REPUBLIC OF MOZAMBIQUE
MINISTRY OF MINