf Yasin Sheikh

Director General

National Communications Authority (NCA)

Somalia

Executive Summary (In Somali)

Warbixinta Tilmaamaha Qiimayaasha Adeegyada Isgaarsiinta iyo Tiknoolojiyadda Soomaaliya (*Somalia ICT Price Basket Indicators: Methodologies, Guidelines, and Performance*), oo ay diyaarisay Hay'adda Isgaarsiinta Qaranka (HIQ) ee Soomaaliya iyada oo kaashaneysa Guddiga Dhaqaalaha iyo Bulshada ee Qaramada Midoobay ee Galbeedka Aasiya (ESCWA), waxa ay ka bixinaysaa falanqeyn dhammeystiran oo ku saabsan qiimaha adeegyada Isgaarsiinta iyo Tiknoolojiyadda ee Soomaaliya iyada oo la adeegsanayo habraacyo caalami ah oo la aqoonsan yahay.

Ujeeddooyinka Muhiimka ah

Ujeedada warbixintani waa in lagu qiimeeyo awoodda wax iibsiga iyo helitaanka adeegyada isgaarsiinta ee Soomaaliya iyada oo la adeegsanayo habraacyo caalami ah oo la aqoonsan yahay, gaar ahaan kuwa uu dejiyey Ururka Horumarinta Dhaqaalaha iyo Iskaashiga (OECD) iyo Ururka Isgaarsiinta Caalamiga ah (ITU). Ujeedada guud waa in la helo go'aanno siyaasadeed ee xog ku dhisan si loo kobciyo qiimayaal tartan ku saleysan, loona hagaajiyo hufnaanta suuqa isgaarsiinta ee Soomaaliya.

Habraacyada:

1. Habraaca OECD:

- **OECD** waxa ay isticmaashaa habka “**Isbarbardhigga Qiimaha Alaabta iyo Adeegyada**” si ay u qiimeeyso qiimaha adeegyada internet ka baaxadda weyn (broadband) ee guryaha iyo moobeelka. habkan waxaa lagu saleynayaa qaabka isticmaalka waxaana marar kala duwan dib loogu habeeyaa si loo waafajiyo isbeddellada suuqa.
- habkan waxa loo isticmaalaa adeegyo ay ka mid yihiin taleefoonka guriga, wicitaanada mobilka, xogta, iyo khadadka teleefoonada aan guurguurin.

2. Habraaca ITU:

- Hab-ka ITU, oo dib loo cusbooneysiisay sannadkii 2021, wuxuu diiradda saarayaa adeegyada Internet ka Baaxadda weyn (broadband) ee guryaha iyo mobilka, iyadoo la isbarbar dhigayo xirmooyinka ugu jaban ee la heli karo kaas oo buuxiya shuruudaha xogta.
- Habkan waxaa ka mid ah Internet ka baaxadda leh (broadband) ee guryaha (ugu yaraan 5 GB) iyo mobilka (ugu yaraan 2 GB).

Natiijooyinka Muhiimka ah:

- **Habka OECD:** Warbixintu waxay muujineysaa in

heerka Soomaaliya uu ka hooseeyo celceliska gobolka carabta, marka loo eego adeegyada xogta wicitanada iyo internet-ka ee mobilka iyo kuwa taleefoonka. Side kale warbixintu waxay muujineysaa in heerka Soomaaliya uu ka sareeyo celceliska gobolka carabta, marka loo eego adeegyada xogta internet-ka kaliya ee mobilka.

- **Habka ITU:** Adeegyada mobilka ee Soomaaliya ayaa ka jaban kuwa celceliska wadamada Carabta, taasoo muujinaysa in adeegyada mobilka ee Soomaaliya ay yihiin kuwo la awoodi karo. Laakiin, adeegyada Internet ka baaxadda leh (broadband) ee guryaha Soomaaliya ayaa aad qaali u ah, qiimayaashoodu waa kuwo ka badan kuwa wadamada Carabta iyo kuwa caalamka. Qiimahaas oo gaaraya 76.6% GDP-ga ee qof kasta.

Talooyin Muhiimka ah:

1. **Horumarinta Siyaasadda:** Waa lagama maarmaan in la dejiyo siyaasad cad oo ku wajahan hagaajinta awoodda wax iibsiga ee adeegyada xogta internet ka (data) ee baaxadda leh (broadband) iyo kan guryaha.
2. **La Socoshada Qiimayaasha:** Waa in si joogto ah loo kormeeraa qiimahayaasha adeegyada xogta internet-ka (data) hab ku saleysan habraacyada caalamiga ah si Soomaaliya u sameyso go'aanno xeernidaamineed oo xog ku saleysan si kor loogu qaado horumarka isgaarsiinta iyo Tiknoolojiyadda.
3. **Kala Soocidda Xisaabaadka:** Waa muhiim in la sameeyo tilmaamo cad oo ku saabsan kala soocidda xisaabaadka si loo hubiyo hufnaanta, iyo tartan cadaalad ah oo ka dhex jira shirkadaha isgaarsiinta.
4. **Dib-u-eegista** **Xeernidaamiyayaasha:** Xeernidaamiyayaasha qiimahayaasha waa in si joogto ah dib loogu eegaa loona cusbooneysiisaa si ay ula jaanqaadaan horumarka tiknoolajiyada, loona hubiyo inay waxtar ku leeyihiin tartanka suuqa.

Warbixintan waxay muujinaysaa baahida degdegga ah ee loo qabo in la sameeyo faragelin siyaasadeed ah (policy intervention) iyo dib-u-eegista xeernidaamiyayaasha si loo hagaajiyo awoodda wax iibsiga ee adeegyada, loona kobciyo suuqa tartanka leh ee Isgaarsiinta iyo Tiknoolojiyadda ee Soomaaliya. Hirgelinta talooyinka waxay gacan ka geysan doontaa horumarinta balaaran ee dhaqan-dhaqaale, iyadoo la hubinayo in muwaadiniinta oo dhan ay si siman ugu heli karaan adeegyada isgaarsiinta iyo xoojinta kaalinta Soomaaliya ee horumarka dhaqaalaha dhijitaalka ah ee gobolka.

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Executive Summary

The National Communications Authority (NCA) of Somalia requested technical assistance from the United Nations Economic and Social Commission for Western Asia (ESCWA) to support the development of a report on ICT price basket methodologies and Somalia's performance in this area. This request was fulfilled through a series of activities designed to deliver a comprehensive analysis and practical recommendations to enhance the country's ICT sector.

Terms of Reference

In response to the NCA's request, the following key objectives were outlined in the terms of reference:

1. The NCA provided existing reports, laws, and documents related to ICT pricing for review.
2. ESCWA is committed to preparing a draft report on ICT price basket methodologies and evaluating Somalia's performance using internationally recognized indicators.
3. The draft report was discussed with the NCA and other relevant national entities through online consultations.
4. ESCWA finalized the report, incorporating feedback from these discussions.

Key Activities

ESCWA's advisory role was carried out through several structured engagements with the NCA:

- **Initial meeting (March 25, 2024):** The advisory request and work plan were discussed, laying the foundation for the project timeline and report structure.
- **Draft review meeting (July 4, 2024):** The ESCWA team presented the draft report to the NCA for feedback, which was subsequently integrated into the final version.
- **National validation workshop (August 12, 2024):** The report's findings were presented to key stakeholders, including telecom operators and service providers. The workshop allowed for further validation and refinement of the recommendations.

Main Recommendations

The advisory report delivered the following strategic recommendations aimed at improving Somalia's ICT

pricing framework:

1. **Policy Development:** It is critical to establish clear policies and procedures focused on improving the affordability of data services through both fixed and mobile broadband networks.
2. **Indicator Tracking:** Regular monitoring of ICT price basket indicators using global methodologies will allow Somalia to make informed, data-driven decisions that improve its ICT sector performance.
3. **Accounting Separation:** Developing guidelines for accounting separation, in collaboration with relevant stakeholders, is essential for promoting transparency, cost efficiency, and fair competition in the telecommunications industry.
4. **Regulatory Reviews:** National pricing regulations must be continuously evaluated and updated to adapt to technological advancements and ensure they remain competitive and effective.

The findings and recommendations presented in this report are intended to guide the NCA in its ongoing efforts to strengthen the ICT sector in Somalia, ensuring the development of a competitive, transparent, and efficient telecommunications market.

Part 1: Introduction

The National Communications Authority (NCA) of Somalia, in collaboration with the United Nations Economic and Social Commission for Western Asia (ESCWA), has developed this comprehensive report on ICT Price Basket (IPB) methodologies and Somalia's performance. This initiative underscores the NCA's commitment to advancing Somalia's digital economy and telecommunications sector by aligning national practices with globally recognized standards. The methodologies employed, including those from the Organisation for Economic Co-operation and Development (OECD) and the International Telecommunication Union (ITU), ensure a robust framework for benchmarking ICT service affordability, accessibility, and competitiveness.

The development of this report is a milestone in the NCA's broader strategy to foster a competitive, transparent, and equitable telecommunications market in Somalia. By adopting best practices from international benchmarking standards, the report comprehensively assesses Somalia's ICT price structures, addressing critical indicators for fixed voice, mobile telephony, broadband

services, and data-only broadband solutions. The findings aim to inform data-driven policymaking prioritizing affordability, market efficiency, and consumer welfare.

The report's objectives and scope were carefully designed to address key challenges in Somalia's ICT sector while aligning with the nation's digital transformation goals. The collaborative effort between the NCA and ESCWA followed a structured approach, including:

- 1. Review of Existing Frameworks:** A thorough analysis of Somalia's current ICT pricing policies, regulatory frameworks, and market conditions, complemented by a comparative assessment with regional and international benchmarks.
- 2. Draft Preparation:** Development of a preliminary report incorporating the OECD and ITU methodologies to measure ICT price baskets, specifically emphasizing Somalia's unique market dynamics.
- 3. Stakeholder Engagement and Feedback:** Consult with national stakeholders, including telecom operators, regulators, and policymakers, to refine the report and ensure alignment with local realities and priorities.
- 4. Finalization and Recommendations:** Incorporating feedback to produce a finalized report that provides actionable insights and strategic recommendations for policy enhancement and regulatory reforms.

This report is more than an assessment—it is a strategic roadmap for strengthening Somalia's ICT sector. Identifying affordability gaps and opportunities for market interventions lays the foundation for enhanced digital inclusion and economic growth. It also highlights the importance of accounting separation, transparent pricing regulations, and continuous ICT price basket indicators monitoring to foster a level playing field for market participants.

The NCA remains dedicated to implementing the recommendations outlined in this report, recognizing that a well-regulated telecommunications sector is integral to Somalia's socio-economic development. The insights offered here are expected to catalyze further advancements in ICT accessibility and affordability, positioning Somalia as a competitive player in the regional and global digital economy.

Part 2: Overview of ICT Price Basket Methodologies

This paragraph describes the most used methodologies to calculate the ICT price baskets: the OECD 2017 methodology and ITU methodology.

It is worth mentioning that the regulatory authority needs to request detailed pricing information from telecom operators, including tariffs, fees, and any promotional offers, to make sure that the issued policies are respected and implemented correctly. Auditing operators could also be an efficient mechanism to operationalize those policies.

2.1 OECD Methodology

The OECD has established a set of methodologies for comparing retail prices of telecommunication services, aiming to evaluate the price levels consumers face in member countries. These methodologies employ a “basket” approach, where consumption patterns are delineated for various user types, and the prices of corresponding services from each provider are used to compute the resulting cost for each user category. These baskets are called the “OECD Telecommunication Price Baskets” or “OECD Baskets.”

The baskets are periodically reviewed and revised to reflect changing consumption patterns. Notable revisions occurred in 2000, 2002 (Mobile Voice), 2005, 2009, 2012 (Fixed Broadband), 2014 (Mobile Broadband), and in 2017 through collaboration between the OECD and Teligen/Strategy Analytics Ltd. In 2017, the following basket definitions were implemented:

- Fixed Voice;
- Mobile Voice and Data;
- Fixed Broadband;
- Mobile Broadband Data Only;
- Leased Lines.

Generally, call costs are calculated using the formula $D + (\text{Unit}(\text{seconds}) - 1)/2$, where D represents the basket call duration in seconds, and Unit is the billing unit in seconds. This formula accounts for the average per-second charges.

2.1.1 Fixed Voice baskets

The Fixed Voice basket encompasses fixed telephony services provided via landline or wireless connections. Only the incumbent operator in each country is considered.

There are six defined baskets in this category: four for residential users and two for businesses. The residential baskets include:

- 20 calls basket;
- 60 calls basket;
- 140 calls basket;
- 420 calls basket.

The business baskets include:

- 100 calls business basket;
- 260 calls business basket.

Table 1 details the types of calls included in each basket.

Table 1: Overall basket volumes and destination distribution

Calls per month	Total calls	Call distribution		
		Fixed to fixed Local	Fixed to fixed National	Fixed to mobile
20 calls basket	20	61%	20%	19%
60 calls basket	60	60%	15%	25%
140 calls basket	140	58%	15%	27%
420 calls basket	420	73%	17%	10%
100 calls business basket	100	48%	19%	33%
260 calls business basket	260	43%	23%	34%

For each category, different patterns of calls are specified. For example, in the 20 calls basket for Fixed-to-Fixed calls, the calculation includes 53% of calls conducted during the day, 25% in the evening, and 22% on weekends.

2.1.2 Mobile Voice and Data Baskets

The Mobile Voice and Data basket encompasses mobile voice, messaging, and data services on 3G, 4G and 5G mobile networks. At least the two largest operators in each country, based on subscriber numbers, are covered, provided they collectively hold at least 50% of the market share. There are 12 baskets divided into three groups:

2 baskets for no data use:

- 30 calls;
- 200 calls.

5 baskets for low data and message use:

- 30 calls / 0.1 GB;
- 100 calls / 0.5 GB;
- 300 calls / 1 GB;
- 900 calls / 2 GB;
- Unlimited voice / 5 GB.

5 baskets for high data and message use:

- 30 calls / 0.5 GB;
- 100 calls / 2 GB;

- 300 calls / 5 GB;
- 900 calls / 10 GB;
- Unlimited voice / 20 GB.

Table 2 details the adopted baskets for this category.

Table 2: Overview of Mobile Voice and Data baskets

Basket	Voice calls	SMS	Data (GB)
30 calls, no data	30	10	0
100 calls, no data	100	20	0
30 calls, 0.1 GB	30	20	0.1
100 calls, 0.5 GB	100	40	0.5
300 calls, 1 GB	300	80	1
900 calls, 2 GB	900	160	2
Unlimited voice, 5 GB	Unlimited	Unlimited	5
30 calls, 0.5 GB	30	10	0.5
100 calls, 2 GB	100	20	2
300 calls, 5 GB	300	40	5
900 calls, 10 GB	900	80	10
Unlimited voice, 20 GB	Unlimited	Unlimited	20

For each basket, the methodology defines a specific composition of calls. For example, the 30 calls basket includes:

- 15% Mobile to Fixed calls;
- 55% On-net calls;
- 28% Off-net calls;
- 2% Voicemail.

Additionally, the basket specifies the percentage of calls according to the time they are made:

- 46% during the day;
- 27% in the evening;
- 27% on weekends.

The methodology also defines the duration of each type of call within each basket. For instance, the 30 calls basket includes:

- 2.0 minutes per Mobile to Fixed call;
- 1.6 minutes per On-net call;
- 1.7 minutes per Off-net call;
- 0.9 minutes per Voicemail call.

These baskets also account for sending SMS to mobile phones, with the following distribution:

- 53% On-net;
- 47% Off-net.

The timing for sending SMS is fixed at:

- 66% during peak time;
- 34% during off-peak time.

This distribution applies uniformly across all baskets.

2.1.3 FIXED BROADBAND BASKETS

The Fixed Broadband basket encompasses fixed location broadband services delivered via landline or wireless connections, with a minimum speed of 256 kb/s. To measure these baskets, the top three providers in each country, ranked by market share, are covered. These providers must collectively hold at least 70% of the market share.

There are 15 baskets defined in this category, categorized by five speeds and three usage patterns:

Speeds:

- 256 kb/s;
- 10 Mb/s;
- 25 Mb/s;
- 100 Mb/s;
- 1000 Mb/s.

Usage patterns:

- Low data volume;
- Medium data volume;
- High data volume.

Table 3 describes these different baskets.

Table 3: Overview of the Fixed broadband baskets

Minimum Download Speed (Mb/s)	Low alternative data volume (GB/month)	Medium data volume (GB/month)	High alternative data volume (GB/month)
0.256	5	15	45
10	10	30	90
25	20	60	180
100	40	120	360
1000	100	300	900

The fixed broadband baskets are defined by “Minimum Download Speed,” meaning that basket results can include any offer with a download speed higher than the specified minimum. The “Data Volume” requirement applies to the basket regardless of the offered speed.

2.1.4 MOBILE BROADBAND DATA ONLY BASKETS

The Mobile Broadband Data Only basket encompasses mobile data-only broadband services using 3G and 4G mobile networks. It includes coverage of the top three

providers in each country, ranked by market share, with their combined market share required to be at least 70%.

In this category, 7 baskets are defined based on 7 usage patterns. Unlike fixed broadband baskets, speed is not a parameter for mobile broadband baskets. Table 4 illustrates these defined baskets.

Table 4: Mobile broadband Data Only baskets

	Usage volume (GB / month)
0.5 GB basket	0.5
1 GB basket	1
2 GB basket	2
5 GB basket	5
10 GB basket	10
20 GB basket	20
50 GB basket	50

The mobile broadband baskets are based on usage distributed across all days in a month, i.e. a 30-day period.

Mobile broadband offers that are defined with a price for a shorter usage period, e.g. 1 day or 10 days, can be included by multiplying the price per period with the number of periods in a 30-day month. Multiplication factor $P = 30 \text{ days} / (\text{Validity days})$.

2.1.5 LEASED LINE BASKETS

The Leased Line basket encompasses permanent leased line services characterized by end-to-end transparent connections. It exclusively covers the incumbent operator in each country.

Two types of baskets are defined:

- 2 Mb/s;
- 34 Mb/s.

Each basket specifies distribution by distance, as detailed in Table 5.

Table 5: Distribution weights by distance (km) for leased lines baskets

	2 km	20 km	50 km	100 km	200 km	500 km
2 Mbit/s	50%	18%	6%	8%	10%	8%
34 Mbit/s	42%	18%	15%	9%	8%	8%

Circuits above 2 km shall include two 2 km local tail circuits within the defined distance. This means that, for example, a 50 km circuit will have 2 local tail circuits of 2 km, and a main circuit of 46 km.

2.1.6 OECD BUNDLED COMMUNICATION PRICE BASKETS (2020)

Based on an analysis of bundle structures by Teligen, and considering the composition of the OECD 2017 baskets for standalone services, particularly for fixed broadband services, along with feedback from member countries, the proposal includes six baskets for each bundle type. These baskets cater to basic, low, medium-low, medium-high, high, and very high usage categories. Table 6 provides details on these various baskets.

In this table, the following definitions were employed:

- Fixed Broadband (FBB): The specified speeds denote the minimum advertised download speed required for eligibility in the benchmarking analysis.
- Usage Levels (GB): Indicates the amount of data needed by a user within a month.
- Fixed Voice (FV): Ranges from 20 to 140 calls per month across the six baskets.
- Mobile Voice Levels: Includes call and data requirements; SMS is set to zero to ensure countries without SMS allowances are still considered.
- TV Element: Requires a minimum number of channels, starting from 10 at the basic level to 150 at the very high level. Note that the number of channels can vary widely between countries, and a higher count does not necessarily mean better quality TV offerings. Pay TV baskets consider whether a DVR (Digital Video Recorder) is included. On-demand OTT services may be included if accessible through the set-top box and advertised within the telecommunications service bundle.

Table 6: Overview of bundled price baskets

		Baskets	FBB		FV	MVD		Pay TV			
			Usage (GB)	Speed (Mbps Download)	Voice calls	Voice allowance (mins)	Data allowance (GB)	Nb of channels	Premium Movies	Premium Sports	DVR
1	2 play	FBB-FV (Basic usage)	15	2	20						
2		FBB-FV (Low usage)	60	25	20						
3		FBB-FV (Medium Low usage)	120	100	60						
4		FBB-FV (Medium High usage)	240	250	60						
5		FBB-FV (High usage)	360	600	140						
6		FBB-FV (Very High usage)	900	1000	140						
13	2 play	FBB-TV (Basic usage)	15	2				10	FALSE	FALSE	FALSE
14		FBB-TV (Low usage)	60	25				20	FALSE	FALSE	FALSE
15		FBB-TV (Medium Low usage)	120	100				30	TRUE	FALSE	FALSE
16		FBB-TV (Medium High usage)	240	250				40	TRUE	FALSE	FALSE
17		FBB-TV (High usage)	360	600				80	TRUE	TRUE	TRUE
18		FBB-TV (Very High usage)	900	1000				150	TRUE	TRUE	TRUE
7	3 play	FBB- FV- TV (Basic usage)	15	2	20			10	FALSE	FALSE	FALSE
8		FBB- FV- TV (Low usage)	60	25	20			20	FALSE	FALSE	FALSE
9		FBB- FV- TV (Medium Low usage)	120	100	60			30	TRUE	FALSE	FALSE
10		FBB- FV- TV (Medium High usage)	240	250	60			40	TRUE	FALSE	FALSE
11		FBB- FV- TV (High usage)	360	600	140			80	TRUE	TRUE	TRUE
12		FBB- FV- TV (Very High usage)	900	1000	140			150	TRUE	TRUE	TRUE
19	3 play	FBB-FV-MVD (Basic usage)	15	2	20	0*	0*				
20		FBB-FV-MVD (Low usage)	60	25	20	60	1				
21		FBB-FV-MVD (Medium Low usage)	120	100	60	200	5				
22		FBB-FV-MVD (Medium High usage)	240	250	60	200	10				
23		FBB-FV-MVD (High usage)	360	600	140	600	20				
24		FBB-FV-MVD (Very High usage)	900	1000	140	600	30				
25	4 play	FBB-FV-MVD-TV (Basic usage)	15	2	20	0*	0*	10	FALSE	FALSE	FALSE
26		FBB-FV-MVD-TV (Low usage)	60	25	20	60	1	20	FALSE	FALSE	FALSE
27		FBB-FV-MVD-TV (Medium Low usage)	120	100	60	200	5	30	TRUE	FALSE	FALSE
28		FBB-FV-MVD-TV (Medium High usage)	240	250	60	200	10	40	TRUE	FALSE	FALSE
29		FBB-FV-MVD-TV (High usage)	360	600	140	600	20	80	TRUE	TRUE	TRUE
30		FBB-FV-MVD-TV (Very High usage)	900	1000	140	600	30	150	TRUE	TRUE	TRUE

Note: *The “0” means that there is a SIM card plan without any voice or data allowance.

2.2 ITU Methodology

2.2.1 Historical background

The ICT Price Baskets have undergone several updates since 2017. The methodology initially specified the following categories: (1) Prepaid mobile broadband, (2) Postpaid mobile broadband, (3) Mobile cellular (voice and SMS: 50 min/100 SMSs), (4) Fixed broadband (1 GB/speed > 256 kb/s), (5) Fixed telephony (90 min local calls).

As of the 2018 data collection, adjustments were made to facilitate historical comparisons:

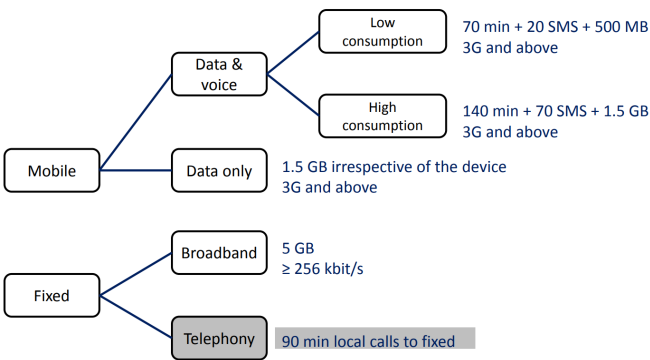
- Data-only mobile-broadband figures from 2017 were mapped to the mobile-broadband postpaid, computer-based basket (1GB, 3G and above).
- Fixed-broadband figures between 2008 and 2017 were aligned with the fixed-broadband basket (1GB, ≥ 256 kb/s).
- Mobile-cellular low-usage basket data from 2008 to 2017 were mapped to the mobile-cellular low-usage basket (30 calls/approx. 50 minutes/, 100 SMS).

In 2018, the following baskets were defined:

- The data-only mobile-broadband basket (2GB, 3G and above) represents the least expensive plan providing at least 2GB of high-speed data (≥ 256 kb/s) over a 30-day (or four weeks) period from the operator with the largest market share in each economy.
- The fixed broadband basket (5GB, ≥ 256 kb/s) denotes the most affordable plan offering at least 5GB of monthly high-speed data (≥ 256 kb/s) from the operator with the largest market share in each economy.
- The mobile data and voice low-consumption basket (70 min, 20 SMS, 500MB, 3G and above) refers to the cheapest plan providing at least 70 minutes of voice, 20 SMS, and 500MB of high-speed data (≥ 256 kb/s) over a 30-day (or four weeks) period from the operator with the largest market share in each economy.
- The mobile data and voice high-consumption basket (140 min, 70 SMS, 2GB, 3G and above) refers to the most cost-effective plan providing at least 140 minutes of voice, 70 SMS, and 2GB of high-speed data (≥ 256 kb/s) over a 30-day (or four weeks) period from the operator with the largest market share in each economy.
- The mobile-cellular low-usage basket (70 min, 20 SMS) designates the cheapest plan providing at least

70 minutes of voice and SMS (in predetermined on-net/off-net/fixed ratios) over a 30-day (or four weeks) period from the operator with the largest market share in each economy.

Figure 1: ITU Price baskets from 2018 to 2020



2.2.2 Price baskets 2021

From 2021, the following 5 price baskets are adopted (Figure 2).

Figure 2: Overview of ITU Price baskets (2021)

ICT price baskets		Minimum monthly allowance		
		Voice (min)	SMS (#)	Data
1	Data-only mobile-broadband basket	-	-	2 GB
2	Mobile data and voice low-consumption basket	70	20	500 MB
3	Mobile data and voice high-consumption basket	140	70	2 GB
4	Mobile cellular low usage basket	70	20	-
5	Fixed-broadband basket	-	-	5 GB

2.2.3. Data-only mobile broadband basket

The assessment is based on a minimum monthly data usage of 2 GB. For plans that impose data volume caps below 2 GB per month, the additional cost for exceeding this limit (per Megabyte) is included in the basket.

Notes:

- The broadband connection must meet a minimum speed of 256 kb/s, utilizing 3G technologies or higher.
- Selected plans represent the least expensive options that include at least 2 GB of monthly data.
- Plans with validity periods shorter than 30 days have their additional days’ costs calculated and added to the base package to determine the final price. This calculation varies by operator: customers either pay an excess usage charge for additional data or purchase an add-on package. Consequently, prices in

some countries reflect the base package price plus an excess-usage charge, or a multiplication of the base package price.

- Only prices for residential, single-user plans are collected. In cases where prices differ across regions within a country or economy, data from the largest city by population or the capital city is preferred.
- The cheapest plan is selected without preference for prepaid or postpaid modalities.
- Mobile broadband prices are sourced from operators with the largest market share based on the number of mobile-cellular subscriptions. If this information is unavailable, prices are gathered from the leading mobile-cellular operator in the country or economy.
- The reference validity period for the basket is 30 days or four weeks. Plans with shorter validity periods are considered multiple times to cover a four-week period.
- Prices reflect regular (non-promotional) plans and exclude limited-time discounts, promotional offers, or special rates for specific user groups (e.g., existing clients or age-defined groups). Special prices applicable only to specific devices (such as smartphones or tablets) are also excluded. Nighttime allowances are not included in the calculation of prices..

2.2.4. Mobile data and voice low/high consumption baskets

In this category, two baskets are defined:

- The mobile data and voice low consumption basket is based on a monthly usage of at least 500 MB of data, 70 voice minutes, and 20 SMSs.
- The mobile data and voice high consumption basket is based on a monthly usage of at least 2 GB of data, 140 voice minutes, and 70 SMSs.

Notes:

- For plans that impose data volume caps below 500 MB (low consumption) or 2 GB (high consumption), the cost of additional data is added to the basket. The broadband connection must meet a minimum speed of 256 kb/s, utilizing 3G technologies or higher.
- Prices should be collected in the currency they are advertised, including taxes.
- Only residential, single-user prices should be collected. If prices vary by region within a country or economy, prices for the largest city (by population) or the capital city should be provided.
- The cheapest plan should be selected without regard to whether it is prepaid or postpaid. The plan type should be recorded.

- The validity period considered for the basket is 30 days or four weeks. If a plan with a validity period shorter than this reference period is chosen, it should be counted multiple times to cover a four-week period.
- Price data should be collected separately for data and voice broadband baskets. Baskets may include standalone services, bundled services, or a combination thereof, as long as they meet the minimum thresholds specified for each basket.
- Data volumes should encompass both upload and download volumes.
- Excess charges for voice minutes and SMS should reflect on-net prices. If peak and off-peak prices differ, an average should be reported.
- Pay-as-you-go offers should be used when they are the cheapest or only option available for a given data and voice basket. If operators vary pay-as-you-go rates by time of day (peak/off-peak), the average should be recorded. Nighttime data allowances are not considered.
- Non-recurring fees such as installation or setup fees are not collected.
- Preference should be given to the cheapest available package, even if it includes bundled services like online TV content. Any additional services beyond data, voice, and SMS should be specified in a note. Zero-rated services should also be noted but not counted towards the total allowance.
- Prices should reflect regular (non-promotional) plans and exclude limited-time discounts, promotional offers, or special rates for specific user groups (e.g., existing clients or age-defined groups).

2.2.5. Mobile cellular low-usage basket

The mobile cellular basket refers to the price of a standard package including 70 minutes and 20 SMS messages per month, distributed in predetermined on-net/off-net/fixed ratios.

Previously, the mobile cellular basket was based on the 2009 methodology of the Organisation for Economic Co-operation and Development (OECD) low-usage basket. This has been updated to a low-usage mobile cellular basket that includes 70 minutes and 20 SMSs per month, with specific ratios outlined in Table 7.

Prices are collected from the largest mobile operator. The ITU mobile cellular basket excludes calls to voicemail and non-recurring charges such as the one-time fee for a SIM card. The cost of a national SMS refers to the charge for sending a single SMS text message. Both on-net and off-net SMS prices are taken into account. The basket

encompasses on-net and off-net calls, as well as calls to fixed telephone numbers.

Table 7: Composition of mobile cellular low consumption basket

	To fixed	On-net	Off-net	TOTAL
Call distribution (%)	7	67	26	100
Call distribution (minutes)	4.9	46.9	18.2	70
SMS		10	10	20

Source: ITU.

The plan is selected regardless of its modality, with early termination fees for postpaid plans with annual or longer commitment periods newly taken into account.

Notes:

- Prices are sourced from the operator with the largest market share, measured by the number of subscriptions. If prices vary regionally, they should reflect those applied in the largest city by population or the capital city.
- Prices should be collected in the currency they are advertised, inclusive of taxes.
- If the operator offers multiple packages with varying numbers of calls and/or SMS messages included, the cheapest option based on 70 voice minutes and 20 SMS per month (with a 30-day validity) should be chosen. The selection should disregard whether the plan is prepaid or postpaid.
- Prices reflect regular (non-promotional) plans and exclude special offers, promotional discounts, or options such as discounted rates for specific numbers, restricted to new customers, or limited to certain days of the month.
- Prices pertain to outgoing local calls. If different rates apply for local and national calls, the local rate is used.
- For calls with varying minute rates (e.g., price A for the 1st minute and price B for subsequent minutes), report the average cost per minute for a two-minute call (e.g., $(A+B)/2$).
- If off-peak rates exist, the cheapest rate before midnight is utilized. If the only off-peak period is after midnight, the peak rate is used instead.
- For SMS, if separate peak and off-peak prices exist, the average of both is used for on-net and off-net messages.

2.2.6. Fixed broadband basket

The fixed broadband basket refers to the price of a monthly subscription to an entry-level fixed broadband plan. For consistency, this basket is based on a minimum monthly data usage of 5 GB.

The broadband connection must meet a minimum speed of 256 kb/s. When multiple offers are available, priority is given to the most affordable connection that provides speeds of at least 256 kb/s and includes a data volume of 5 GB or more. Preference is also given to the most commonly used fixed (wired) broadband technology, such as DSL, fibre, cable, etc.

Notes:

- Prices should be sourced from the operator with the largest market share in terms of fixed broadband subscriptions.
- Prices should be collected in the currency they are advertised, inclusive of taxes.
- Only prices applicable to residential, single users should be collected.
- Prices should specifically pertain to the fixed broadband technology with the highest number of subscriptions in the country or economy (e.g., FTTH, DSL, cable).
- Price data should reflect regular (non-promotional) plans and should exclude promotional offers or limited discounts (e.g., discounts for students, existing customers).
- Due to increasing convergence in services, where operators bundle multiple services (e.g., voice telephony, Internet, television), it may be challenging to isolate prices for individual services. If a bundled service is the least expensive option meeting the minimum requirements, that bundle should be used for the price collection.

Part 3: Accounting Separation – Guidelines and Examples

3.1 Introduction

This section proposes a high-level comprehensive set of guidelines for establishing accounting separation in Somalia, drawing on international standards, mainly those of the International Telecommunication Union (ITU). In addition, 2 case studies are described for easy reference.

3.2 Objectives

The primary objectives of accounting separation guidelines are:

- 1. Enhance Transparency:** Establish clear financial reporting mechanisms for different telecom services to ensure transparency. Transparency is crucial for building trust among stakeholders, including consumers, investors, and regulators. Detailed financial reports allow stakeholders to understand the financial health and operational efficiency of telecom operators.
- 2. Promote Fair Competition:** Prevent cross-subsidization and anti-competitive practices within the telecom sector. Fair competition encourages innovation and improves service quality. It also ensures that no single operator can dominate the market through unfair financial practices.
- 3. Improve Regulatory Oversight:** Enable accurate assessment of financial performance and compliance through detailed financial reporting. Effective regulatory oversight helps maintain a balanced market, ensuring that all operators adhere to the rules and regulations set by the National Communications Authority (NCA).
- 4. Support Socio-Economic Development:** Foster a competitive telecom market that contributes to the economic growth and development of the Federal Republic of Somalia. A well-regulated telecom sector can attract foreign investment, create jobs, and improve access to communication services across the country.

3.3 Accounting Separation

Accounting separation involves the systematic categorization of financial accounts to ensure clear and distinct reporting of revenues, costs, and investments associated with different telecom services, geographical areas, and customer segments. This section provides detailed guidelines for service-based, geographical, and customer segmentation.

The process of “Accounting Separation” involves dividing a telecom company’s accounts into separate categories based on the services they offer (e.g., fixed line, mobile, Internet).

A. Service-Based Segmentation

Service-based segmentation involves separating

financial accounts based on the type of telecom service provided. This segmentation allows for clear allocation of revenues, costs, and investments specific to each service category and is often required by regulators to promote fair competition and transparency in pricing.

• Mobile Services:

- Separate accounts for prepaid and postpaid services: This differentiation helps in understanding the revenue dynamics and customer preferences for each type of service. Prepaid services typically involve higher customer turnover, whereas postpaid services usually offer more stable revenue streams.
- Differentiate between voice, SMS, and data services: Each service type has different cost structures and revenue models, making it essential to track them separately to understand their individual financial performance.

• Internet Services:

- Differentiate between fixed-broadband and mobile-broadband: Fixed-broadband services generally involve higher infrastructure costs compared to mobile-broadband, which relies more on existing mobile networks.
- Track revenues and costs for different speed tiers and service packages: This granularity helps in understanding customer preferences and the profitability of different service levels.

• Fixed-Line Services:

- Differentiate between residential and business fixed-line services: Business services often have higher revenue potential and different cost structures compared to residential services.
- Separate accounts for international, long-distance, and local calls: Each call type has different revenue models and cost implications, necessitating separate tracking.

B. Geographical Segmentation

Geographical segmentation involves separating accounts based on regional operations. This approach addresses regional disparities and promotes local development by providing insights into the financial performance of telecom services in different areas of the country.

- **Regional Accounts: (for each region in the**

country)

Separate accounts for operations in different regions (e.g., urban vs. rural areas): Urban areas typically have higher revenue potential but also higher competition, while rural areas may require more investment in infrastructure but offer opportunities for market expansion.

C. Customer Segmentation

Customer segmentation involves distinguishing between different types of customers to understand demand and service impact on various segments.

- **Residential Accounts:** Separate accounts for residential customers: This help in understanding the revenue and cost dynamics associated with providing services to individual households.
- **Business Accounts:** Separate accounts for business customers: Business customers often have different service requirements and higher revenue potential compared to residential customers.
- **Government Accounts:** Separate accounts for government customers. Government accounts may involve bulk contracts and specific regulatory requirements.

3.4 Cost Allocation Principles

Cost allocation is a critical aspect of telecom accounting separation, ensuring that all costs are accurately attributed to the appropriate services, regions, and customer segments. This section outlines principles for direct costs, indirect costs, common infrastructure costs, and capital expenditures.

A. Direct Costs

Direct costs should be attributed to specific services wherever possible. This includes costs directly associated with the provision of a particular telecom service. Examples are mentioned below:

- **Infrastructure costs:** These include expenses related to the construction and maintenance of telecom infrastructure such as towers and cables.
- **Equipment costs:** Costs associated with purchasing and maintaining equipment used in providing telecom services, such as routers and switches.
- **Labor costs.** Wages and benefits for employees directly involved in providing telecom services.

B. Indirect Costs

Indirect costs should be allocated using a consistent and transparent methodology. These are costs that cannot be directly attributed to a specific service. Examples of those costs are:

- **Administrative expenses:** These include general administrative costs such as office rent, utilities, and administrative staff salaries.
- **Marketing costs:** Expenses related to advertising and promoting telecom services.

C. Common Infrastructure Costs

Common infrastructure costs should be allocated to different services based on usage: This ensures that shared costs are fairly distributed. Examples of those costs are:

- Towers and Fiber Optic Cables: Shared infrastructure such as telecom towers and fiber optic cables used for both mobile and fixed-line services should be allocated based on usage metrics.
- Data centers: Costs associated with data centers used for multiple services should be allocated based on the proportion of resources used by each service.

D. Capital Expenditures (CAPEX)

Capital expenditures should be clearly separated by service category and geographical area. This allows for accurate tracking of investments in different parts of the telecom infrastructure. Examples of those costs are:

- **Network expansion costs:** Investments in expanding the network infrastructure to new areas or upgrading existing infrastructure.
- **Equipment upgrades:** Costs associated with upgrading or replacing equipment to improve service quality and capacity.

3.5 Revenue Attribution

Revenue attribution is essential for ensuring that revenues are accurately reported for different services, regions, and customer segments. This section outlines principles for attributing revenues to specific services, geographical areas, and promotional activities.

A. Service-Specific Revenues

Service-specific revenues should be recorded distinctly

to ensure clear differentiation between mobile, Internet, and fixed-line services. Examples of those revenues are:

- Revenue from mobile voice services: This includes income from calls made by mobile subscribers.
- Revenue from internet subscriptions: Income generated from subscribers to internet services, whether fixed or mobile.
- Revenue from fixed-line calls: Income from calls made over fixed-line networks.

B. Geographical Revenues

Revenues should be tracked and reported based on regional operations. This helps monitor market performance and regional service accessibility. Examples of those revenues are:

- Revenue from urban areas: Tracking revenues from densely populated urban areas.
- Revenue from rural areas: Tracking revenues from dispersed populated rural areas.

C. Promotional Revenues

Promotional revenues from bundled services and promotions should be segregated to prevent misallocation.

Example:

- Revenue from bundled internet and TV services: Income from packages that include multiple services at a discounted rate.

D. Bundled Services

Revenues from bundled services should be clearly defined and separated to prevent cross-subsidization.

Example of those revenues is mentioned below:

- Triple-play services (internet, TV, and phone): Revenues from packages that include internet, television, and phone services.

E. Promotional Discounts

Promotional discounts and offers should be recorded and allocated specifically to the service they pertain to, ensuring transparency in revenue reporting.

Example:

- Discounts on new mobile subscriptions: Reductions in price offered to attract new mobile subscribers.

3.6 Regulatory Compliance

Regulatory compliance is crucial for ensuring that telecom operators adhere to the established guidelines and maintain transparent and accurate financial records. This section outlines the importance of adherence to ITU standards, regular audits, and standardized reporting.

A. Adherence to ITU Standards

All accounting practices should comply with ITU recommendations and international accounting standards. This ensures consistency and alignment with global best practices. (See list of references in the report).

B. Regular Audits

Regular independent audits should be conducted to verify the accuracy and integrity of separated accounts. This helps maintain transparency and accountability.

Example:

- Annual financial audits by independent auditors. Independent audits ensure that financial statements are accurate and comply with regulatory requirements.

C. Reporting Standards

Standardized reporting formats and templates should be adopted as recommended by international standards, ensuring consistency and comparability across operators.

Example:

- Standard financial reporting templates: Using such standardized templates ensures that financial reports are consistent and comparable across different telecom operators.

Reporting Requirements

Operators should submit periodic reports to the National Communications Authority (NCA) detailing separated accounts and financial statements.

Example:

- Quarterly financial reports: Regular reporting allows the NCA to monitor the financial health and performance of telecom operators.

3.7 Monitoring and Enforcement

Monitoring and enforcement are essential for ensuring compliance with the accounting separation guidelines. This section outlines the roles of regulatory oversight, penalties for non-compliance, and capacity building.

A. Regulatory Oversight

The NCA should establish a dedicated unit for monitoring compliance with accounting separation guidelines. This unit will be responsible for ensuring that operators adhere to the guidelines.

Example:

- Compliance monitoring unit within the NCA: A dedicated unit within the NCA focused on monitoring compliance and addressing non-compliance issues.

B. Penalties for Non-Compliance

A clear framework for penalties and sanctions should be implemented in cases of non-compliance or financial misreporting. Examples of those penalties are:

- Financial penalties for non-compliance. Monetary fines imposed on operators that fail to comply with the guidelines.
- Suspension of licenses. Temporary or permanent suspension of licenses for severe or repeated non-compliance.

C. Capacity Building

Investing in training and resources is essential to enhance the capabilities of both regulators and telecom operators in maintaining and auditing separated accounts. Examples of those activities are mentioned below:

- Training programs for regulatory staff. Programs designed to enhance the skills and knowledge of regulatory staff in auditing and monitoring separated accounts.
- Workshops for telecom operators. Workshops and seminars to educate telecom operators on the importance and methods of maintaining separated accounts.

3.8 Implementation Plan

The implementation plan outlines the steps for rolling out the accounting separation guidelines, from initial assessment to full implementation and continuous review.

A. Initial Assessment

Conduct a baseline study to assess current accounting practices and identify gaps, referencing ITU standards and practices from other regional countries.

Steps:

- Review existing accounting practices. Assess the current state of accounting practices among telecom operators.
- Identify areas for improvement. Identify gaps and areas where current practices fall short of the proposed guidelines.

B. Guidelines Development

Collaborate with stakeholders, including telecom operators, regulators, and financial experts, to finalize the guidelines.

Steps:

- Draft guidelines: Develop a draft version of the guidelines based on initial assessments and stakeholder input.
- Gather feedback from stakeholders: Gather feedback from telecom operators, regulators, and other stakeholders to refine the guidelines.
- Finalize guidelines: Incorporate feedback and finalize the guidelines for implementation.

C. Pilot Phase

Implement a pilot phase with selected telecom operators to test and refine the guidelines.

Steps:

- Select pilot operators: Choose a group of telecom operators to participate in the pilot phase.
- Implement guidelines on a trial basis: Apply the guidelines in a controlled environment to test their effectiveness and feasibility.
- Evaluate pilot phase outcomes: Assess the results of the pilot phase and make any necessary adjustments to the guidelines.

D. Full Implementation

Roll out the guidelines across all telecom operators with a clear timeline and support mechanisms.

Steps:

- Develop an implementation timeline: Establish a timeline for the full rollout of the guidelines.
- Provide support and resources to operators: Offer training and resources to help telecom operators implement the guidelines successfully.

E. Continuous Review

Establish a feedback loop for continuous improvement of the guidelines based on practical experiences and evolving market conditions.

Steps:

- Collect feedback from operators and stakeholders: Gather ongoing feedback to identify areas for improvement.
- Review and update guidelines periodically: Regularly review and update the guidelines to ensure they remain relevant and effective.

3.9 KSA Experience¹

3.9.1. Generalities

The Telecommunications Bylaw mandates that the Dominant Service Provider comply with guidelines for cost separation. This cost separation, commonly known as Accounting Separation, serves to:

- Facilitate an understanding of the profitability of different business units.
- Ensure adherence to the principles of non-discrimination, requiring the Dominant Service Provider to set the same charges for interconnection services for both interconnecting Service Providers and its own business units or affiliates.
- Identify abuse of dominance or other anti-competitive practices by the Dominant Service Provider.
- Detect cross-subsidization between different operations or business units, especially from areas of market dominance to competitive services, which provides an unfair advantage to the Dominant Service Provider.

Telecommunications services of a Service Provider are typically provided using common networks and platforms, resulting in shared use of assets and jointly incurred operating and capital costs. Developing separate statements of income and capital employed for different businesses necessitates a prescribed allocation framework to distribute costs, assets, and revenues.

This allocation framework should adhere to the following high-level principles:

- Cost causality: Costs and assets should be allocated based on the true drivers of cost, i.e., the activities or services that cause the costs to be incurred or the assets to be purchased.
- Transparency: The allocation mechanisms should be clear, understandable, and consistent throughout the allocation process.
- Materiality: Costs and assets should be grouped into cost categories for allocation, and these cost categories should be significant in financial magnitude.

3.9.2. Guidelines

KSA issued dedicated guidelines in 2019. The guidelines document includes the following sections:

- Methodological approach (Principles, Cost and revenue basis, Cost allocations to services, Transfer charges).
- Architecture of the accounting separation system (Accounting separation levels, Accounting separation phases).
- Implementation, monitoring, and supervision (Submission, Review, Approval, Timeframe).

This paragraph summarizes the main features of those guidelines.

(1) Principles: The Accounting Separation principles include:

- Accounting consistency: Information corresponding to the Accounting Separation must be reconciled with the Statutory Financial Statements (unless otherwise stated in the present Guidelines and Rules) and supporting information that justifies such reconciliation must be provided.
- Auditability: The information provided must be adequately supported, so that an external or internal reviewer can easily trace its sources and review it.
- Causality: When one event (e.g., activity, product, or service) causes a corresponding cost or revenue, that cost or revenue must be reflected in the preparation of accounts. In particular, costs must be allocated to those accounts that cause these costs to arise. Revenues must be allocated directly to those accounts that cause these revenues to be earned.

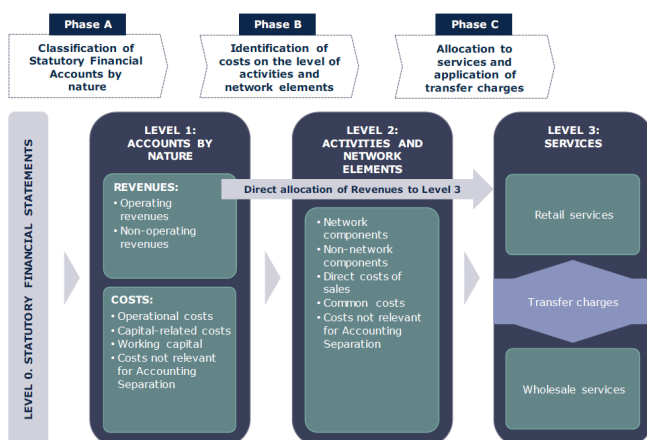
1 <https://www.cst.gov.sa/ar/RulesandSystems/RegulatoryDocuments/Interconnection/InterconnectionSystems/Pages/InterconnectionPricingandAccountingSeparation.aspx>

- **Consistency:** The methodology, accounting principles, and criteria used for the preparation of the Accounting Separation must be maintained over time, unless there is a valid and reasoned explanation for the change. Necessary variations due to technological or market changes must be documented, explained, and justified in detail, explaining why other options are not possible, and describing their impact on accounts and results.
 - **Fairness:** Accounting and procedural decisions in the preparation of Accounting Separation must fairly represent the treatment of internal and external parties. The fairness of decisions must be properly ensured by the Designated Service Providers' processes and procedures, and be constantly supervised by its Management.
 - **Internal reconciliation:** Transparent reconciliation between internal databases, reports, and statements, and the information corresponding to the Accounting Separation must be ensured.
 - **Materiality:** Cost and revenue accounts that represent more than 1% of the total costs/revenues under the same level of the Accounting Separation System must be disaggregated.
 - **Non-compensation:** Revenues and costs must be treated differentially, without engaging in any compensation between them. Accordingly, revenues and costs pertaining to one service must not be compensated with revenues and costs pertaining to another service.
 - **Non-discrimination:** The allocations of costs and revenues to services must reflect, fundamentally, i) a homogeneous wholesale price-setting towards all counterparts, without unjustified fluctuations, and ii) cost-orientation in the wholesale charges applied to other service providers.
 - **Objectivity:** Accounts, allocations, decisions, and other information employed in the Accounting Separation System must be based on verifiable data, which must be maintained and submitted for review, and may not be designed to favor other service providers, products, or services.
 - **Relevance:** Information must be prepared in a way that ensures there is no significant omission that may affect regulatory decisions.
 - **Reliability:** Information must be detailed, accurate, legitimate, and error-free.
 - **Responsibility:** Management must be personally responsible for the quality and correctness of all the information provided to the Commission in connection with Accounting Separation.
 - **Statistical accuracy:** Accepted statistical methods must be applied, for example in sampling. Statistics must be documented, replicable, and consistent over time.
 - **Sufficiency:** The information provided must include all necessary data to fulfill the Accounting Separation objectives.
 - **Transparency:** Accounts, data, reporting, and information must be clear, traceable, easy to understand for third parties, and self-explanatory. The information must be maintained and submitted for review in a medium and format that can be easily accessed and replicated at any time, without restriction, using standard software and data processing tools (e.g., MS Office).
- (2) **Cost revenue base: Accounting Separation must be prepared in accordance with a top-down Fully Allocated Cost (FAC) approach. Data from internal reporting systems include:**
- General Ledger
 - Fixed Assets Register
 - Billing System
 - Data Warehouse
 - Network Routing Factors
 - Management Accounting System
- Other topics included:
- Revaluation methods
 - Depreciation
 - Cost of capital
- (3) **Cost allocation to services: The Fully Allocated Cost (FAC) approach must be adopted to allocate costs to services. Under this scheme, the costs corresponding to the Statutory Financial Accounts must be distributed throughout the different levels of the Accounting Separation System. The costs to be distributed to the different services include:**
- **Direct costs:** These are the costs directly associated with a particular service and thus do not require specific allocation criteria.
 - **Indirect costs:** These are the costs distributed to two or more services and require the definition

of a causal allocation criterion, such as most network elements' costs.

- General costs: These are the costs for which no specific causal allocation criteria to services exist. Accordingly, it is necessary to use an equally proportional allocation to distribute them among services.
- (4) **Transfer Charges: The identification of so-called transfer charges implies a virtual separation of the Designated Service Provider into i) a wholesale unit, which represents the owner and administrator of the network; and ii) a retail unit, which purchases network services from the wholesale unit to offer retail services to the end-users. Transfer charges refer to the imputation of costs (and revenues) among the above wholesale unit and retail unit. Therefore, the Accounting Separation System must reflect the transfer charges in the form of costs under the retail unit and the same revenues under the wholesale unit, as the latter is providing network services to the former. Transfer charges must be calculated as the product of the quantity of the service being provided (e.g., minutes) and a reference unit price. Both terms (units and price) must be distinctly recognizable in the calculation.**
- (5) **Architecture of the accounting separation system: Designated Service Providers must prepare their Accounting Separation System based on the high-level architecture shown in Figure 3.**

Figure 3: Architecture of Accounting Separation System in KSA



Levels:

- Level 0: Constituted through the Service Provider's Statutory Financial Statements. Revenues, costs, assets, and liabilities must be presented at

their original input value, in a way that makes it possible to reconcile each input value directly with its original source. The structure of accounts presented in Level 0 must follow the same structure employed for the Designated Service Providers' Statutory Financial Statements, based on International Financial Reporting Standards.

- Level 1: Accounts by Nature: Depending on their nature, these revenue accounts can be classified into the following major categories:
 - Operating revenues obtained from core business services (mainly telecommunications services) provided by the Designated Service Providers.
 - Non-operating revenues obtained from transactions that are not directly related to the core business operations of the Designated Service Providers (e.g., financial activities or asset sales).
 - Costs:
 - Operational costs incurred by the Designated Service Providers as a result of operations necessary to provide core business-related services.
 - Capital-related costs arising from the depreciation, amortization, and cost of capital for fixed assets of the Designated Service Providers.
 - Working capital
 - Costs not relevant for Accounting Separation, including all other costs that are not relevant to carry out daily operations related to the core business services, such as financial costs, revaluation adjustments for CCA, non-current provisions, etc.

- Level 2: Activities and Network Elements: Level 2 accounts can be classified into the following major categories:

- Network components, including costs that are directly related to the operation of the Designated Service Providers' networks.

- Non-network components, including costs that are not directly related to the Designated Service Providers' networks, such as customer service, marketing, or advertising activities.
 - Direct costs of sales, reflecting costs that have a direct relationship with the provision of services, such as costs for interconnection traffic or for the sale of terminals.
 - Common costs, which include the costs associated with the administration and general management of the Designated Service Providers.
 - Costs not relevant for Accounting Separation, reflecting all costs that are not relevant for Accounting Separation, including those costs associated with the homonymous account in Level 1.
- Level 3-Services: Level 3 must reflect the results of revenues and costs allocation to the services provided by the Designated Service Providers, which can be classified according to the following major categories:
 - Retail services offered by the Designated Service Providers to their end-users, such as home telephone services and internet access.
 - Wholesale services offered to other service providers, through which they can perform their operational activities in the telecommunications sector.
 - Services not relevant for Accounting Separation, reflecting the revenues and costs that are not relevant for the Accounting Separation.

PHASES:

In line with the general architecture of the Accounting Separation System explained in the previous section, revenues and costs must be allocated to services through a three-phased approach, starting from Level 0:

- Phase A: Revenues and costs are extracted from the Designated Service Providers' Statutory Financial Statements and are organized and grouped according to their nature.
- Phase B: Costs are distributed to activities and

network elements according to their level of utilization, for which the definition of allocation rules will be necessary. Revenues are not allocated in this phase, as they are not used in Level 2 of the Accounting Separation.

- Phase C: Both revenues and costs are allocated to services and transfer charges are applied.

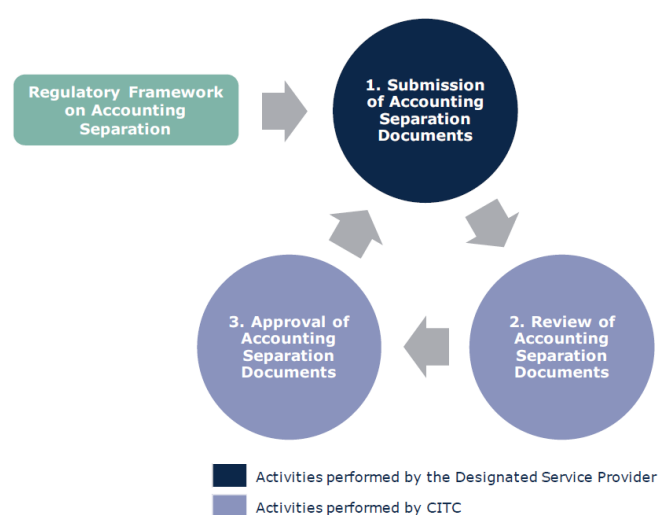
In line with the principle of "Transparency," it must be possible to trace costs and revenues associated with each account at each allocation phase. In particular, all costs must be allocated from one level to the next, so that a clear direct link (reconciliation) is present between the overall costs (and revenues) included in each level.

Implementation – Monitoring – Supervision

Figure 4 illustrates the 3 main phases of this process.

The Designated Service Providers must present an "Accounting Separation Manual," detailing the methodological approach adopted for implementing the Accounting Separation. The manual must be self-explanatory, well-structured, provide a complete overview to a third party, and be in full compliance with the provisions of the Regulatory Framework and the Guidelines and Rules.

Figure 4: Implementation phases of Accounting Separation in KSA



Timeframe

Within three months of approving these Guidelines and Rules, the Designated Service Providers must submit their proposed Accounting Separation Manual to the Commission. Within two months of receiving the Accounting Separation Manual, the Commission must notify the Designated Service Providers of its decision on

the adequacy of the manual, which can be:

- Approval: If the Designated Service Providers fully comply with the requirements for the Accounting Separation Manual.
- Conditional approval: If the Designated Service Providers only partially comply with the requirements for the Accounting Separation Manual.
- In the event of conditional approval, the Designated Service Providers must implement the modifications and amendments required by the Commission in the adequacy notification. The Designated Service Providers must submit a revised Accounting Separation Manual within one month of receipt of the notification.
- Within one month of receiving the revised Accounting Separation Manual, the Commission must again notify the Designated Service Providers of its decision on its adequacy, which can only consist of an approval or a rejection. In the event of the Accounting Separation Manual's rejection, the Commission may apply preliminary measures, as provided under the Regulatory Framework.
- Rejection: If the Designated Service Providers fail to comply with the requirements for the Accounting Separation Manual and Rules. In the event of the Accounting Separation Manual's rejection, the Commission may apply preliminary measures, as provided under the Regulatory Framework.

Subsequent Implementations of the Accounting Separation

The Designated Service Providers must submit to the Commission, on an annual basis, all the Accounting Separation Documents for the previous financial year, no later than July 31. Within four months of receiving the Accounting Separation Documents, the Commission must provide the Designated Service Providers with a decision on the Accounting Separation's adequacy, which can be:

- Approval: If the Designated Service Providers fully comply with the requirements of these Guidelines and Rules.
- Conditional approval: If the Designated Service Providers partially comply with the requirements of these Guidelines and Rules.

- In the event of conditional approval, the Designated Service Providers must implement the modifications and amendments required by the Commission in its notification. The Designated Service Providers must submit a revised version of the Accounting Separation Documents within one month of receiving the notification.
- Within one month of receiving the revised Accounting Separation Documents, the Commission must again notify the Designated Service Providers of its decision on the Accounting Separation's adequacy, which can consist only of an approval or a rejection. In the event of the Accounting Separation Documents' rejection, the Commission may apply preliminary measures, as provided under the Regulatory Framework.
- Rejection: If the Designated Service Providers fail to comply with the requirements of these Guidelines and Rules.

Details are mentioned in Annex (1).

3.10 Oman Experience ²

The objective of the accounting separation obligation is to ensure that dominant licensees in the Sultanate of Oman treat other licensees fairly and non-discriminatorily, and that the TRA obtains the accounting information needed to carry out its duties in the correct format and level of detail. The Guidelines aim to ensure, among other things, that services provided by dominant licensees to their own downstream businesses are offered on similar terms as to other competing licensees.

The main objectives of accounting separation are to:

- Verify adherence of a dominant licensee to the obligations of transparency, non-discrimination, and cost-based pricing.
- Facilitate the understanding of a dominant licensee's costs and revenues at the required level of detail.
- Identify and prevent potential abuses of dominance or other anti-competitive practices, including anti-competitive cross-subsidies, margin squeeze, and predatory pricing by a dominant licensee.
- Ensure implementation of any associated objectives of the Act.

The Omani guidelines document, issued in 2015, includes

the following sections:

- Accounting Principles
- Quality of Accounting Separation Data
- Cost Allocation Process
- Cost Allocation Methods
- Transfer Charges
- Relevant Costs for Regulatory Decisions
- Cost of Capital
- Cost Accounting Methodologies and Cost Basis
- Submission of Separated Regulatory Accounts
- Audit of Separated Regulatory Accounts

Cost Allocation Process

The licensee shall ensure that its cost allocation process follows, at a minimum, the stages outlined below:

- Stage 1: Financial Account Level
- Stage 2: Activity Level
- Stage 3: Function Level
- Stage 4: Relevant Market and Individual Service Level

The licensee may propose additional stages in the Accounting Documents if they are needed to improve the overall cost allocation process.

Cost Allocation Methods - Operating Cost Allocation

Possible allocation and attribution methods for operating costs include:

- Depreciation of network elements
- Provision, installation, and maintenance costs
- Network planning and development costs
- Network management costs
- Marketing and sales costs
- Billing and collection costs
- Licensee services costs
- Directory services costs
- Payments to other licensees

- Support costs, such as HR, finance, and other head office support functions

Allocation of Capital Employed

There are several Reconciliation Items excluded from Separated Regulatory Accounts, such as:

- Investments (fixed asset or financial)
- Excess cash
- Long-term liabilities (not operationally related)
- Corporate tax
- Exceptional items
- Pension deficits

Revenue Allocation

(i) Revenues from Telephony Services: Revenues from telephony services can generally be directly allocated to the related products and services based on accounting records and billing system information. If direct allocation is not possible, revenues shall be attributed on the basis of causation.

(ii) Revenues from Non-Telephony Services: Revenues from non-telephony services shall be allocated to the related activities according to the principle of causation.

(iii) Income from Long-Term Investments: Income from long-term investments shall be allocated in the same way as the investments to which it relates.

(iv) Income from Short-Term Investments: Income from short-term investments shall be allocated to the business associated with the investment.

Transfer Charges

Transfer charges refer to the imputation of costs (and associated revenues) among Relevant Markets and Individual Services due to self-provision of services. Transfer charges occur whenever the licensee self-provides a service from one (upstream) market to enable the provision of another service(s) in a different (downstream) market.

The disclosure of transfer charges helps to:

- Enforce non-discrimination and transparency
- Monitor the profitability of particular Relevant Markets and Individual Services
- Identify cross-subsidies

These transactions generate revenue for the originating (typically wholesale) market and an equal cost for the receiving (retail or wholesale) market. Transfer charges can be established as an overall cost (without quantities and unit prices information) only when the service is not subject to specific regulatory obligations and technical reasons prevent the calculation of transfer charges as the multiplication of quantities and prices. In any case, transfer charges corresponding to such services shall be individually recognizable, and the services to which they correspond shall be properly explained and documented.

The TRA requires the licensee to document clearly how each of the transfer charges were generated between the various Relevant Markets and Individual Services in the Accounting Documents.

Relevant Costs for Regulatory Decisions

Regulatory decision-making is based on a combination of financial analysis and non-financial information. Financial analysis involves preparing relevant costs, defined as costs arising directly from the decision to provide a specific product or service. While some costs published under accounting separation may be allocated to business areas as part of the costing/pricing methodology, they may not be relevant in certain decisions.

Cost of Capital

The cost of capital shall reflect the opportunity cost of funds invested in network components and other related assets. It typically includes:

- The (weighted) average cost of debt for the different forms of debt held by each licensee
- The cost of equity, as measured by the returns shareholders require to invest in the network given the associated risks
- The market values of debt and equity

Cost Accounting Methodologies and Cost Basis

Two main cost accounting methodologies can be used to allocate costs to services: Fully Allocated Cost (FAC), sometimes referred to as Fully Distributed Cost (FDC), and Long Run Incremental Cost (LRIC).

Submission of Separated Regulatory Accounts

Licensees with an Accounting Separation obligation must prepare and submit Separated Regulatory Accounts to the TRA for all markets in which they are dominant, following an audit by an independent external auditor. The licensee must submit the following documents to the TRA:

- Separated Regulatory Accounts
- Accounting Documents

Audit of Separated Regulatory Accounts

The auditor must audit the Accounting Separation system and related Separated Regulatory Accounts in accordance with International Standards on Auditing under a fair presentation framework, which requires compliance with specific requirements of the framework and may necessitate disclosures beyond those requirements for fair presentation of the financial statements. In rare cases, it may require management to depart from a specific requirement of the framework to achieve fair presentation.

Details are mentioned in Annex (2).

Part 4: Performance of Somalia in ICT Price Basket Indicators

4.1 OECD baskets

This paragraph describes the performance of Somalia in selected OECD baskets according to the report prepared by AREGNET in 2022. The benchmarking covers the following services:

- Fixed voice (PSTN);
- Mobile telephony;
- Fixed Broadband;
- Mobile broadband;
- Leased Lines.

The data was collected in Q4 2021 by Teligen from public sources on the Internet and was subsequently passed to national regulators for comments and checking.

1. Fixed voice baskets

The covered baskets are those related to the following: residential baskets 20 calls, 60 calls, 140 calls and 420 calls, and business baskets: 100 call and 260 calls.

According to AREGNET-22, for residential baskets, the Arab average is consistently lower than the OECD average. But for both business baskets, the Arab average is more expensive than the OECD average, with lower usage Arab businesses paying on average 24% more, and higher usage businesses paying around 54% more.

Table 8: Performance of the Arab region in fixed voice baskets

		Arab average 2021 USD PPP	OECD average 2021 USD PPP	Arab average compared to OECD average
Fixed voice Residential	20 calls	24	32	-24%
	60 calls	30	38	-20%
	140 calls	40	45	-13%
	420 calls	55	62	-12%
Fixed voice Business	100 calls	51	42	23%
	260 calls	79	52	53%

It is worth noting that there are no results for Somalia in the above mentioned report.

2. Mobile Voice and Data Baskets

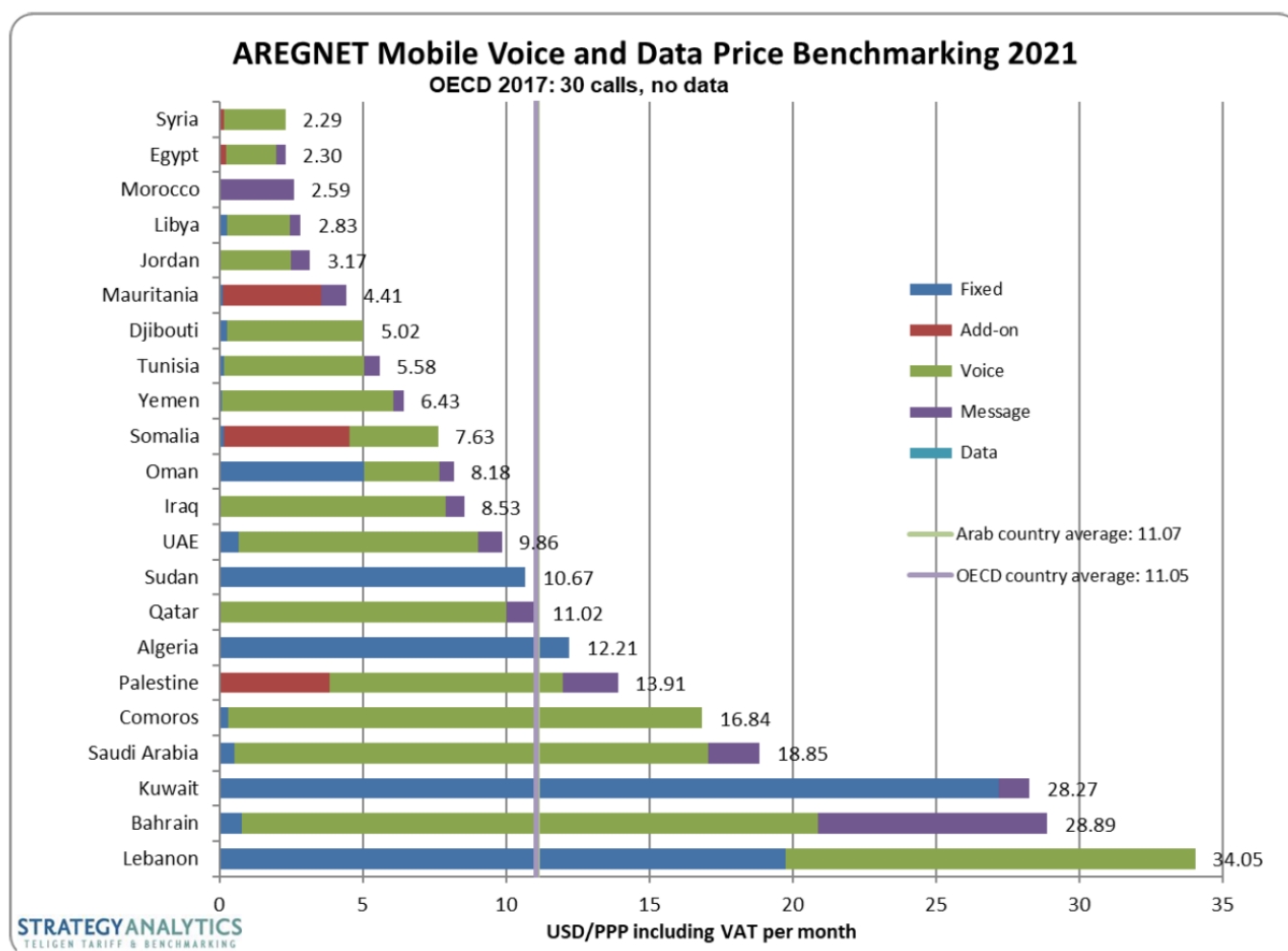
The covered baskets are those related to OECD in 2017. Apart from the 30 calls no data basket, where the Arab average is almost identical to the OECD average, the Arab average is consistently higher than the OECD average, with higher usage baskets being significantly more expensive.

Table 9: Performance of the Arab region in mobile baskets

		Arab average 2021 USD PPP	OECD average 2021 USD PPP	Arab average compared to OECD average
No data	30 calls no data	11	11	0%
	100 calls no data	21	16	29%
Low data	30 calls, 0.1 GB	20	15	29%
	100 calls, 0.5 GB	32	20	59%
	300 calls, 1 GB	53	23	132%
	900 calls, 2 GB	159	27	489%
High data	30 calls, 0.5 GB	23	17	35%
	100 calls, 2 GB	39	23	67%
	300 calls, 5 GB	67	28	138%
	900 calls, 10 GB	183	37	399%

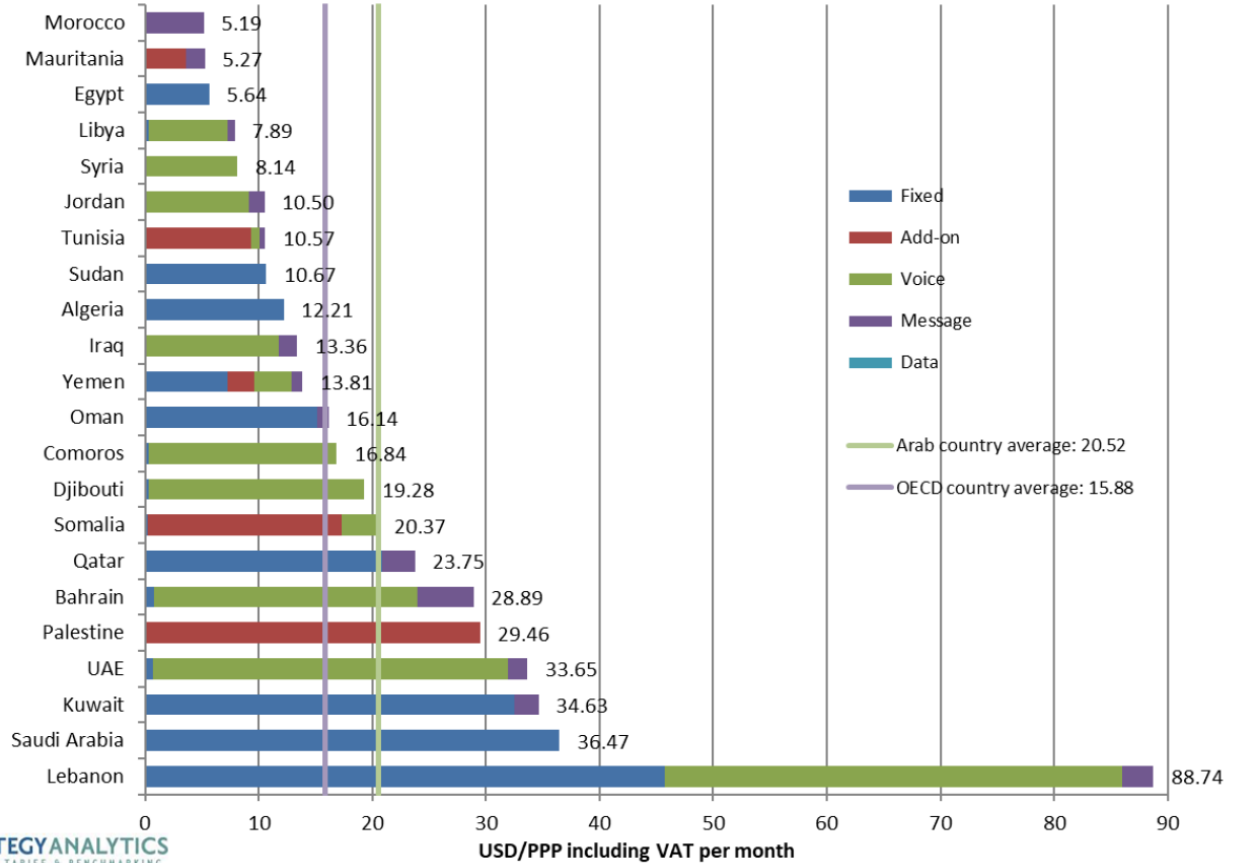
The results of Somalia are shown in the following figures. It could be noticed that the performance of Somalia is less than the Arab average in all mentioned baskets except for the two baskets: 30 calls/0.5 GB and 100 calls/0.5GB.

Figure 5: Performance of Somalia in OECD baskets



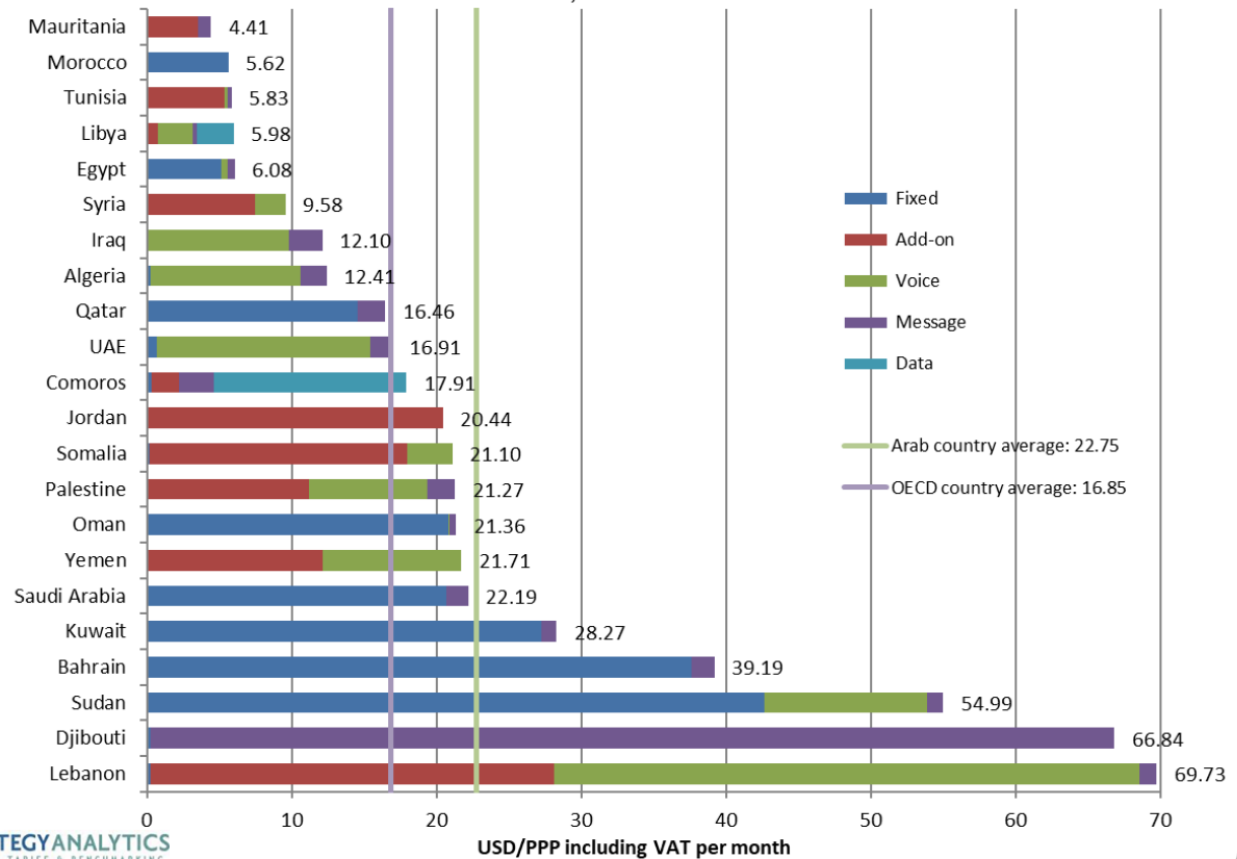
AREGNET Mobile Voice and Data Price Benchmarking 2021

OECD 2017: 100 calls, no data



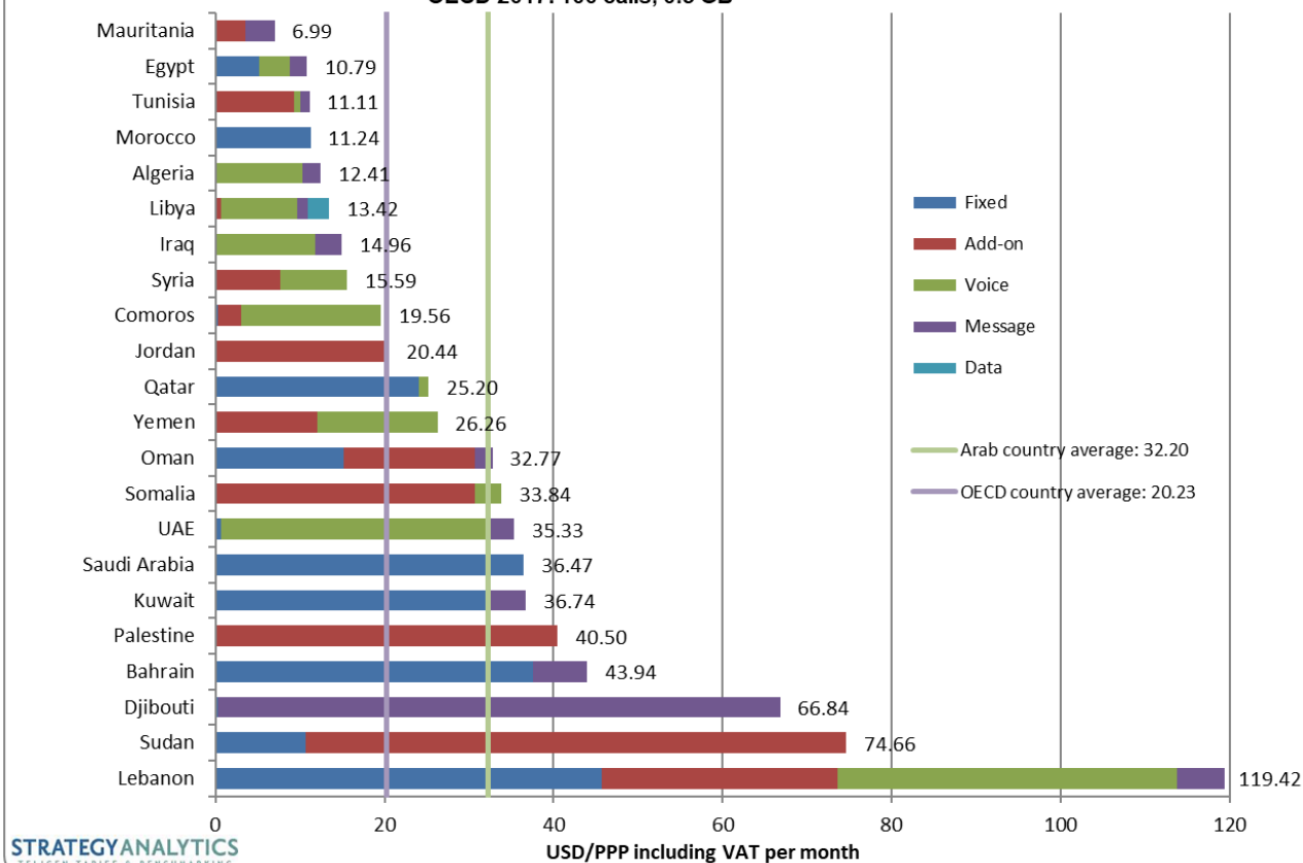
AREGNET Mobile Voice and Data Price Benchmarking 2021

OECD 2017: 30 calls, 0.5 GB



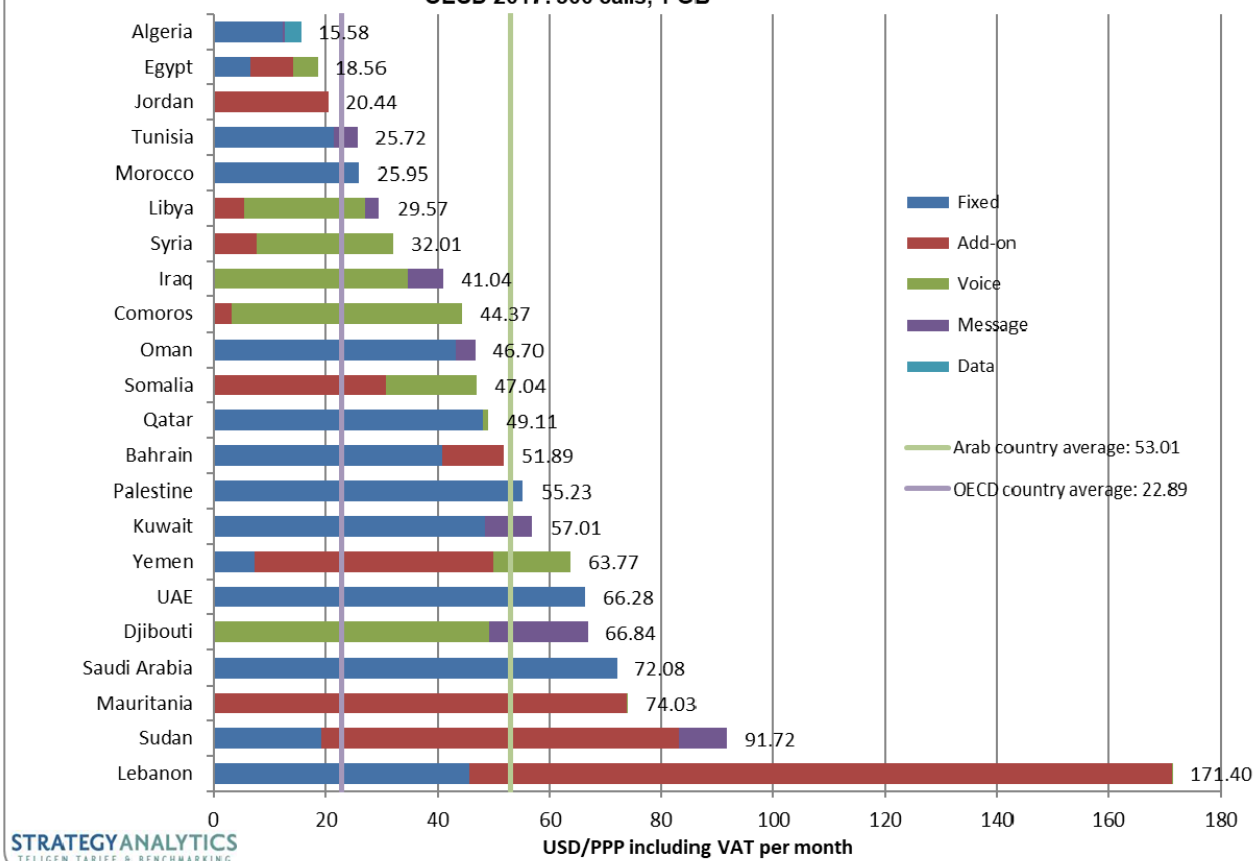
AREGNET Mobile Voice and Data Price Benchmarking 2021

OECD 2017: 100 calls, 0.5 GB



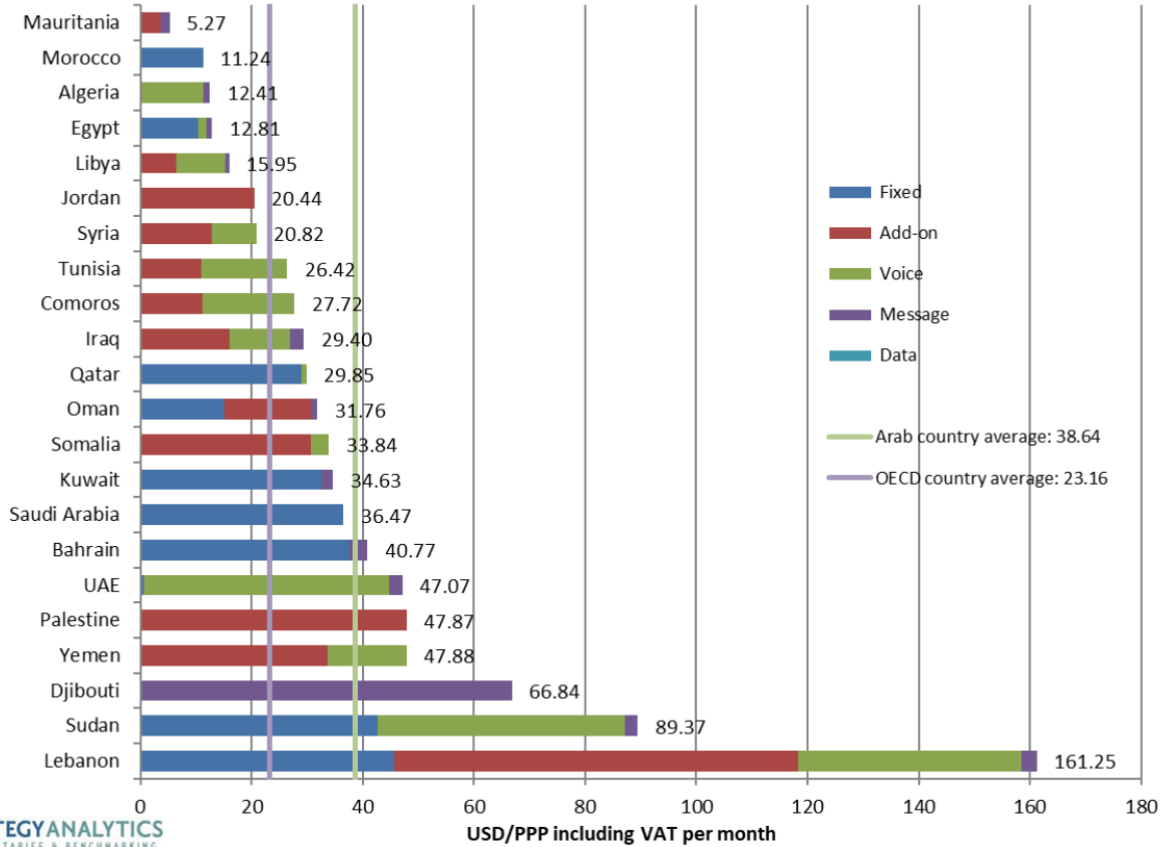
AREGNET Mobile Voice and Data Price Benchmarking 2021

OECD 2017: 300 calls, 1 GB



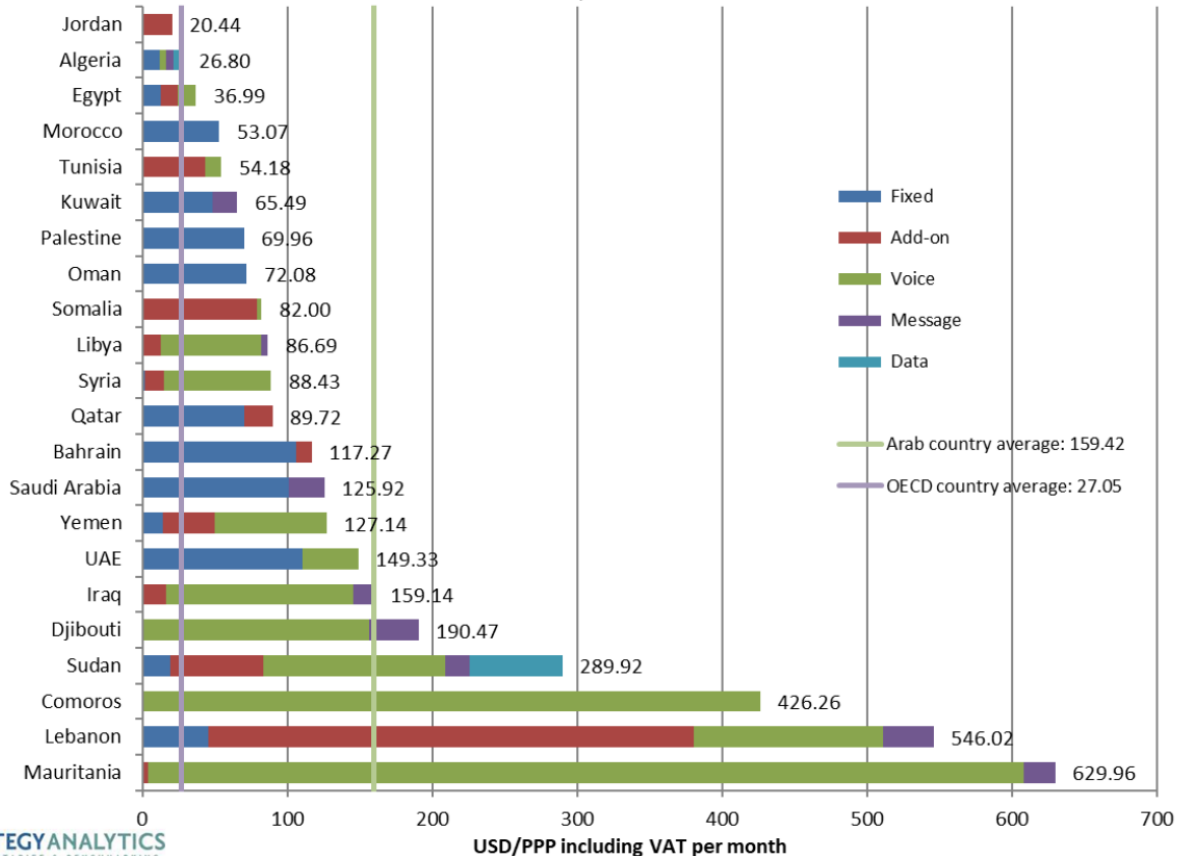
AREGNET Mobile Voice and Data Price Benchmarking 2021

OECD 2017: 100 calls, 2 GB



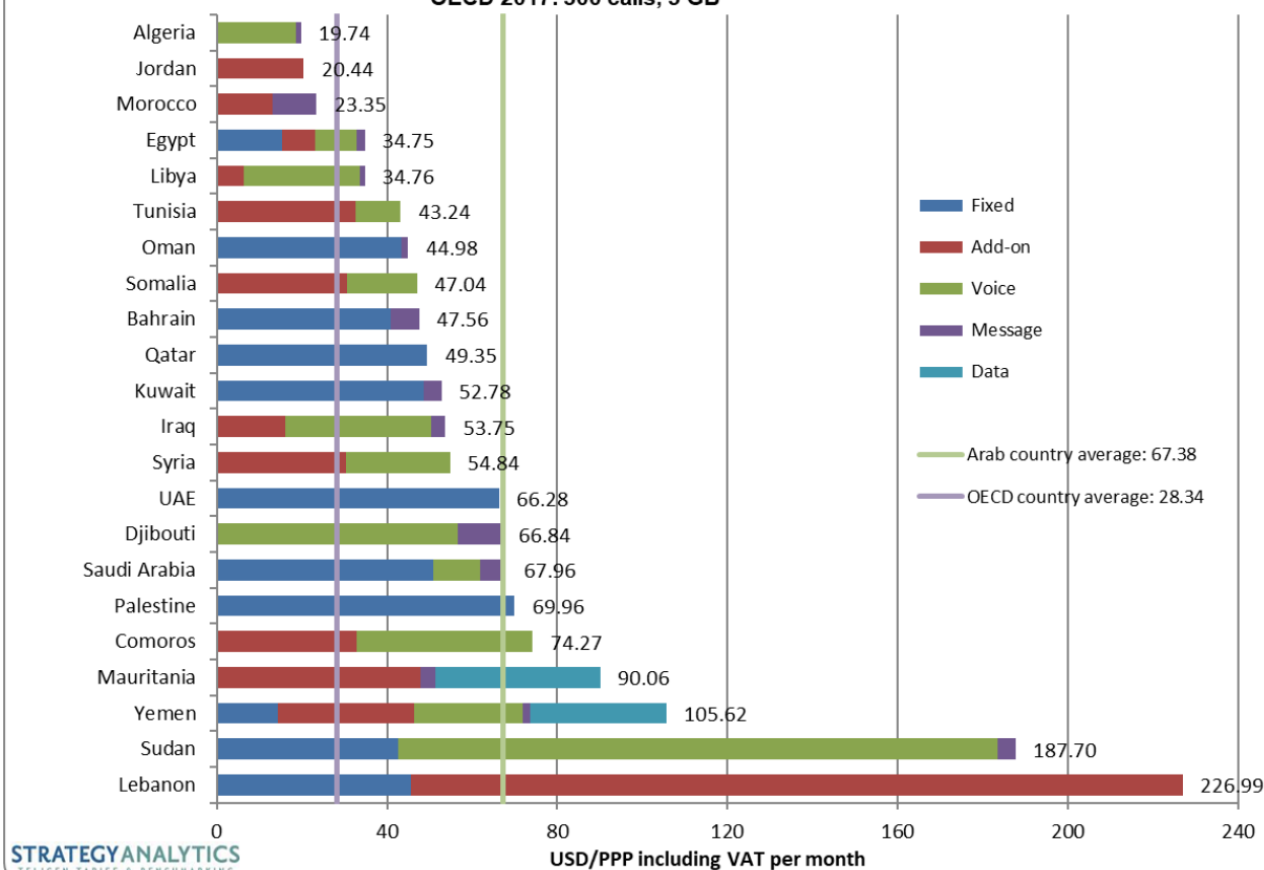
AREGNET Mobile Voice and Data Price Benchmarking 2021

OECD 2017: 900 calls, 2 GB



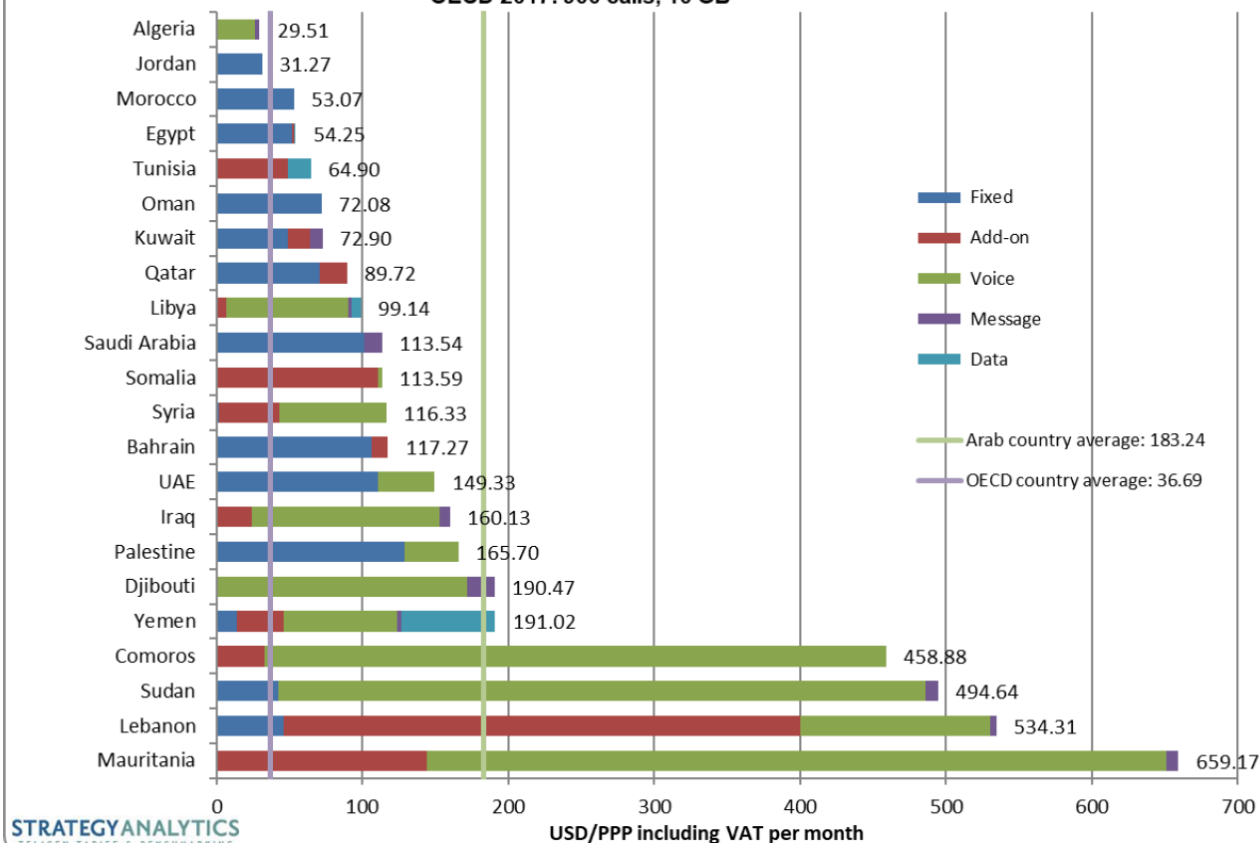
AREGNET Mobile Voice and Data Price Benchmarking 2021

OECD 2017: 300 calls, 5 GB



AREGNET Mobile Voice and Data Price Benchmarking 2021
















OECD 2017: 900 calls, 10 GB


















3. Fixed broadband baskets

The covered baskets are those related to OECD in 2017. The table below shows the performance of the Arab region compared to OECD one. As it could be noticed, the average of the Arab region is higher than the OECD in all baskets. The difference could be very high (more than 800%) such as in the case of 25Mb/s-20GB-low use basket.

Table 10: Performance of the Arab region compared to OECD average in fixed broadband baskets

Residential Fixed Broadband	Arab average 2021 USD PPP	OECD average 2021 USD PPP	Arab average compared to OECD average
>= 0.25 Mb/s / 5 GB: Low use	58	46	 27%
>= 0.25 Mb/s / 15 GB: Medium use	61	46	 32%
>= 0.25 Mb/s / 45 GB: High use	65	46	 41%
>= 10 Mb/s / 10 GB: Low use	141	47	 202%
>= 10 Mb/s / 30 GB: Medium use	141	47	 201%
>= 10 Mb/s / 90 GB: High use	143	47	 201%
>= 25 Mb/s / 20 GB: Low use	131	50	 160%
>= 25 Mb/s / 60 GB: Medium use	131	51	 159%
>= 25 Mb/s / 180 GB: High use	134	51	 165%
>= 100 Mb/s / 40 GB: Low use	228	55	 314%
>= 100 Mb/s / 120 GB: Medium use	228	55	 313%
>= 100 Mb/s / 360 GB: High use	232	55	 320%
>= 100 Mb/s / 360 GB: High use	574	84	 582%
>= 100 Mb/s / 360 GB: High use	574	84	 582%
>= 100 Mb/s / 360 GB: High use	584	85	 589%

Residential Fixed Broadband	Arab average 2021 USD PPP	OECD average 2021 USD PPP	Arab average compared to OECD average
>= 0.25 Mb/s / 5 GB: Low use	58	46	 27%
>= 0.25 Mb/s / 15 GB: Medium use	61	46	 32%
>= 0.25 Mb/s / 45 GB: High use	65	46	 41%
>= 10 Mb/s / 10 GB: Low use	141	47	 202%
>= 10 Mb/s / 30 GB: Medium use	141	47	 201%
>= 10 Mb/s / 90 GB: High use	143	47	 201%
>= 25 Mb/s / 20 GB: Low use	131	50	 160%
>= 25 Mb/s / 60 GB: Medium use	131	51	 159%
>= 25 Mb/s / 180 GB: High use	134	51	 165%
>= 100 Mb/s / 40 GB: Low use	228	55	 314%
>= 100 Mb/s / 120 GB: Medium use	228	55	 313%
>= 100 Mb/s / 360 GB: High use	232	55	 320%
>= 100 Mb/s / 360 GB: High use	574	84	 582%
>= 100 Mb/s / 360 GB: High use	574	84	 582%
>= 100 Mb/s / 360 GB: High use	584	85	 589%

It is worth noting that there is no data for Somalia, according to AREGNET report.

4. Mobile Broadband basket

There are 7 baskets OECD baskets for mobile broadband ranging from low to very high usage.

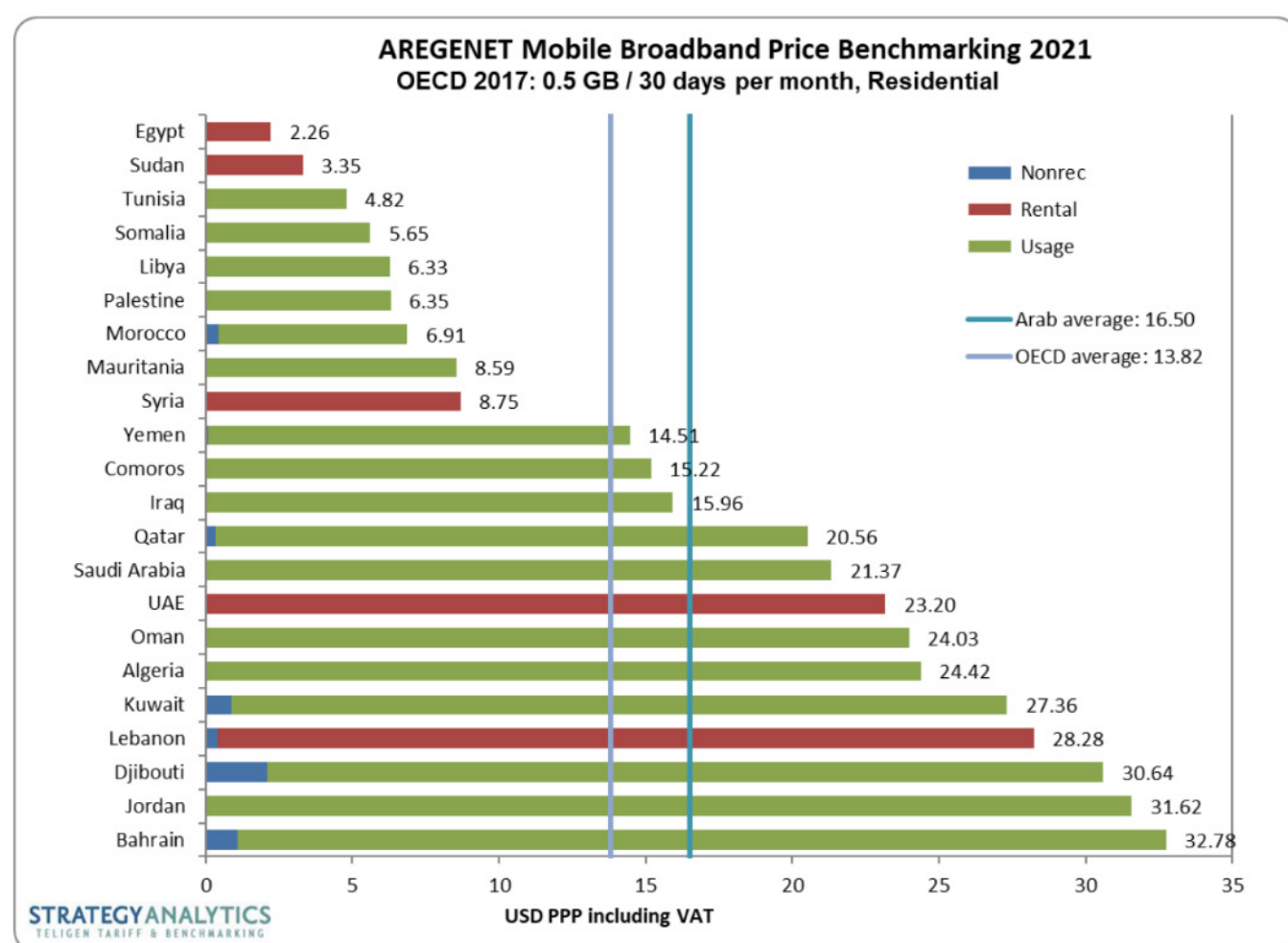
Comparing the Arab region with OECD one, the table below shows that the performance of the Arab rate is higher than OECD average in all baskets, especially in 50GB – Residential (154% higher), and 1GB short validity-Business (148% higher).

Table 11: Performance of the Arab region in Mobile Broadband Baskets

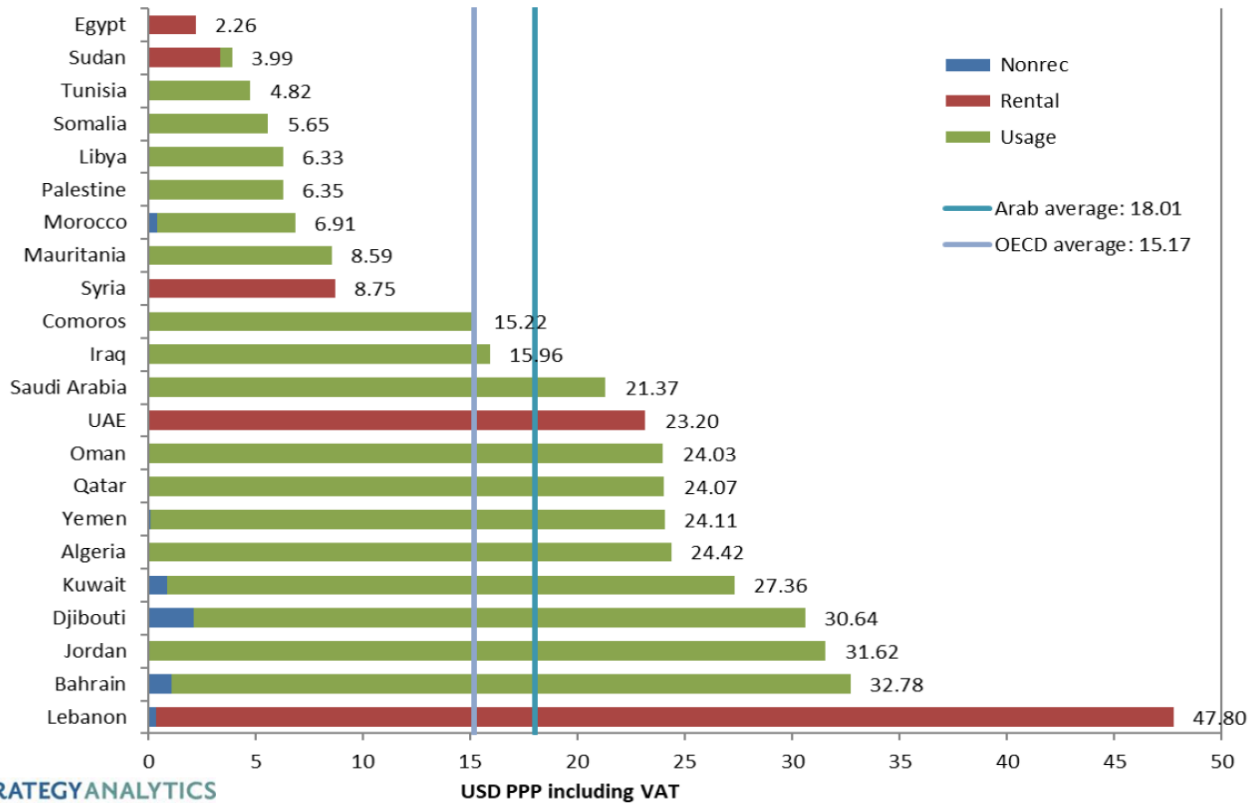
Residential Mobile Broadband	Arab average 2021 USD PPP	OECD average 2021 USD PPP	Arab average compared to OECD average	Business Mobile Broadband	Arab average 2021 USD PPP	OECD average 2021 USD PPP	Arab average compared to OECD average
0.5 GB	16	14	19%	0.5 GB	36	15	140%
1 GB	18	15	19%	1 GB	38	15	148%
2 GB	22	17	33%	2 GB	39	16	143%
5 GB	31	21	48%	5 GB	41	20	107%
10 GB	38	23	64%	10 GB	48	25	92%
20 GB	56	28	96%	20 GB	56	30	88%
50 GB	98	38	154%	50 GB	76	48	57%
0.5 GB short validity	15	13	13%	0.5 GB short validity	36	15	139%
1 GB short validity	16	14	14%	1 GB short validity	38	15	148%

As it could be noticed from the figure below, Somalia performance is better than the Arab average in all baskets (less than the Arab average).

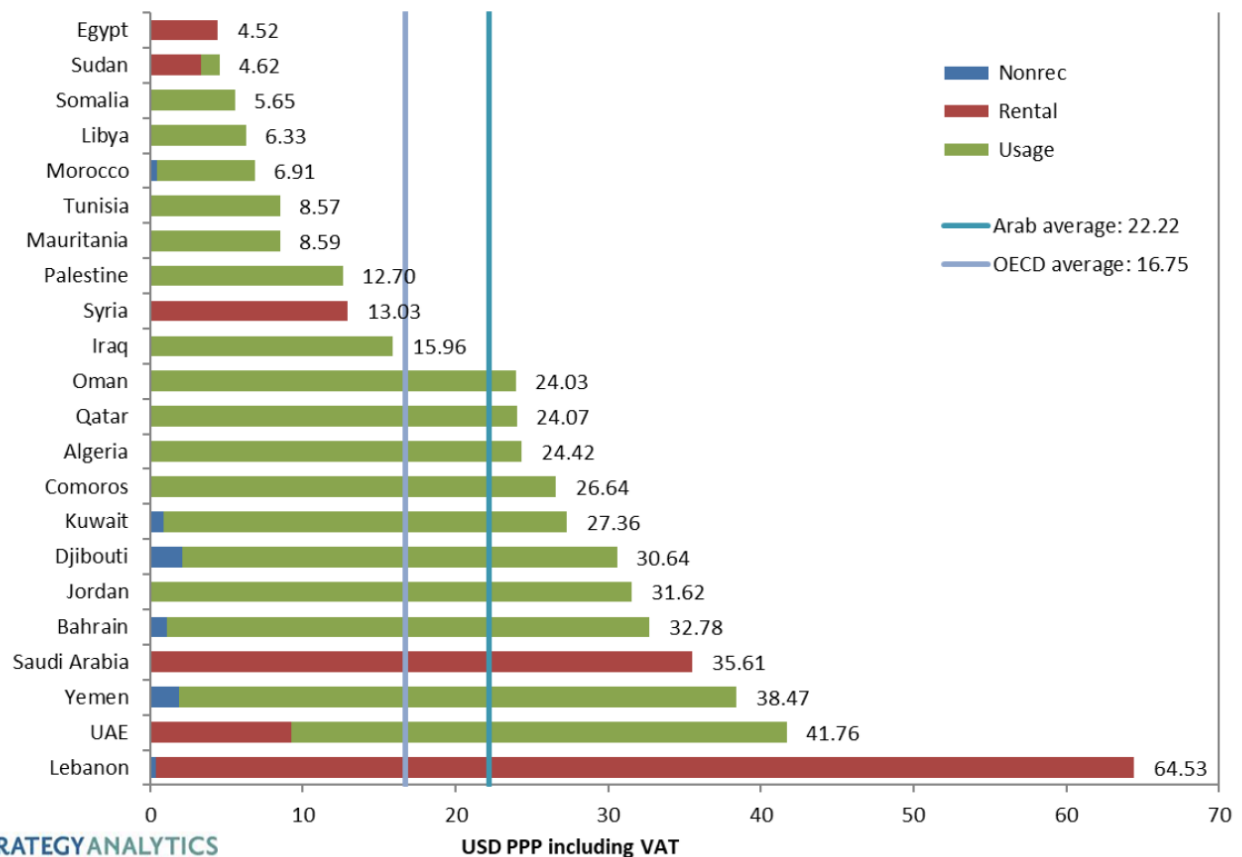
Figure 6: Performance of Somalia in OECD baskets (mobile broadband)



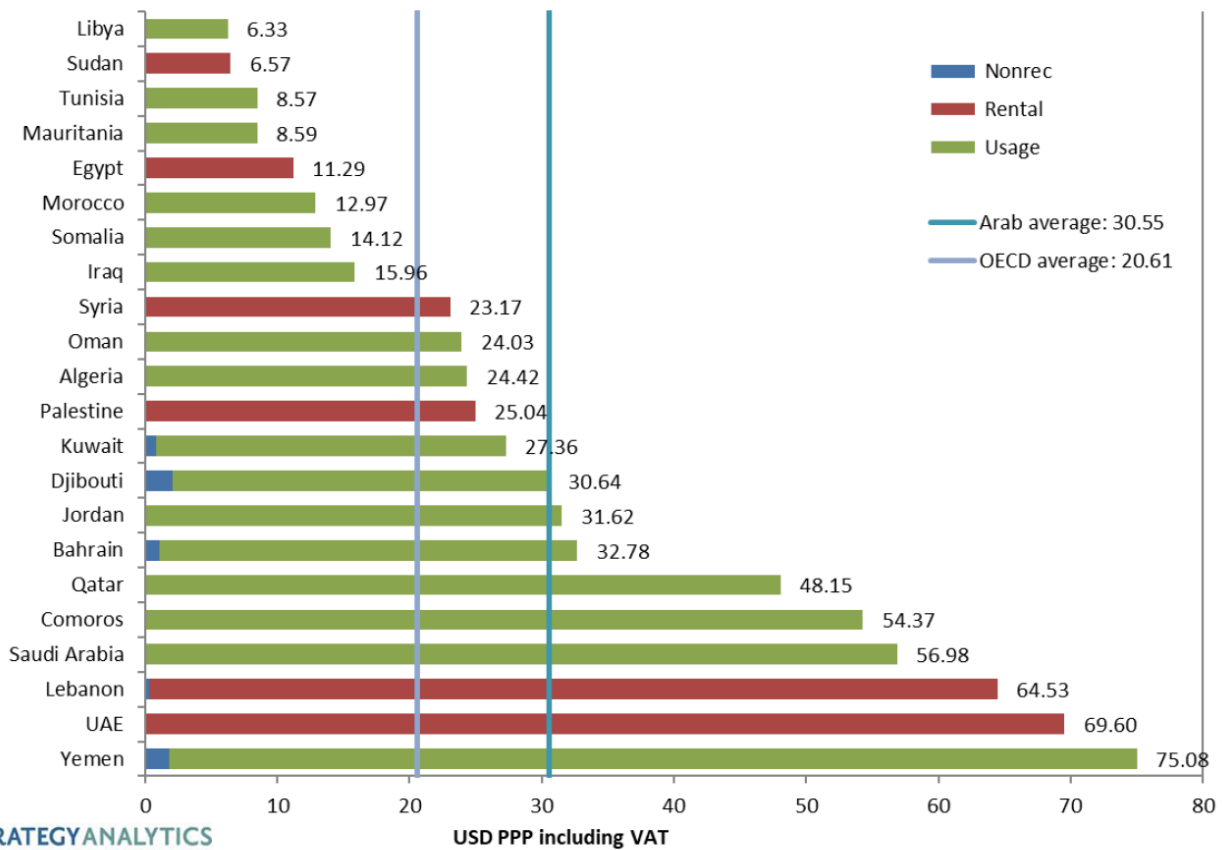
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 1 GB / 30 days per month, Residential



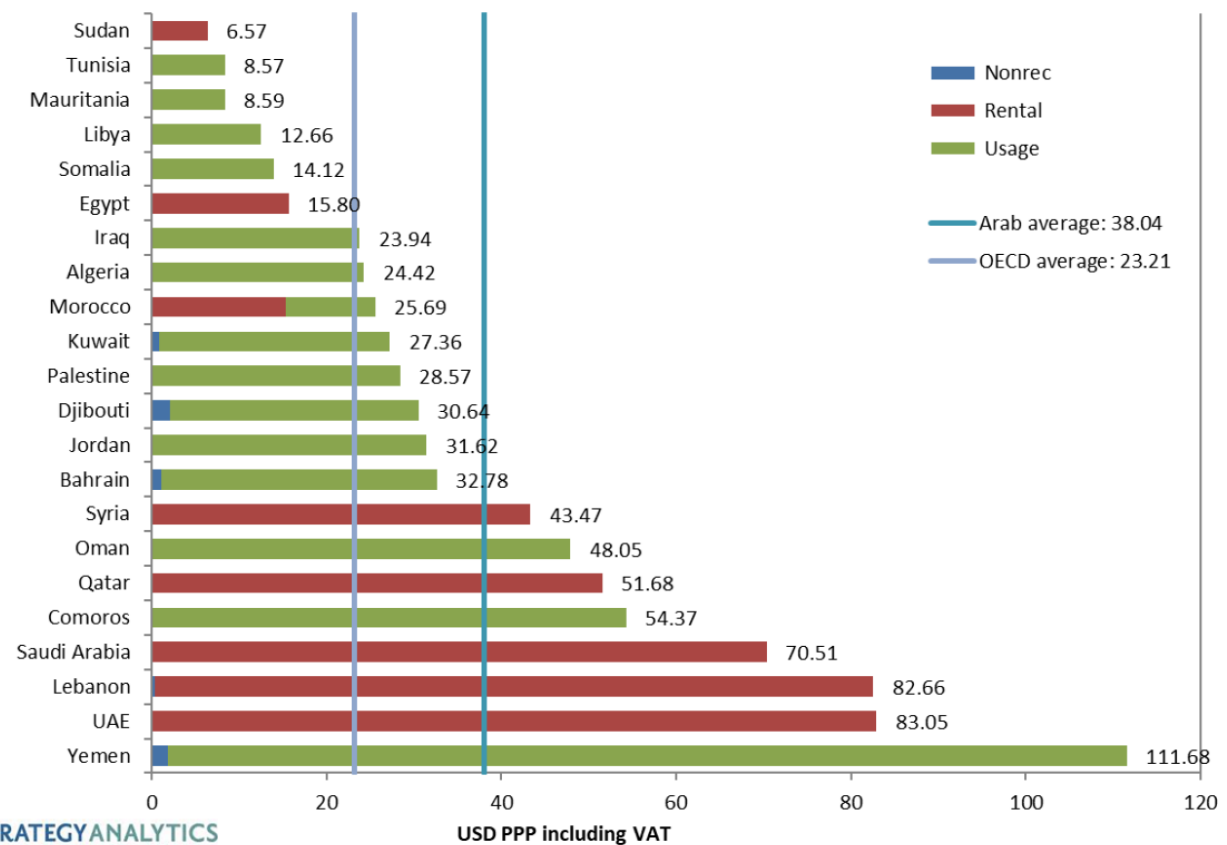
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 2 GB / 30 days per month, Residential



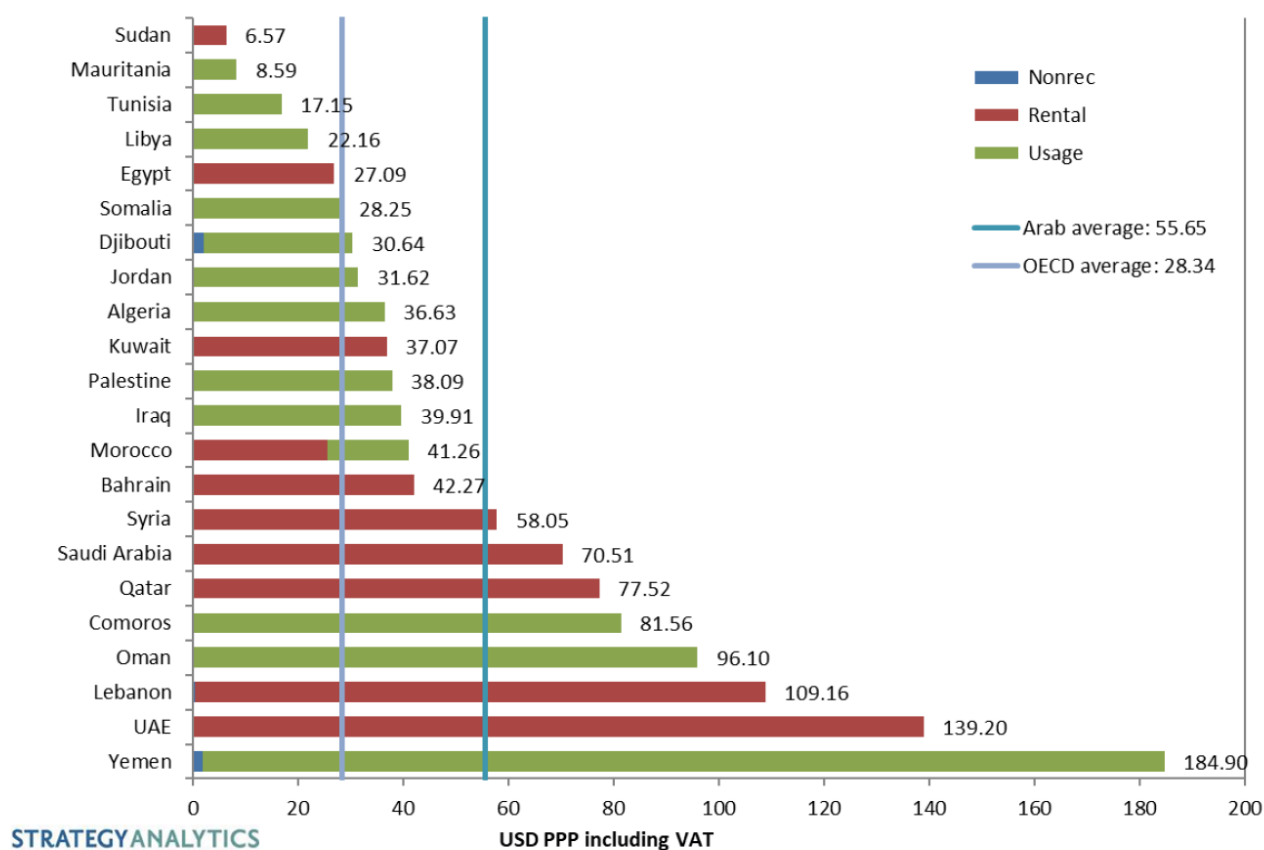
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 5 GB / 30 days per month, Residential



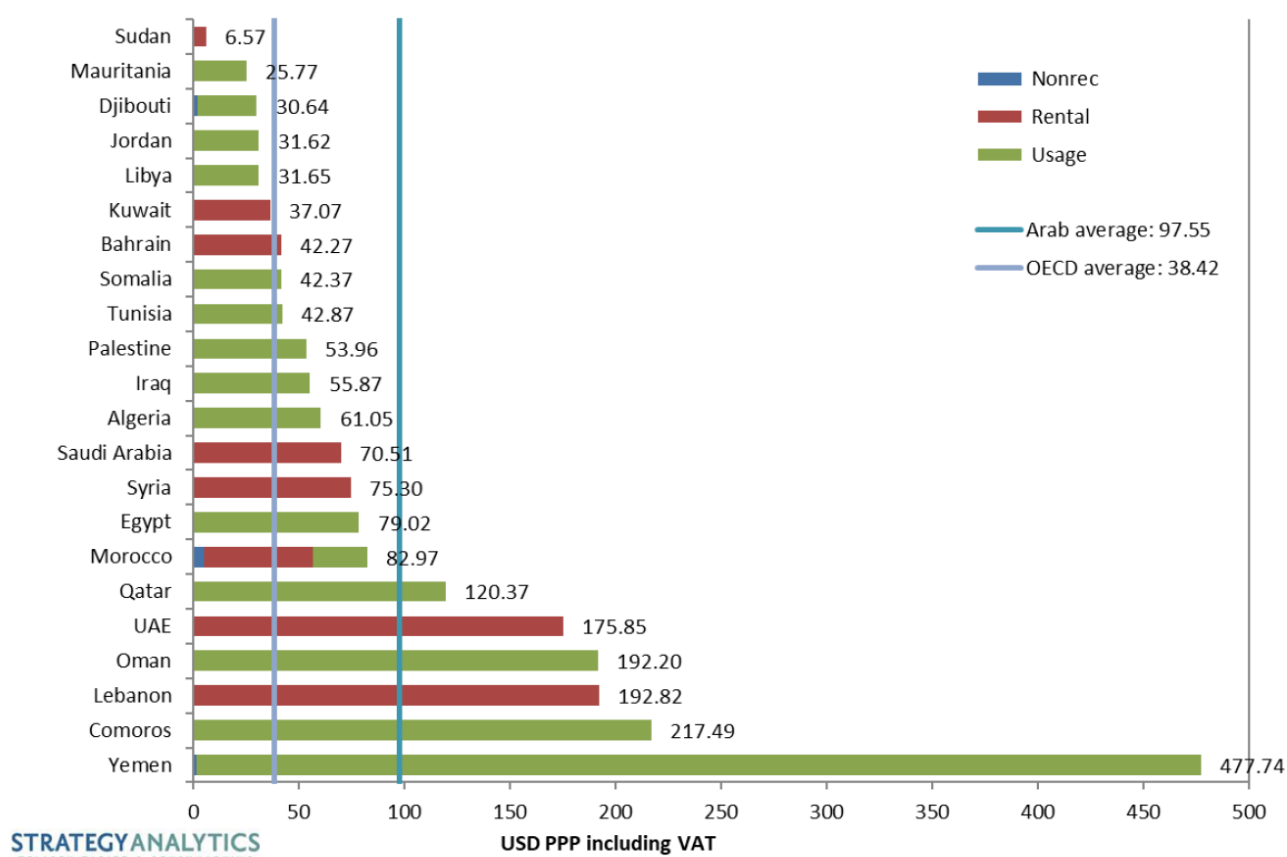
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 10 GB / 30 days per month, Residential



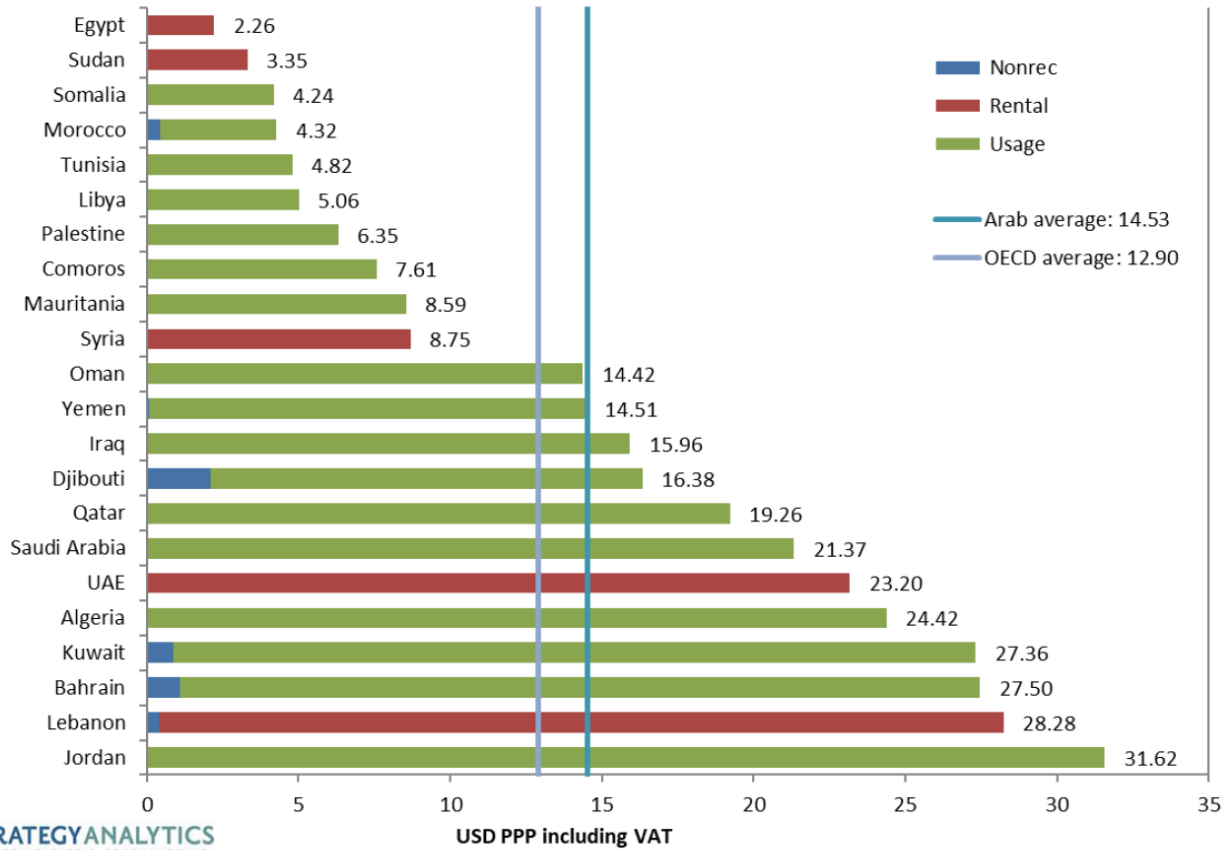
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 20 GB / 30 days per month, Residential



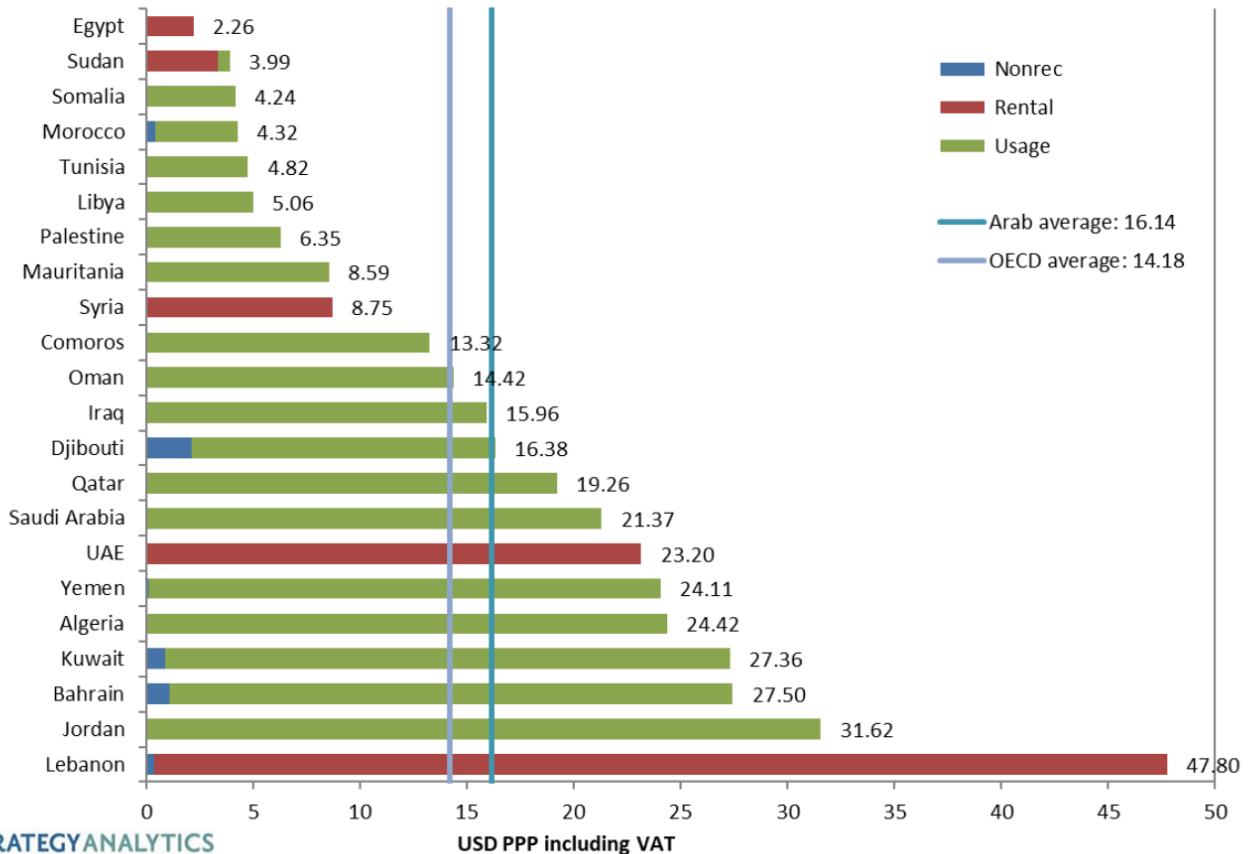
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 50 GB / 30 days per month, Residential



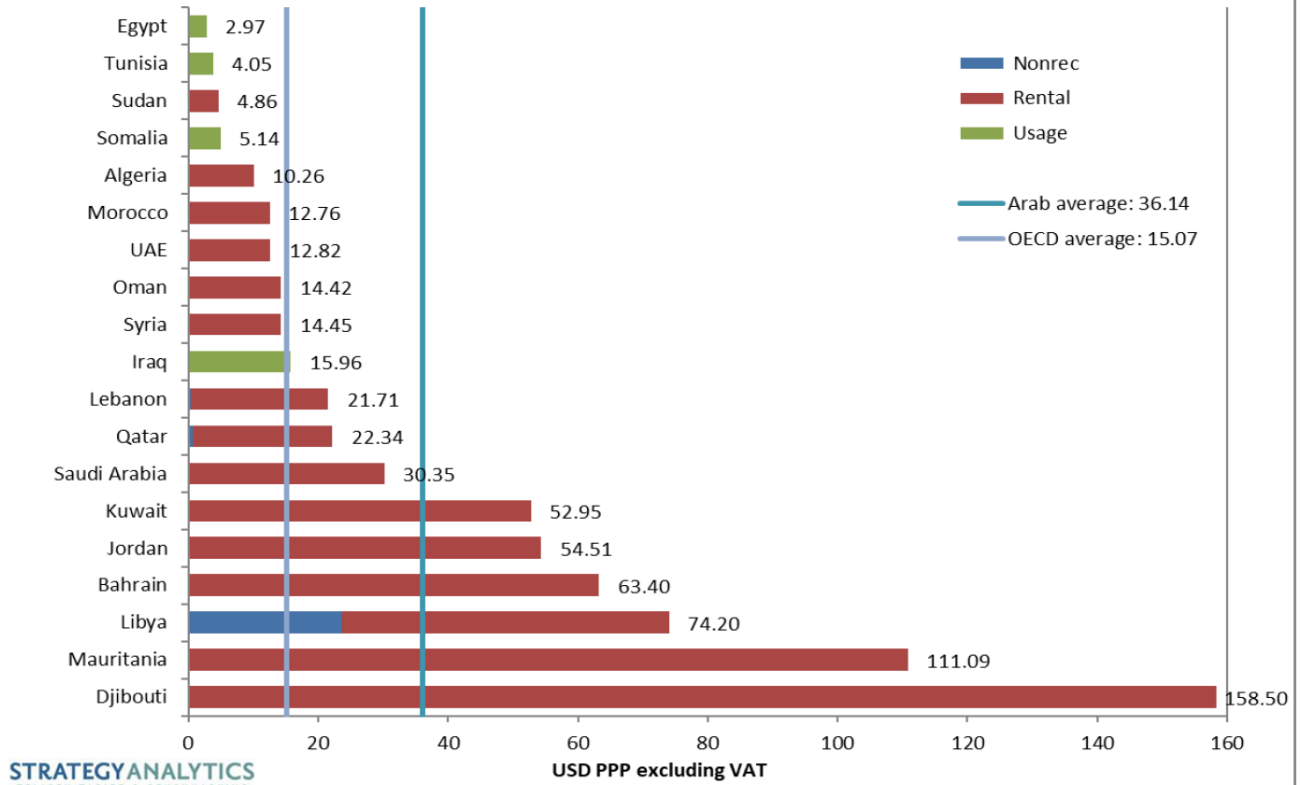
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 0.5 GB / 15 days per month, Residential



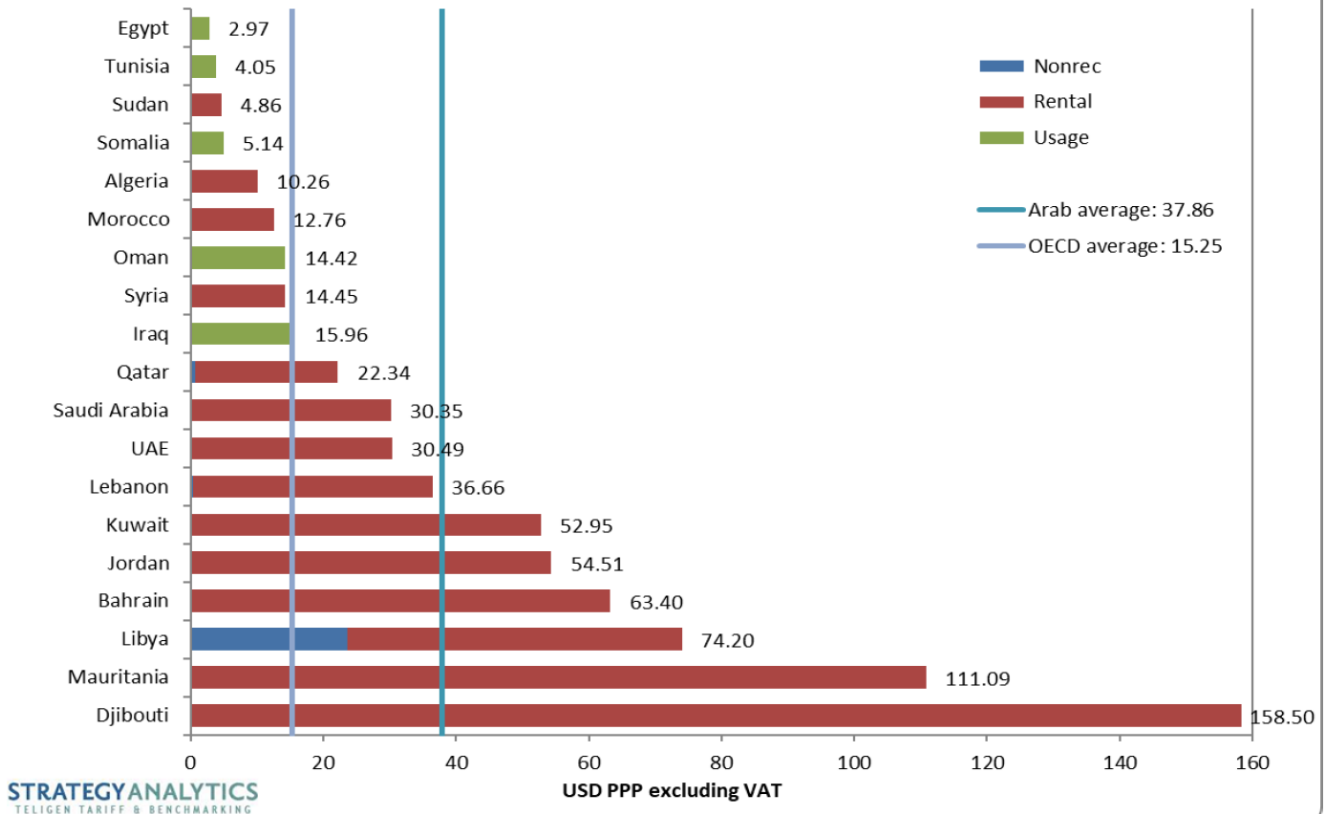
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 1 GB / 15 days per month, Residential



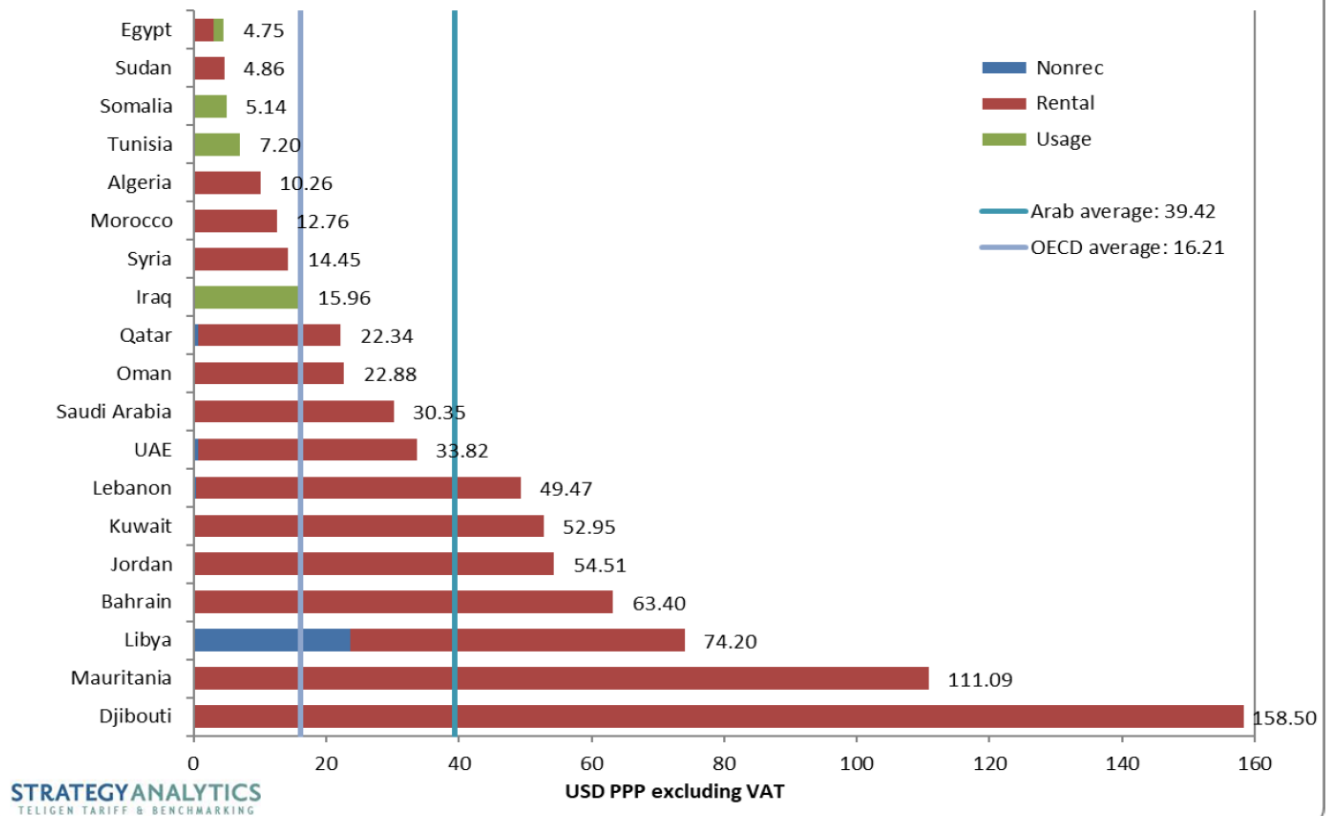
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 0.5 GB / 30 days per month, Business



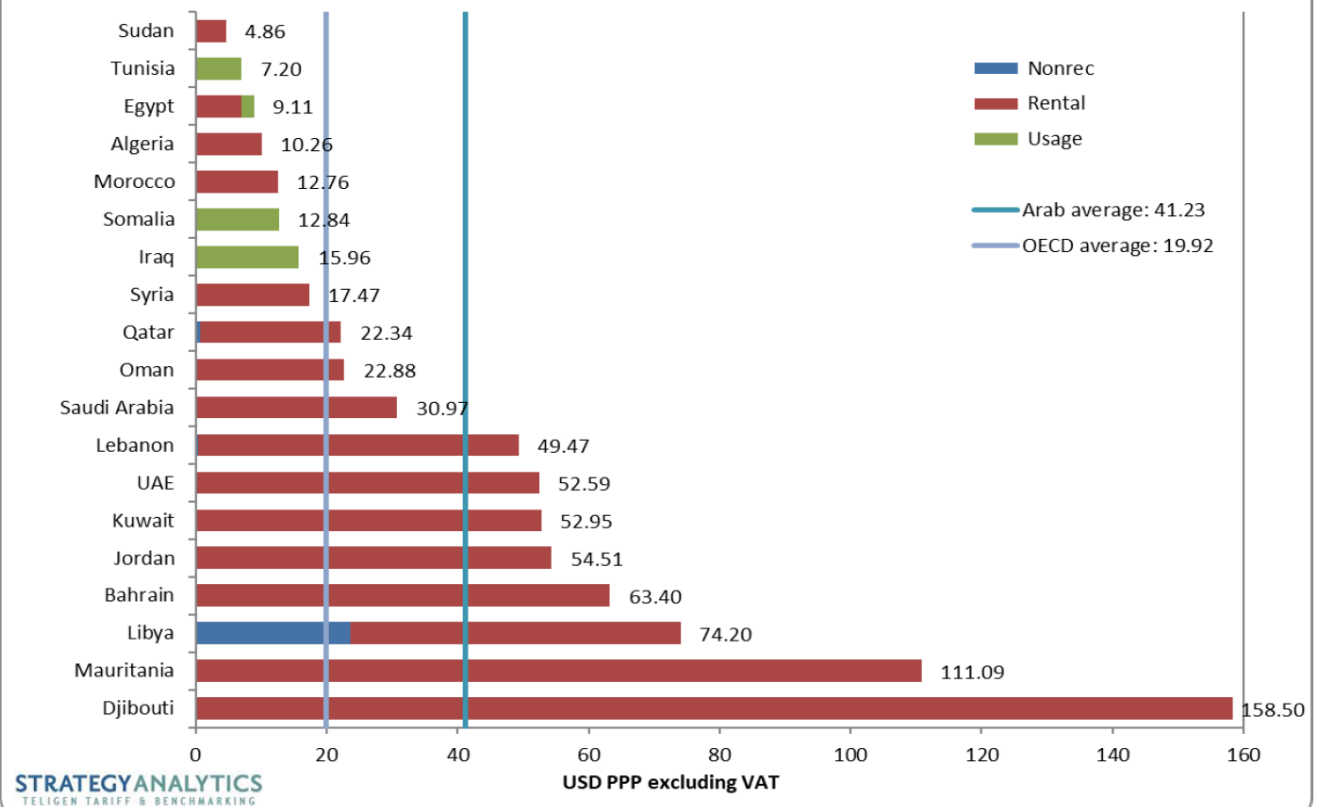
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 1 GB / 30 days per month, Business



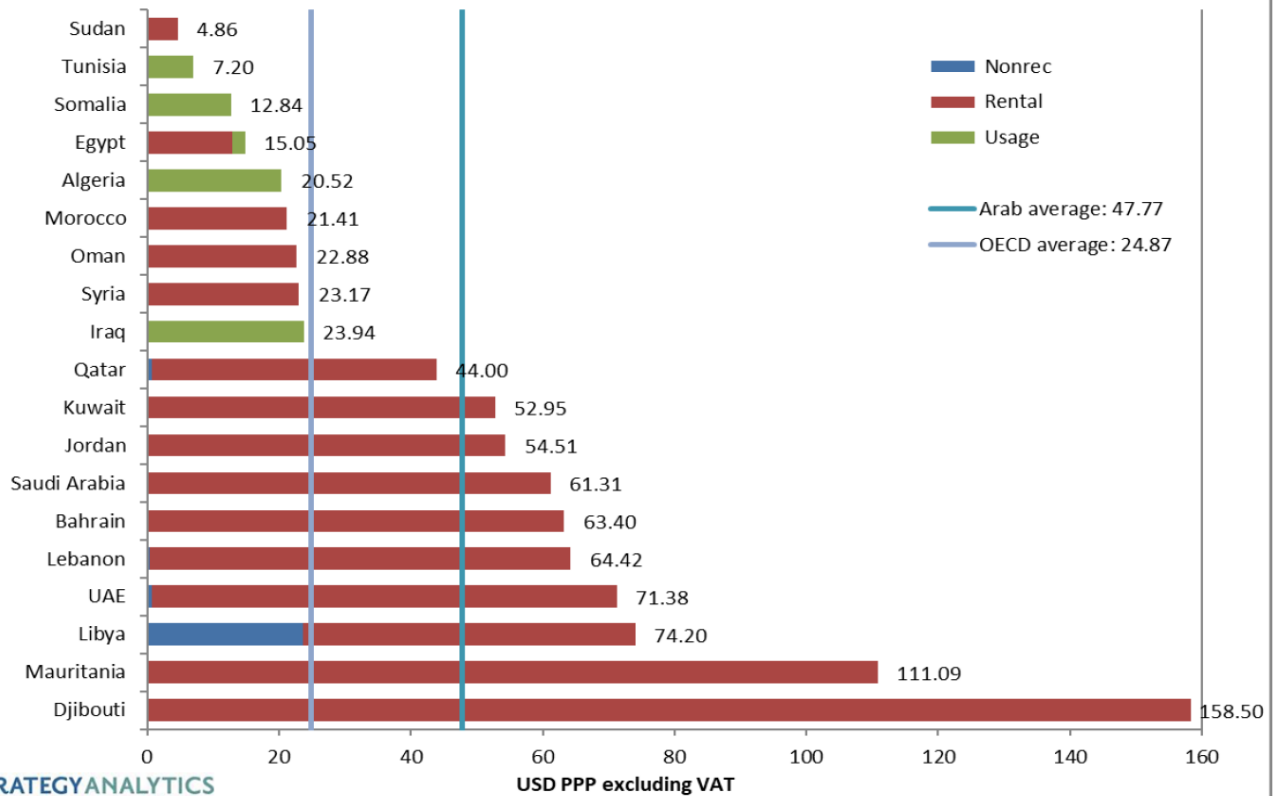
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 2 GB / 30 days per month, Business



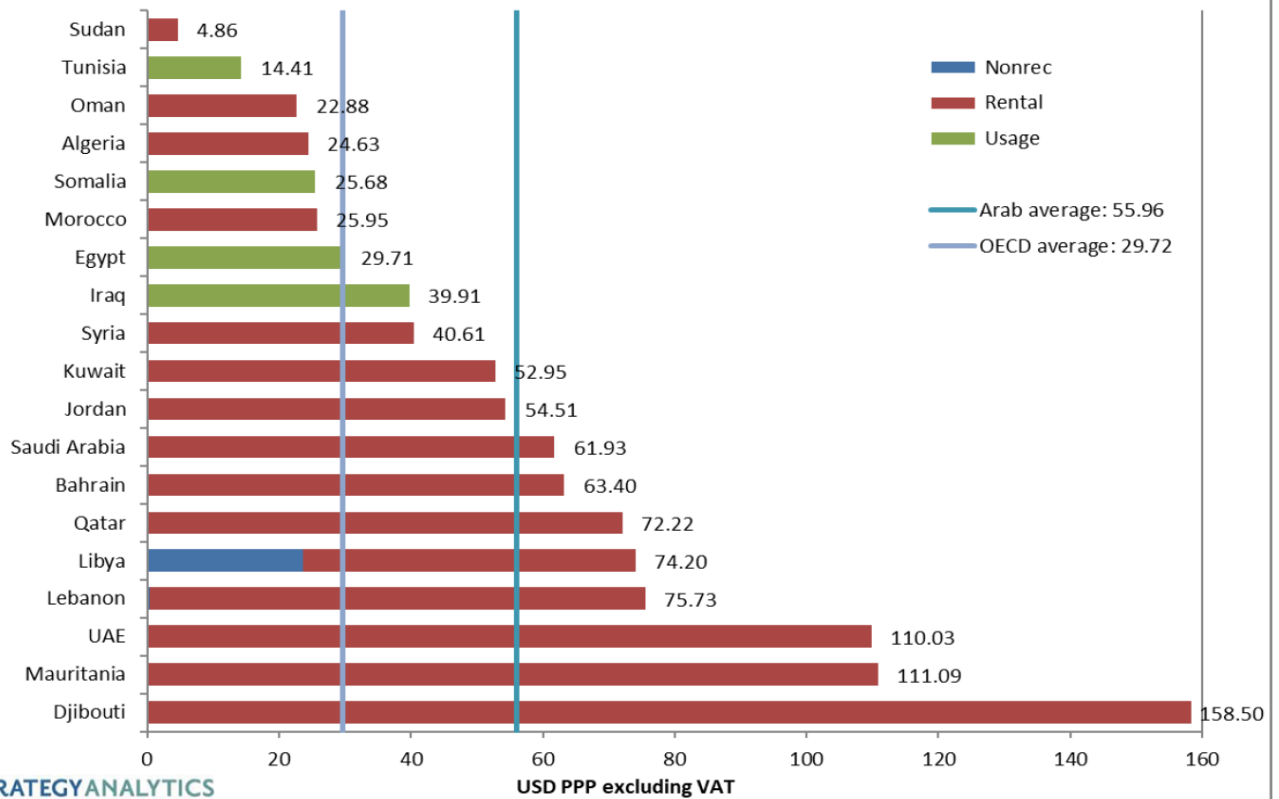
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 5 GB / 30 days per month, Business



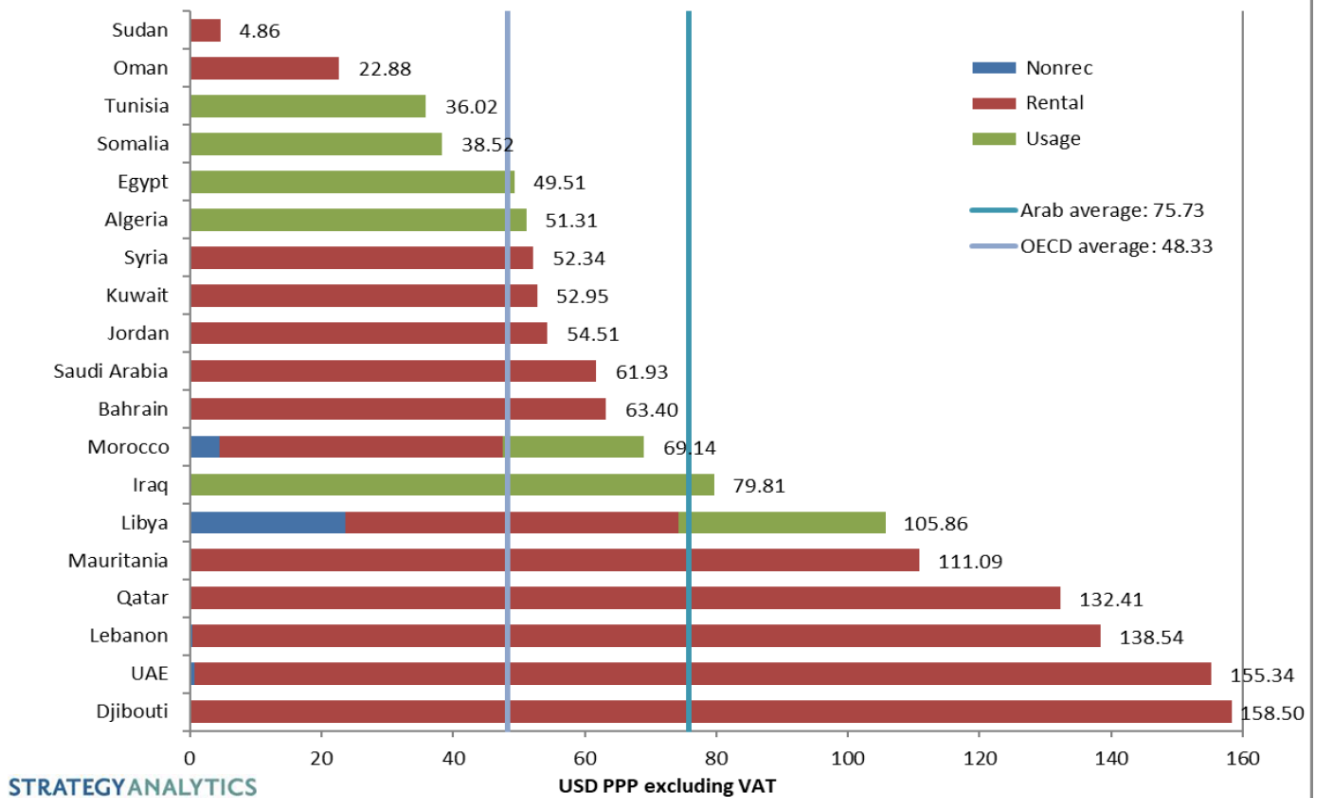
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 10 GB / 30 days per month, Business



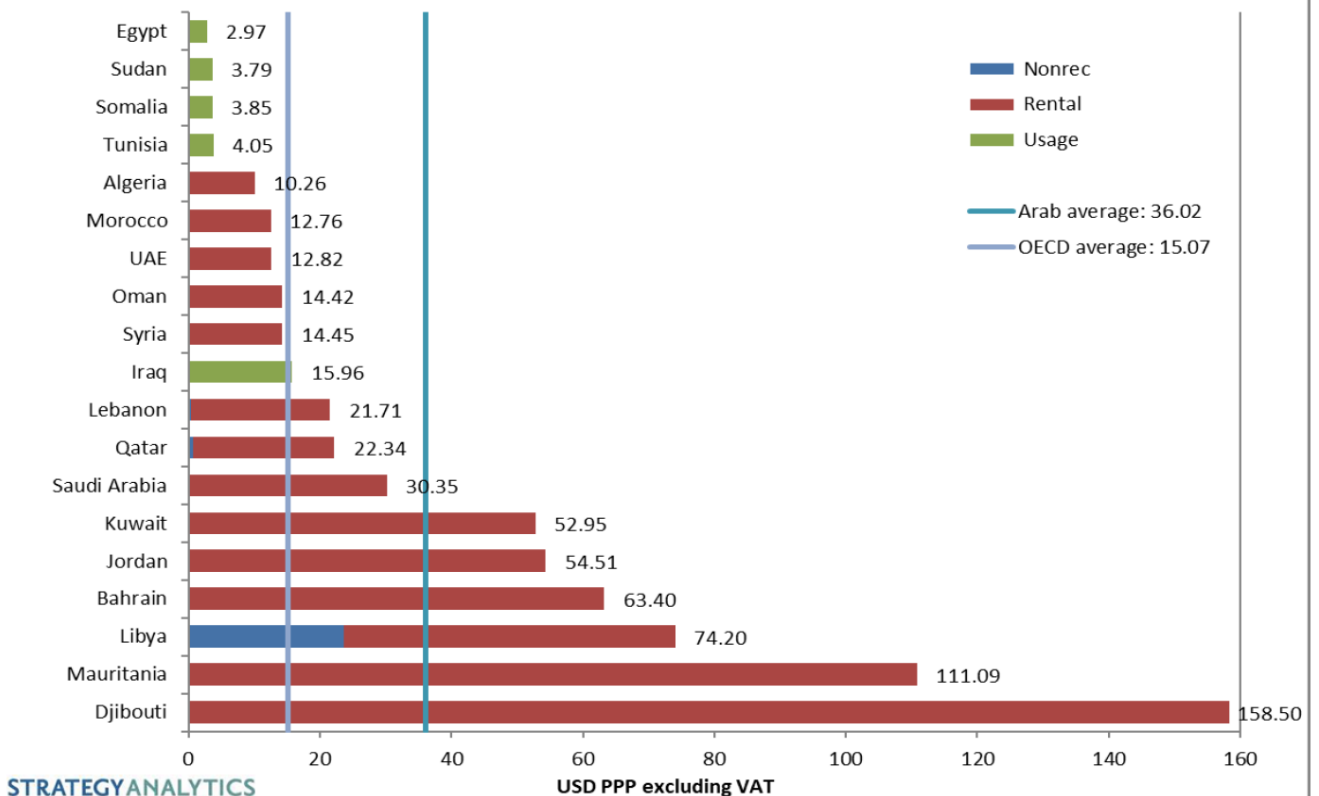
AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 20 GB / 30 days per month, Business

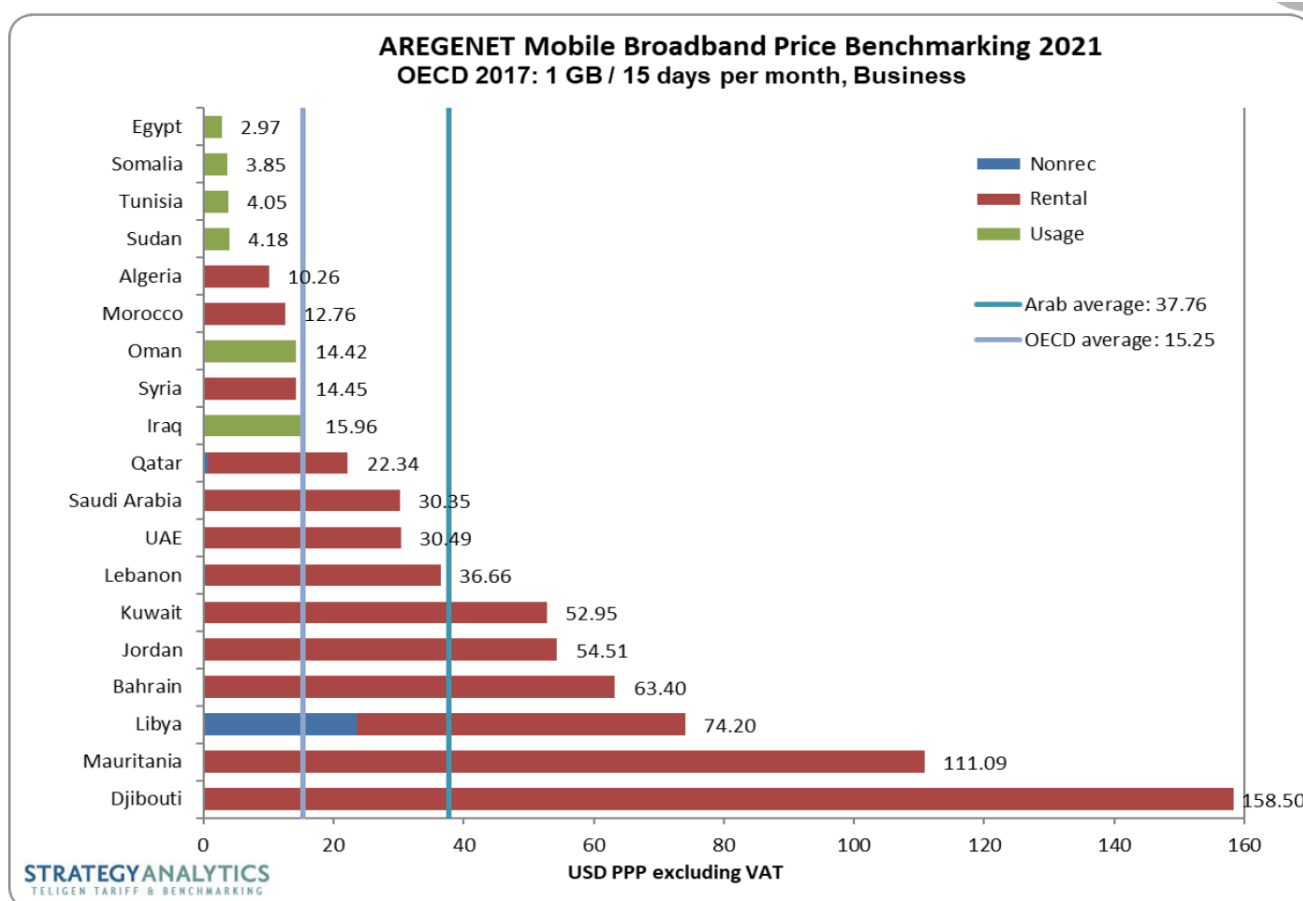


AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 50 GB / 30 days per month, Business



AREGENET Mobile Broadband Price Benchmarking 2021 OECD 2017: 0.5 GB / 15 days per month, Business





4.2 ITU Baskets

The five baskets refer to globally comparable ICT services. In each country, for each of the baskets, ICT price data were collected. The rules ensure that data are collected from a representative operator or Internet service provider (ISPs) and refer to the cheapest available solutions meeting a set allowance threshold and validity criteria.

From an overview perspective, the entry-level fixed-broadband basket remains expensive in the Arab region. The basket costs more than 5% of the average income.

As illustrated in figure 7, all 5 price baskets have made significant improvements in affordability since 2018. The price of all baskets expressed as a percentage of GNI per capita improved significantly, reaching historical lows in 2023.

Figure 7: Number of countries by price range of broadband services as a % of GNI per capita, by region, 2023

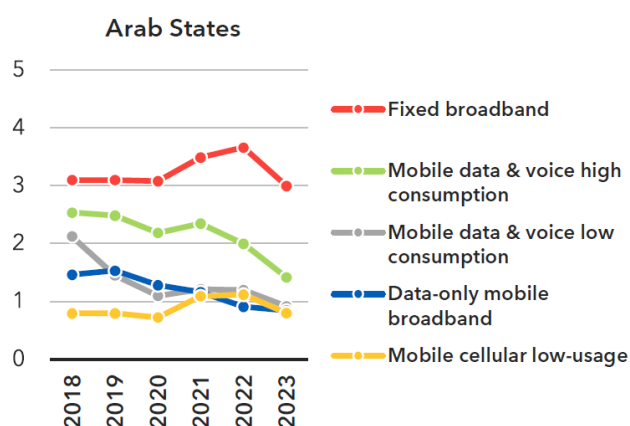
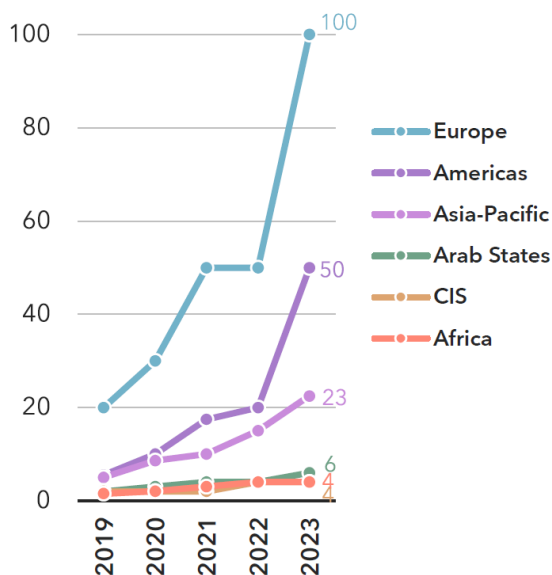


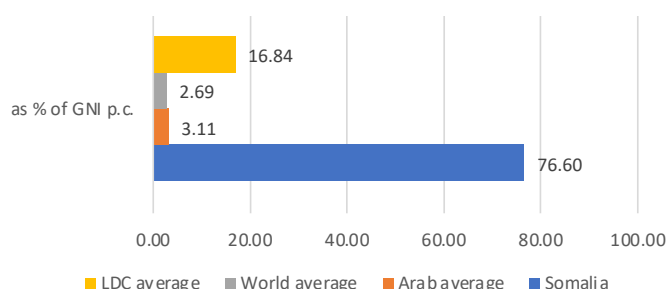
Figure 8: Fixed broadband basket prices, as a percentage of GNI per capita



Somalia's performance according to those baskets is illustrated in the below paragraphs³.

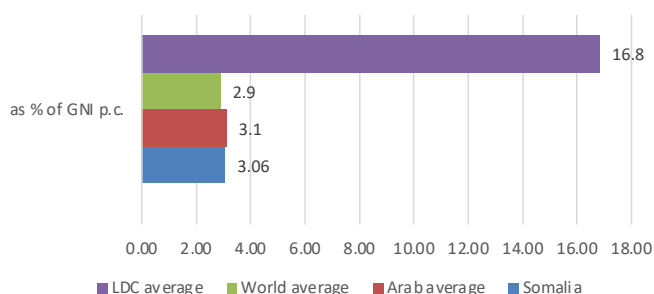
1. Fixed Broadband internet (5GB)

From the chart below, it could be noticed that the cost of Fixed Broadband as a percent of GNI⁴ per capita is 76.6% which is far higher than the Arab average (3.11%).



2. Mobile cellular low usage basket (70 min/20 SMS)

From the chart below, it could be noticed that the cost of mobile cellular low-usage as a percent of GNI per capita is 3.06% which is similar to the Arab average (3.1%).



3. Data-only mobile broadband (2GB)

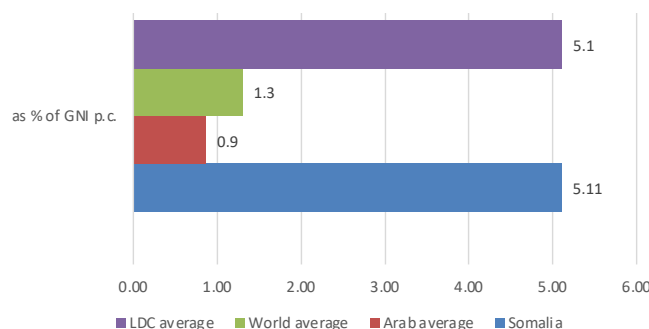
3 Data reflect the market situation as of May-June 2023.

4 Gross National Income (GNI) is the total amount of money earned by a nation's people and businesses. It is used to measure and track a nation's wealth from year to year. The number includes the nation's gross domestic product (GDP) plus the income it receives from overseas sources

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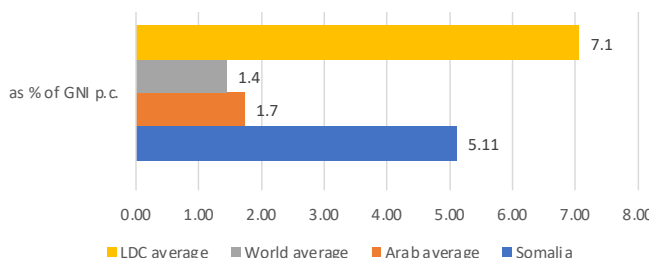
From the chart below, it could be noticed that the cost of data-only mobile broadband as a percent of GNI per capita is 5.11% which is 5X higher than the Arab average (0.9%).

In fact, fixed-broadband subscriptions are typically shared by multiple members of a household, whereas an entry-level data-only mobile-broadband subscription generally gives access to only one person, and an assessment of the affordability of the two baskets may therefore differ⁵.



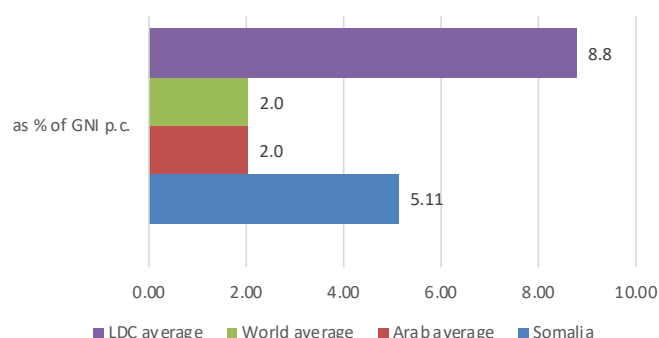
4. Mobile data and voice low consumption basket (70 min/20 SMS/500MB)

From the chart below, it could be noticed that the cost of data-only mobile broadband as a percent of GNI per capita is 5.11% which is 5X higher than the Arab average (0.9%).



5. Mobile data and voice high consumption basket (140 min/70 SMS/2GB)

From the chart below, it could be noticed that the cost of mobile data and voice high consumption as a percent of GNI per capita is 5.11% which is higher than the Arab average (2%).



Part 5. Recommendations

To advance the regulatory framework and foster a competitive telecom sector, the following integrated steps and recommendations are proposed:

1. Development of Telecom Services Pricing and Infrastructure Sharing Regulation

- Initiate the development process by incorporating best practices and feedback from ESCWA and other expert reviews.
- Engage key national stakeholders through consultative meetings to ensure inclusivity and gather valuable input.
- Refine the regulation based on stakeholder feedback and ensure it addresses sectoral needs comprehensively.
- Finalize the regulation and submit it for official adoption.

2. Foster Greater Competition in the Telecom Sector

- Implement robust regulatory safeguards to prevent monopolistic practices, ensuring affordable ICT services and increased consumer choice.
- Establish comprehensive policies and procedures to enhance the affordability of data services for both fixed and mobile broadband networks.

3. Leverage ICT Price Basket Indicators for Data-Driven Decision-Making

- Regularly track and analyze ICT price basket indicators using international methodologies to improve national performance and affordability.

4. Enhance Transparency through Accounting Separation Guidelines

- Collaborate closely with stakeholders to develop accounting separation guidelines, promoting transparency, cost efficiency, and fair cost allocation within the sector.

5. Maintain an Adaptive Pricing Framework

- Regularly review and update pricing regulations to align with technological advancements and evolving market dynamics, ensuring continued relevance and effectiveness.

These steps, coupled with the outlined recommendations, will contribute significantly to creating a more competitive, transparent, and consumer-friendly telecom sector, driving the digital transformation agenda forward.

References

- Bahrain (2022) Telecommunications Retail Price Benchmarking for Arab Countries 2021 Report from the AREGNET Price Benchmarking Study, https://tra-website-prod-01.s3-me-south-1.amazonaws.com/Media/Documents/Market-indicators/20220818152541394_zr5zspw2_yqo.pdf
- BEREC (2011), Guidance on functional separation, https://www.berec.europa.eu/sites/default/files/files/doc/berec/bor_10_44rev1.pdf
- Communications and Information Technology Commission (CITC) Saudi Arabia. Guidelines and Rules for Accounting Separation, 2019. <https://www.cst.gov.sa/ar/Decisionsoffers/Decisions/Documents/attach403.pdf>
- International Telecommunication Union (ITU), D.140, Accounting rate principles for the international telephone service, 2002. <https://www.itu.int/rec/T-REC-D.140/en>
- International Telecommunication Union (ITU), Regulatory Accounting Guide, Telecommunication Development Bureau, March 2009. https://www.itu.int/ITU-D/finance/Studies/Regulatory_accounting_guide-final1.1.pdf
- International Telecommunication Union (ITU), Study Group 1 Question 4 Guidelines on cost modelling Economic policies and methods of determining the costs of services related to national telecommunication/ICT networks, 2021. https://www.itu.int/dms_pub/itu-d/opb/stg/D-STG-SG01.04_CST_MOD-2021-PDF-E.pdf
- International Telecommunication Union (ITU), Telecommunications Regulation Handbook, 2011. https://www.itu.int/dms_pub/itu-d/opb/pref/D-PREF-TRH.1-2011-PDF-E.pdf
- ITU (2023), ICT Development Index , <https://www.itu.int/itu-d/reports/statistics/idi2023/>

- ITU (March 2024) Policy Brief [Interconnection Systems / Pages / InterconnectionPricingandAccountingSeparation.aspx](#)
- ITU statistics, <https://www.itu.int/en/ITU-D/Statistics/Dashboards/Pages/IPB.aspx>
- KSA-CST – Account separation and pricing <https://www.cst.gov.sa/ar/RulesandSystems/RegulatoryDocuments/Interconnection/>
- OECD – Broadband Methodology, <https://www.oecd.org/sti/broadband/broadband-methodology.htm>
- OECD (2013), SCIENCE, TECHNOLOGY AND

Annex 1 – KSA Guidelines on Accounting Separation

Level 1 – Accounts by Nature: Revenues

Account	Description
Operating revenues	
Connection fees – fixed telephony	Non-recurring retail fees related to the activation of fixed telephony services.
Connection fees – fixed internet	Non-recurring retail fees related to the activation of fixed internet services.
Connection fees – mobile	Non-recurring retail fees related to the activation of mobile services.
Connection fees – IPTV	Non-recurring retail fees related to the activation of IPTV services.
Recurring fees – fixed access (standalone)	Retail recurring fees related to the fixed access provision service (standalone, i.e. not included in bundles). If this service is provided with any kind of end-user terminal or equipment (e.g. router), the revenues from such terminal or equipment must be included in this account.
Recurring fees – fixed telephony (standalone)	Retail recurring fees related to fixed telephony services (standalone, i.e. not included in bundles). If this service is provided with any kind of end-user terminal or equipment (e.g. telephone), the revenues from such terminal or equipment must be included in this account.
Recurring fees – fixed internet (standalone)	Retail recurring fees related to fixed internet services (standalone, i.e. not included in bundles). If this service is provided with any kind of end-user terminal or equipment (e.g. router), the revenues from such terminal or equipment must be included in this account.
Recurring fees – mobile (standalone)	Retail recurring fees related to mobile services (standalone, i.e. not included in bundles). If this service is provided with any kind of end-user terminal or equipment (e.g. mobile handset), the revenues from such terminal or equipment must be included in this account.
Recurring fees – IPTV (standalone)	Retail recurring fees related to IPTV services (standalone, i.e. not included in bundles). If this service is provided with any kind of end-user terminal or equipment (e.g. TV decoder), the revenues from such terminal or equipment must be included in this account.

Account	Description
Recurring fees – Bundle Fixed access + fixed telephony + fixed internet	Retail recurring fees related to bundles of fixed access + fixed telephony + fixed internet. If this service is provided with any kind of end-user terminal or equipment (e.g. router), the revenues from such terminal or equipment must be included in this account.
Recurring fees – Bundle Fixed access + fixed telephony + mobile	Retail recurring fees related to bundles of fixed access + fixed telephony + mobile. If this service is provided with any kind of end-user terminal or equipment (e.g. router, mobile handset), the revenues from such terminal or equipment must be included in this account.
Recurring fees – Bundle Fixed access + fixed telephony + fixed internet + mobile	Retail recurring fees related to bundles of fixed access + fixed telephony + fixed internet + mobile. If this service is provided with any kind of end-user terminal or equipment (e.g. router, mobile handset), the revenues from such terminal or equipment must be included in this account.
Recurring fees – Bundle Fixed access + fixed telephony + fixed internet + IPTV	Retail recurring fees related to bundles of fixed access + fixed telephony + fixed internet + IPTV. If this service is provided with any kind of end-user terminal or equipment (e.g. router), the revenues from such terminal or equipment must be included in this account.
Recurring fees – other bundles	Retail recurring fees related to other bundles not included in the previous accounts. If this service is provided with any kind of end-user terminal or equipment, the revenues from such terminal or equipment must be included in this account.
Traffic – fixed voice	Retail revenues related to the use of fixed voice minutes not included in the fixed telephony recurring fees.
Traffic – mobile voice	Retail revenues related to the use of mobile voice minutes not included in the mobile recurring fees.
Traffic – mobile data	Retail revenues related to the use of mobile data not included in the mobile recurring fees.
Traffic – messaging	Retail revenues related to the use of text messages not included in the mobile recurring fees.
Data connectivity	Retail revenues related to national and international connectivity services, including point-to-point or point-to-multipoint, using physical or virtual capacity.
Sales of terminals and equipment	Retail revenues related to the sale of terminals (e.g. mobile devices) and equipment (e.g. routers) to end-users that are sold on a stand-alone basis (i.e. without any associated bundles)
Wholesale broadband access	Wholesale revenues related to wholesale broadband access services, including bitstream (and ancillary services), line sharing, virtual unbundling (VULA) and broadband resale.
Wholesale physical local fixed access	Wholesale revenues related to wholesale physical local fixed access services, including local loop access services and access to passive infrastructure.

Wholesale fixed interconnection	Wholesale revenues related to wholesale fixed interconnection services, including call origination, call termination and transit.
Wholesale leased line services and managed network transmission services	Wholesale revenues related to the provision of wholesale access segment or trunk segment of leased line services and managed network transmission services.
Wholesale termination	Wholesale revenues related to termination services.
Wholesale MVNO	Wholesale revenues related to MVNO services.
Wholesale National Roaming	Wholesale revenues related to National Roaming services.
Other retail revenues	Retail revenues received related to the provision of other retail services to end-users (e.g. content, value-added services, etc.).
Other wholesale revenues	Wholesale revenues related to the provision of other wholesale services to other service providers.

Account	Description
Non-operating revenues	
Financial revenues	Revenues related to financial operations.
Asset disposal revenues	Revenues related to the disposal of assets.
Revenues not relevant for Accounting Separation	Revenues that are not relevant for Accounting Separation.

Level 1 – Accounts by Nature: Costs

Account	Description
Operational costs	
Access to international internet	Costs related to access to international internet.
Termination to national destinations (fixed)	Costs related to the termination of fixed voice traffic on networks of other national service providers.
Termination to national destinations (mobile)	Costs related to the termination of mobile traffic on networks of other national service providers.
Termination to international destinations (fixed)	Costs related to the termination of fixed traffic on networks of international service providers.
Termination to international destinations (mobile)	Costs related to the termination of mobile traffic on networks of international service providers.
National roaming – voice	Costs related to the use of other national service providers' networks for the provision of mobile voice services.
National roaming – data	Costs related to the use of other national service providers' networks for the provision of mobile data services.
National roaming – messaging	Costs related to the use of other national service providers' networks for the provision of mobile messaging services.
International roaming – voice	Costs related to the use of other international service providers' networks for the provision of mobile voice services.
International roaming – data	Costs related to the use of other international service providers' networks for the provision of mobile data services.

International roaming – messaging	Costs related to the use of other international service providers' networks for the provision of mobile messaging services.
Costs of selling terminals and equipment	Costs of terminals (e.g. mobile devices) and equipment (e.g. routers) sold to end-users.
Personnel	Costs related to salary payments, incentives, contributions to pension plans, social security, etc.
Rental and leasing	Costs related to rental and leasing of buildings, lands, etc.
Maintenance	Costs related to the maintenance of network and non-network elements.
Energy	Costs related to the use of electricity.
Commissions	Costs of commissions paid to distributors associated with the subscription, retention, customer loyalty, etc.
Professional services	Costs related to professional services (auditors, consultants, etc.).
Advertising	Costs of advertising activities, advertising campaigns, events, fairs, exhibitions, etc.
Supplies	Costs of renting circuits and other supplies.
Inventories	Costs related to inventory.
Provisions	Costs related to provisions for insolvency.

Fixed access network

Access copper cabling	Copper cabling in the fixed access network.
Access fibre cabling	Fibre cabling in the fixed access network.
Access ducts	Ducts containing the network cables of the fixed access network.
Access subducts	Subducts containing fibre cables of the fixed access network.
Trenches	Excavations carried out on the ground for the installation of cables of the fixed access network.
Poles	Masts used for laying aerial copper and fibre optic cables of the fixed access network.

Mobile access network

Mobile access sites	Physical space used to install the base stations of the mobile access network.
Towers	Structures used to support transmission antennas and mobile radio access equipment.
2G access equipment	Base stations for the 2G network, as well as their corresponding antennas and transmitters.
3G access equipment	Base stations for the 3G network, as well as their corresponding antennas and transmitters.
4G access equipment	Base stations for the 4G network, as well as their corresponding antennas and transmitters.
Single RAN elements	Access equipment that allows the simultaneous provision of mobile services under 2G, 3G and 4G technologies.

Fixed switching network

Main Distribution Frame (MDF)	Frame located in a telephone exchange for the distribution of signals to connect network and telecommunications equipment of the copper network to the cables and equipment of the service provider.
Optical Distribution Frame (ODF)	Frame used to interconnect the telephone network with multiple intermediate distribution points of the fibre access network.
DSLAM/MSAN	Multiplexers located in the telephone exchange that provide access to telephony and internet services.
Remote exchanges	Elements that allow the switching of telephony lines that enable the voice call service.
Local exchanges	Elements that allow the aggregation of traffic generated by different remote exchanges, being responsible for their switching.
Tandem exchanges	Elements that allow circuit traffic switching of the Time Division Multiple Access (TDM) network.
International exchanges	Elements that allow traffic switching of international circuits.
Edge routers	Elements that allow the traffic management generated in the access network of next generation networks (NGN).

Account	Description
Distribution routers	Elements that allow the traffic management traffic generated in the distribution network of next generation networks (NGN).

Transmission network

Fixed-only transmission – Below local exchanges	Transmission links that are exclusive to fixed communications, connecting points below the local exchanges (e.g. local-local, remote-local, etc.).
Fixed-only transmission – Above local exchanges	Transmission links that are exclusive to fixed communications, connecting points above the local exchanges (e.g. local-tandem, tandem-core, etc.).
Mobile-only transmission	Transmission links that are exclusive to mobile communications.
Fixed and mobile transmission	Transmission links that are used for both mobile and fixed communications.

Core network

Call Session Control Function (CSCF)	Elements responsible for the management and control of call sessions, including the three components S-CSCF (Serving CSCF), I-CSCF (Interrogating CSCF) and P-CSCF (Proxy CSCF).
Home Subscriber Server (HSS)	Element responsible for the storage of subscriber information, including authentication credentials, detail of subscribed services and identification of the attributed S-CSCF.
Interconnect Border Controller Function (IBCF)	Element responsible for session control in points of interconnection with other NGN networks.
Breakout Gateway Control Function (BGCF)	Element responsible for routing calls to destinations outside the service provider's network.
Media Gateway Controller Function (MGCF)	Element responsible for the control of the MGWs used to interconnect NGN networks with PSTN networks.

Access Gateway Control Function (AGCF)	Element that controls AGWs and supports SIP signalling for NGN networks. The AGCF has a role similar to the P-CSCF in TDM networks.
Media Gateway (MGW)	Element that is responsible for managing the circuit traffic calls between core locations.
Access Gateway (AGW)	Element that allows receiving data from TDM access networks.
Session Border Controller (SBC)	Element responsible for managing signalling, VoIP calls set-up and other multimedia connections based on IP.
Voicemail System (VMS)	System that allows users and subscribers to exchange personal voice messages and manage subscribers' voicemail.
Application Server (AS)	Element that enables voice and multimedia services on established sessions.
Policy and Charging Rules Function (PCRF)	Element responsible for managing network and billing policies.
Billing platform	Systems and functionalities involved in managing all the billing process in the network.
DNS Server	Database that contains the information needed to translate internet domain names to their IP addresses.
International traffic switching equipment	Equipment responsible for traffic switching with other international networks.
Broadband Remote Access Server (BRAS)	Element responsible for the traffic routing of broadband remote access equipment, such as DSLAMs.
IPTV platforms	Platforms used to provide IPTV services.
2G controllers	BSC equipment responsible for the control of 2G access equipment.
3G controllers	RNC equipment responsible for the control of 3G access equipment.
Account	Description
Mobile Switching Centre Server (MSCS)	Element responsible for the management of voice and video calls in the mobile network.
Short Message Service Centre (SMSC)	Element responsible for the management, delivery and storage of short text messages in the mobile network.
Multimedia Messaging Service Centre (MMSC)	Element responsible for the management, delivery and storage of multimedia messages in the mobile network.
Gateway GPRS Support Node (GGSN)	Element responsible for the provision of data interconnection between the packet core and external packet networks like the Internet.
Serving GPRS Support Node (SGSN)	Element responsible for establishing packet data connections with end users and delivering data packets between them and the GGSN in both directions
Home Location Register (HLR)	Central database that contains the details of all the subscribers of the network, including data of the SIM cards and MSISDN numbers associated with each of them.
Mobile Management Entity (MME)	Main control point of subscribers and calls on NGN networks.
Serving Gateway (SGW)	Element responsible for the routing and delivery of packages.

Packet Data Network Gateway (PGW)	Element that connects the Designated Service Provider's network with other external networks.
Other elements	
Industrial property	Trademarks and brand.
Software applications	Software of network equipment and the corporate computer systems.
Electrical network and air conditioning	Auxiliary elements needed for operations associated with energy and cooling, including electrical sub-station, backup power sources (emergency plant), air conditioning, etc.
Land and buildings	Costs related to real estate capital (land, buildings, etc.).
Accessory elements	Support elements for operations such as furniture, transportation, etc.
Other elements	Other elements not included in the previous accounts.
Working capital¹³	
Cash and cash equivalents	Working capital related to the assets that provide immediate liquidity to carry out its daily operations.
Accounts receivable	Working capital related to the balance of money due for goods or services delivered or used but not yet paid for by customers.
Inventories	Working capital related to the goods that are ready for sale.
Other current assets	Working capital related to other current assets associated with core business activities.
Short term debt to suppliers	Working capital related to short-term debt (less than one year) to suppliers, as well as the portion of long-term debt to suppliers that must be paid during this period.
Deferred revenue	Working capital related to the liabilities associated with revenues that have already been received from customers, but the services for these revenues have not been provided.
Account	Description
Other current liabilities	Working capital related to other current liabilities associated with core business activities.
Costs not relevant for Accounting Separation	
Financial costs	Costs and interests and other charges involved in the borrowing of money to build or purchase assets.
Depreciation adjustments	Adjustments of the amortization and depreciation costs after the CCA revaluation of assets. These adjustments correspond to the difference between the original costs in the financial statements and the costs under CCA.
Other cost items	Other costs not related to the provision of telecommunications services.

Exhibit 5.2: Minimum required disaggregation of "Level 1 – Accounts by Nature: Costs"

Level 2 – Activities and Network Elements

Account	Description
Network components	
Fixed access network	
In-building copper cabling	Copper cabling from the Final Drop Point (FDP) to the Network Termination Point (NTP) located inside of the end-user's premises.
In-building fibre cabling	Fibre cabling from the Final Drop Point (FDP) to the Network Termination Point (NTP) located inside of the end-user's premises.
Primary network – copper	Copper cabling between the main distribution frame and the distribution point of the access network.
Secondary network – copper	Copper cabling between the distribution point and the FDP.
Primary network – fibre	Fibre cabling between the optical distribution frame and the distribution point of the access network.
Secondary network – fibre	Fibre cabling between the distribution point and the FDP.
Primary network – ducts	Ducts containing the primary network cables.
Secondary network – ducts	Ducts containing the secondary network cables.
Subducts	Subducts containing fibre cables.
Trenches	Excavations carried out on the ground for the installation of cables.
Poles	Masts used for laying aerial copper and fibre optic cables.
Other elements of the fixed access network	Other elements of the fixed access network not included in the previous accounts.
Mobile access network	
Mobile access sites	Physical space used to install the base stations of the mobile access network.
Towers	Structures used to support transmission antennas and mobile radio access equipment.
2G access equipment	Base stations for the 2G network, as well as their corresponding antennas and transmitters.
3G access equipment	Base stations for the 3G network, as well as their corresponding antennas and transmitters.
4G access equipment	Base stations for the 4G network, as well as their corresponding antennas and transmitters.
Single RAN elements	Access equipment that allows the simultaneous provision of mobile services under 2G, 3G and 4G technologies.
Other elements of the mobile access network	
Other elements of the mobile access network	Other elements of the mobile access network not included in the previous accounts.
Fixed switching network	

Main Distribution Frame (MDF)	Frame located in a telephone exchange for the distribution of signals to connect network and telecommunications equipment of the copper network to the cables and equipment of the service provider.
Optical Distribution Frame (ODF)	Frame used to interconnect the telephone network with multiple intermediate distribution points of the fibre access network.
DSLAM/MSAN	Multiplexers located in the telephone exchange that provide access to telephony and internet services.
Remote exchanges	Elements that allow the switching of telephony lines that enable the voice call service.
Local exchanges	Elements that allow the aggregation of traffic generated by different remote exchanges, being responsible for their switching.
Tandem exchanges	Elements that allow circuit traffic switching of the Time Division Multiple Access (TDM) network.
International exchanges	Elements that allow traffic switching of international circuits.
Edge routers	Elements that allow the traffic management generated in the access network of next generation networks (NGN).
Distribution routers	Elements that allow the traffic management traffic generated in the distribution network of next generation networks (NGN).
Other switching equipment	Other elements of the switching network not included in the previous categories.

Transmission network

Fixed-only transmission – Below local exchanges	Transmission links that are exclusive to fixed communications, connecting points below the local exchanges (e.g. local-local, remote-local, etc.).
Fixed-only transmission – Above local exchanges	Transmission links that are exclusive to fixed communications, connecting points above the local exchanges (e.g. local-tandem, tandem-core, etc.).
Mobile-only transmission	Transmission links that are exclusive to mobile communications.
Fixed and mobile transmission	Transmission links that are used for both mobile and fixed communications.
Submarine links	Transmission links through submarine cables.

Core network

Call Session Control Function (CSCF)	Elements responsible for the management and control of call sessions, including the three components S-CSCF (Serving CSCF), I-CSCF (Interrogating CSCF) and P-CSCF (Proxy CSCF).
Home Subscriber Server (HSS)	Element responsible for the storage of subscriber information, including authentication credentials, detail of subscribed services and identification of the attributed S-CSCF.
Interconnect Border Controller Function (IBCF)	Element responsible for session control in points of interconnection with other NGN networks.
Breakout Gateway Control Function (BGCF)	Element responsible for routing calls to destinations outside the service provider's network.
Media Gateway Controller Function (MGCF)	Element responsible for the control of the MGWs used to interconnect NGN networks with PSTN networks.
Access Gateway Control Function (AGCF)	Element that controls AGWs and supports SIP signalling for NGN networks. The AGCF has a role similar to the P-CSCF in TDM networks.

Account	Description
Media Gateway (MGW)	Element that is responsible for managing the circuit traffic calls between core locations.
Access Gateway (AGW)	Element that allows receiving data from TDM access networks.
Session Border Controller (SBC)	Element responsible for managing signalling, VoIP calls set-up and other multimedia connections based on IP.
Voicemail System (VMS)	System that allows users and subscribers to exchange personal voice messages and manage subscribers' voicemail.
Application Server (AS)	Element that enables voice and multimedia services on established sessions.
Policy and Charging Rules Function (PCRF)	Element responsible for managing network and billing policies.
Billing platform	Systems and functionalities involved in managing all the billing process in the network.
DNS Server	Database that contains the information needed to translate internet domain names to their IP addresses.
International traffic switching equipment	Equipment responsible for traffic switching with other international networks.
Broadband Remote Access Server (BRAS)	Element responsible for the traffic routing of broadband remote access equipment, such as DSLAMs.
IPTV platforms	Platforms used to provide IPTV services.
2G controllers	BSC equipment responsible for the control of 2G access equipment.
3G controllers	RNC equipment responsible for the control of 3G access equipment.
Core sites (buildings)	Physical space (buildings) used to accommodate elements of the core network.
Mobile Switching Centre Server (MSCS)	Element responsible for the management of voice and video calls in the mobile network.
Short Message Service Centre (SMSC)	Element responsible for the management, delivery and storage of short text messages in the mobile network.
Multimedia Messaging Service Centre (MMSC)	Element responsible for the management, delivery and storage of multimedia messages in the mobile network.
Gateway GPRS Support Node (GGSN)	Element responsible for the provision of data interconnection between the packet core and external packet networks like the Internet.
Serving GPRS Support Node (SGSN)	Element responsible for establishing packet data connections with end users and delivering data packets between them and the GGSN in both directions
Home Location Register (HLR)	Central database that contains the details of all the subscribers of the network, including data of the SIM cards and MSISDN numbers associated with each of them.
Mobile Management Entity (MME)	Main control point of subscribers and calls on NGN networks.
Serving Gateway (SGW)	Element responsible for the routing and delivery of packages.
Packet Data Network Gateway (PGW)	Element that connects the Designated Service Provider's network with other external networks.
Other elements of the core network	Other elements of the core network not included in the previous categories.

Other network elements

Electrical network and air conditioning	Auxiliary elements needed for operations associated with energy and cooling, including electrical sub-station, backup power sources (emergency plant), air conditioning, etc.
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Non-network elements

Account	Description
Commercial	Commercial functions such as gain and retention of customers, advertising, brand, product development, etc.
Billing	Control and management of billing to retail end-users.
Charging	Control and management of billing to other service providers.
Collection	Control and management of the payment collection from end-users.
Fees and taxes	Costs related to fees and taxes related to core business activities. Income tax or Zakat must be not included.
Loyalty programs	Customer loyalty management.
Direct costs of sales	
Access to international internet	Costs related to access to international internet.
Termination to national destinations (fixed)	Costs related to the termination of fixed voice traffic on networks of other national service providers.
Termination to national destinations (mobile)	Costs related to the termination of mobile traffic on networks of other national service providers.
Termination to international destinations (fixed)	Costs related to the termination of fixed traffic on networks of international service providers.
Termination to international destinations (mobile)	Costs related to the termination of mobile traffic on networks of international service providers.
National roaming – voice	Costs related to the use of other national service providers' networks for the provision of mobile voice services.
National roaming – data	Costs related to the use of other national service providers' networks for the provision of mobile data services.
National roaming – messaging	Costs related to the use of other national service providers' networks for the provision of mobile messaging services.
International roaming – voice	Costs related to the use of other international service providers' networks for the provision of mobile voice services.
International roaming – data	Costs related to the use of other international service providers' networks for the provision of mobile data services.
International roaming – messaging	Costs related to the use of other international service providers' networks for the provision of mobile messaging services.
Costs of selling terminals and equipment	Costs of terminals (e.g. mobile devices) and equipment (e.g. routers) sold to end-users.
Provisions	Costs related to provisions for insolvency.
Common costs	
G&A costs – retail	General and administrative expenses related to the provision of retail services.

G&A costs – network	General and administrative expenses related to the planning, management, monitoring, etc. of the network.
G&A costs – business	General and administrative expenses related to the general functioning of the business.
Costs not relevant for Accounting Separation	
Costs not relevant for Accounting Separation	Costs not relevant for Accounting Separation.

Level 3 – Services

Account	Description
Retail services	
Activation services	
Mobile activation	Service related to the activation of mobile telephony services to the end-user (excluding traffic consumption included in mobile services).
Fixed telephony activation	Service related to the activation of fixed telephony services to the end-user (excluding access line, traffic consumption, etc.).
Fixed internet activation	Service related to the activation of fixed internet services to the end-user (excluding access line, traffic consumption, etc.).
IPTV activation	Service related to the activation of IPTV services to the end-user (excluding access line, traffic consumption, etc.).
Other activation services	Provision of alternative activation services not included in the previous accounts.
Mobile retail services	
Mobile data – National	Provision of mobile data traffic for end-users located in the country.
Mobile data – Roaming Out	Provision of mobile data traffic for end-users located outside the country.
Mobile voice on-net	Provision of mobile voice traffic within the Designated Service Provider's network.
Mobile voice off-net – National	Provision of mobile voice traffic from a mobile end-user located in the country to a different service provider in the country.
Mobile voice off-net – International	Provision of mobile voice traffic from a mobile end-user located in the country to an international location.
Mobile voice – Roaming Out	Provision of mobile voice traffic to end-users that are located outside the country.
SMS on-net	Provision of mobile SMS within the Designated Service Provider's network.
SMS off-net – National	Provision of mobile SMS from a mobile end-user located in the country to a different service provider in the country.

SMS off-net – International	Provision of mobile SMS from a mobile end-user located in the country to an international location.
Mobile SMS – Roaming Out	Provision of mobile SMS to end-users that are located outside the country.
MMS on-net	Provision of mobile MMS within the Designated Service Provider's network.
MMS off-net – National	Provision of mobile MMS from a mobile end-user located in the country to a different service provider in the country.
MMS off-net – International	Provision of mobile MMS from a mobile end-user located in the country to an international location.
MMS – Roaming Out	Provision of mobile MMS to end-users that are located outside the country.

Account	Description
Videocalls on-net	Provision of mobile videocalls within the Designated Service Provider's network.
Videocalls off-net – National	Provision of mobile videocalls from a mobile end-user located in the country to a different service provider in the country.
Videocalls off-net – International	Provision of mobile videocalls from a mobile end-user located in the country to an international location.
Videocalls – Roaming Out	Provision of mobile videocalls to end-users that are located outside the country.
Other mobile retail services	Provision of other mobile services not included in the previous accounts.

Fixed retail access services

Access rental copper	Provision of a copper access line to an end-user.
Access rental fibre	Provision of a fibre access line to an end-user.
Other fixed retail access services	Provision of alternative access services not included in the previous accounts.

Fixed retail voice services

Fixed voice on-net – Local	Provision of fixed voice traffic from a fixed location to other fixed locations belonging to the same network in the same local area.
Fixed voice on-net – National	Provision of fixed voice traffic from a fixed location to other fixed locations belonging to the same network in a different local area.
Fixed voice off-net – National	Provision of fixed voice traffic from a fixed location to fixed locations belonging to a different network within the country.
Fixed voice off-net – International	Provision of fixed voice traffic from a fixed location to an international location.
Fixed voice – Special numbers	Provision of fixed voice traffic from a fixed location to special numbers.

Other fixed retail voice services	Provision of other fixed voice services not included in the previous accounts.
Fixed retail broadband services	
Fixed retail broadband – ADSL/VDSL ¹⁴	Provision of fixed broadband services to an end-user through ADSL/VDSL technologies.
Fixed retail broadband – FTTH ¹⁵	Provision of fixed broadband services to an end-user through ADSL/VDSL technologies.
IPTV	Provision of IPTV services to an end-user.
Other fixed broadband services	Provision of other fixed broadband services not included in the previous accounts.
Retail leased lines	
Fast Ethernet – National	Provision of Fast Ethernet transmission between a given location within the country to a different location within the country.
Account	
Description	
Gigabit Ethernet – National	Provision of Gigabit Ethernet transmission between a given location within the country to a different location within the country.
10 Giga Ethernet – National	Provision of 10 Giga Ethernet transmission between a given location within the country to a different location within the country.
Fast Ethernet – International	Provision of Fast Ethernet transmission between a given location within the country to a location outside of the country.
Gigabit Ethernet – International	Provision of Gigabit Ethernet transmission between a given location within the country to a location outside of the country.
10 Giga Ethernet – International	Provision of 10 Giga Ethernet transmission between a given location within the country to a location outside of the country.
Other retail leased lines services	Provision of other leased lines services not included in the previous accounts.
Other retail services	
Sales of terminals and equipment	Provision of terminals (e.g. mobile devices) and equipment (e.g. routers) to end-users.
Other retail services	Provision of other retail services not included in the previous accounts
Wholesale services	
Mobile interconnection services	
Mobile voice termination from fixed network – National	Provision of mobile voice termination services in the network originated in another service provider's fixed network within the country.
Mobile voice termination from mobile network – National	Provision of mobile voice termination services in the network originated in another service provider's mobile network within the country.

Mobile voice termination – International	Provision of mobile voice termination services in the network originated in another service provider's international network.
Mobile SMS termination – National	Provision of mobile SMS termination services in the network originated in another service provider's network within the country.
Mobile SMS termination – International	Provision of mobile SMS termination services in the network originated in another service provider's international network.
Mobile MMS termination – National	Provision of mobile MMS termination services in the network originated in another service provider's network within the country.
Mobile MMS termination – International	Provision of mobile MMS termination services in the network originated in another service provider's international network.
Mobile videocalls termination – National	Provision of mobile videocalls termination services in the network originated in another service provider's network within the country.
Mobile videocalls termination – International	Provision of mobile videocalls termination services in the network originated in another service provider's international network.
Other mobile interconnection services	Provision of other mobile interconnection services not included in the previous accounts (e.g. origination, international roaming, etc.).

Account	Description
National roaming services	
National Roaming – Data	Provision of data traffic generated by national roaming users and delivered to their service providers' network in a core node.
National Roaming – Outgoing voice	Provision of mobile outgoing voice traffic originated by national roaming users and delivered to their service providers' network in a core node.
National Roaming – Incoming voice	Provision of mobile incoming voice traffic to national roaming users using the Designated Service Provider's network.
National Roaming – Outgoing SMS	Provision of mobile outgoing SMS originated by national roaming users and delivered to their service providers' network in a core node.
National Roaming – Incoming SMS	Provision of mobile incoming SMS to national roaming users using the Designated Service Provider's network.
Other national roaming services	Provision of other national roaming services not included in the previous accounts.
MVNO services	
MVNO – Data	Provision of data traffic to MVNO users.
MVNO – Outgoing voice	Provision of mobile outgoing voice traffic to MVNO users.
MVNO – Incoming voice	Provision of mobile incoming voice traffic to MVNO users.

Other MVNO services	Provision of other MVNO services not included in the previous accounts.
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Fixed wholesale access services

Wholesale Line Rental (WLR)	Provision of telephony services to other service provider's end-users without requiring the service provider's presence to the access node.
Local Loop Unbundling (LLU)	Provision of services in which an end user's local copper loop in the Designated Service Provider's network is disconnected from the rest of the Designated Service Provider's network and connected via a co-located Point of Access to the requesting service provider's network, from which services are provided to the end-user.
Local Sub Loop Unbundling (LSLU)	Provision of services in which an end user's local copper loop in the Designated Service Provider's network is disconnected from the rest of the Designated Service Provider's network at the Distribution Point (DP) and connected via a co-located point to the requesting service provider's network, from which services are provided to the end user.
Shared Local Loop Unbundling (SLLU)	Provision of a service similar to the LLU but, in this case, the requesting service provider is only granted the high frequencies of the local loop, which allows it to provide only broadband services to the end user.
Naked Bitstream Line	Provision of access to an end user's line which is not using Designated Service Provider's voice services.
Virtual Unbundling of the Local Access (VULA)	Provision of a service through which the requesting service provider can make use of the fibre access infrastructure of the Designated Service Provider to provide services to the end user.

Account	Description
Fibre Bitstream Line	Provision of fibre access line to the requesting service provider, over which a bitstream service will be provided.
Copper Resale Line	Provision of copper access line to the requesting service provider, over which a broadband resale service will be provided.
Fibre Resale Line	Provision of fibre access line to the requesting service provider, over which a broadband resale service will be provided.
Other fixed wholesale access services	Provision of other fixed wholesale access services not included in the previous accounts.

Fixed interconnection services

Fixed voice termination from fixed network – National	Fixed voice termination from fixed network – National
Fixed voice termination from mobile network – National	Fixed voice termination from mobile network – National
Fixed voice termination – International	Fixed voice termination – International

Fixed voice termination – directory enquiries	Through this service, a service provider delivers a voice communication from an end user in a different network to a directory enquiry service residing in the network of the Designated Service Provider.
Fixed voice termination – non-geographic numbers	Through this service, a service provider delivers a voice communication from an end user in a different network to a non-geographic number residing in the network of the Designated Service Provider.
Fixed voice termination – emergency services	Through this service, a service provider delivers a voice communication from an end user in a different network to an emergency services number residing in the network of the Designated Service Provider.
Fixed voice origination – CS/CPS	Provision of the service that enables end-users connected to one service provider to choose to have some of their telephone calls carried by that service provider or by another service provider.
Fixed voice origination – intelligent services	Provision of the service in which the voice call originated by an end-user calling to an intelligent network number residing in another service provider's network.
Other fixed interconnection services	Provision of other fixed interconnection services not included in the previous accounts.

Wholesale broadband services

Fixed wholesale broadband Bitstream – ADSL/VDSL ¹⁶	Provision of ADSL/VDSL broadband traffic of a requesting service provider's end-user from the access node up to an edge router where the traffic is interconnected to the requesting service provider.
Fixed wholesale broadband Bitstream – FTTH ¹⁷	Provision of FTTH broadband traffic of a requesting service provider's end-user from the access node up to an edge router where the traffic is interconnected to the requesting service provider.

Account	Description
Fixed wholesale broadband Resale – ADSL/VDSL ¹⁸	Equivalent to retail broadband services but resold to another service provider.
Fixed wholesale broadband Resale – FTTH ¹⁹	Equivalent to retail broadband services but resold to another service provider.
Other wholesale broadband services	Provision of other wholesale broadband services not included in the previous accounts.

Wholesale leased lines

National trunk – Fast Ethernet	Provision by the Designated Service Provider of Fast Ethernet transmission between a given Designated Service Provider's Edge Router location within the country to a different Designated Service Provider's Edge Router Location within the country.
National trunk – Gigabit Ethernet	Provision by the Designated Service Provider of Gigabit Ethernet transmission between a given Designated Service Provider's Edge Router location within the country to a different Designated Service Provider's Edge Router Location within the country.

National trunk – 10 Giga Ethernet	Provision by the Designated Service Provider of 10 Giga Ethernet transmission between a given Designated Service Provider's Edge Router location within the country to a different Designated Service Provider's Edge Router Location within the country.
Terminating – Fast Ethernet	Provision to a requesting service provider by the Designated Service Provider of Fast Ethernet transmission between a given Designated Service Provider's Edge Router location within the country and a specific premise within the country.
Terminating – Gigabit Ethernet	Provision to a requesting service provider by the Designated Service Provider of Gigabit Ethernet transmission between a given Designated Service Provider's Edge Router location within the country and a specific premise within the country.
Terminating – 10 Giga Ethernet	Provision to a requesting service provider by the Designated Service Provider of 10 Giga Ethernet transmission facility between a given Designated Service Provider's Edge Router location within the country and a specific premise within the country.
Other wholesale leased lines services	Provision of other wholesale leased lines services not included in the previous accounts.

Wholesale access to passive infrastructure

Access to towers/masts	Service through which Designated Service Provider shares the towers and masts of an access site with a requesting service provider.
Access to buildings and sites – Access	Service through which a requesting service provider can collocate equipment in the access sites (land, building, shelters, etc.) of the Designated Service Provider.
Access to ducts and trenches – Access	Service through which a requesting service provider can access the ducts and trenches of the access network of the Designated Service Provider.

Account	Description
Access to dark fibre – Access	Service through which a requesting service provider can access the dark fibre in the access network of the Designated Service Provider.
Access to buildings and sites – Core	Service through which a requesting service provider can collocate equipment in the core sites (land, building, shelters, etc.) of the Designated Service Provider.
Access to ducts and trenches – Core	Service through which a requesting service provider can access the ducts and trenches of the backbone network of the Designated Service Provider.
Access to dark fibre – Core	Fixed wholesale services through which a requesting service provider can access the dark fibre in the backbone network of the Designated Service Provider.
Other wholesale access services to passive infrastructure	Provision of other wholesale access services to passive infrastructure.

Other wholesale services

Customer sited interconnection link	This service represents the costs of the transmission (backbone) to the Point of Interconnection (measured in Mbps). In this case, the end at third party's side is located within the premises.
In-span interconnection link	This service represents the costs of the transmission (backbone) to the Point of Interconnection (measured in Mbps). In this case, the end at third party's side is located outside the premises.
Transit – national	Through this service, a Designated Service Provider carries a communication from another service provider and delivers it to the network of a different service provider within the country, using its fixed network to provide transit to such communication. It gathers costs from the transmission network due to its capacity requirements, as well as from the core platforms responsible of handling the call.
Transit – transit international	Through this service, a Designated Service Provider carries a communication from another service provider and delivers it to the network of a different service provider outside the country, using its fixed network to provide transit to such communication. It gathers costs from the transmission network due to its capacity requirements, as well as from the core platforms responsible of handling the call.
International capacity – International connectivity	Service comprising the provision by the Designated Service Provider of international connectivity. This service includes the costs associated to the international links.
IP transit	Service by which the Designated Service Provider provides the other licensed service provider the national and/or international bandwidth for Internet (IP) traffic via the reference operator's Internet Gateway.
Private peering	Service where the Designated Service Provider facilitates the interconnection of its network with that of the other licensed service provider by creating a direct physical connection, so that both the networks can exchange mutually agreed balanced internet traffic between them. This service is considered to make use of the backbone in order to reach the peering point.
International roaming signalling IX	Service where the Designated Service Provider provides a port for international signalling transmission to another mobile licensed service provider for the sole purpose of facilitating international roaming. This service is not included the cost associated to rent of international capacity to reach the destination country.
Account	Description
Access to cable landing points	Service comprising the provision of access to cable landing points.
Other wholesale services	Other wholesale services not included in the previous accounts.
Services not relevant for Accounting Separation	
Services not relevant for Accounting Separation	Provision of services not relevant for Accounting Separation

Exhibit 5.4: Minimum required disaggregation of "Level 3 – Services"

Section or Sub-Section	Subject Matter
1 Introduction	Overview of what is contained in document.
1.1 Introduction to System	Overview of Accounting System providing a brief description of main inputs and outputs
2 Regulatory Requirements	
2.1 Overview of Requirements	Summary of requirements as described in the current document.
2.2 Reference to specific legislation	Brief description of each regulatory decision made by TRA, including current document, which is relevant to AS.
3 Overview of System	
3.1 Basic Principles	Statement of basic principles: e.g. causality, non-discrimination, transparency, treatment of transfer charges, treatment of inefficiencies, application of MEA
3.2 Accounting Principles	Accounting Principles to be followed
3.3 Accounting Policies	A description of the Accounting Policies that are considered to be material in the context of Separated Regulatory Accounts
3.4 Relevant Markets and Individual Services	A description of each Relevant Market and related Individual Service for which Separated Regulatory Accounts are to be prepared
3.5 Information Flows	Diagram or diagrams showing information flows in AS system.
3.6 Revenues, Costs, Assets	Description of which revenues, costs etc. are included and those which are excluded (e.g. profit shown before tax charge).
3.7 CCA Methodology	Asset gross and net valuations; determination of depreciation charge; efficiency adjustments (further document providing additional details on valuation methodology and other issues may be required).
3.8 LRIC Methodology	Overview of LRIC approach; determination of CVRs (further

	document showing each CVR may be required)
3.9 Treatment of Transfer Charges	Statement of methodology including discussion of relating holding companies, if any.
3.10 Network Components	Description of what these show and how these are calculated; information on additional components introduced in current year. Description shall include overview of routing factors and how these are used to calculate network component costs.
3.11 Retail Cost Categories	Description of what these show and how these are calculated; information on additional categories introduced in current year. Description shall include overview of routing factors and these are used to calculate retail cost categories.
3.12 Service Costs	Description of how service costs are calculated using component costs and routing factors.
4 Allocation Process	
4.1 Overview	Table showing major steps such as GL and FAR Process; Mapping revenues to services.
4.2 General Ledger and Fixed Asset Registering Process	Description of what is involved
4.3 Allocation of Revenues	Description of process; Treatment of problem cases e.g. bundled products.
4.4 Allocation of Assets	Overview of how assets are allocated to network components or services.
4.5 Allocation of Depreciation	Overview of how depreciation is allocated to network components or services.
4.6 Allocation of Operating Costs	Overview of how operating costs are allocated to network components or services.
4.7 Allocation of Working Capital	Overview of how working capital is allocated to network components or services.
4.8 Allocation of Activities	Overview of how overhead activities are allocated to network components or services (separate discussion may be

	needed for opex and capex activities).
4.9 Network Components to Services	Overview of how network components are allocated to services.
4.10 Retail Cost Categories to Services	Overview of how retail cost Categories are allocated to services.
4.11 Reporting Requirements	Information which needs to be reported.
5 Transfer Charges	Overview of main flows – wholesale to retail; wholesale to wholesale and description of how charges are applied in non-discriminatory manner. Separate discussion of treatment of charges from holding companies, if any.
6 Reporting Requirements	Description of each report requirement e.g. HCA, CCA, LRIC, network components, retail cost categories and reconciliation.
Appendix A – Glossary	Glossary showing: i) explanation of abbreviations e.g. FAR and ii) Brief description of terms such as CCA, FAC and FCM.
Appendix B – GL Mapping	
Revenue Mapping	Matrix showing mapping of each revenue class in GL to AS service.
Interconnection Mapping	Mapping of each GL code to AS service.
Balance sheet mapping	Mapping of each GL Code to AS account type (e.g. NBV, WIP, WC)
Appendix C - Services and Business Mapping	Mapping showing which services belong to which businesses. Description of main businesses.
Appendix D - Resource Allocations	Mapping showing which codes go to which HCC category – separate mappings required for assets, cost centres and balance sheet items.
Appendix E – Activity Allocation	Mapping between activity and allocation code and name.
Appendix F – Network Component Allocations	Mapping between network components and business area (e.g. fixed core network).
Appendix G – Retail Cost Categories Allocations	Mapping between retail cost categories and business area.
Appendix H – Detailed Allocation	For each HCC description of allocation

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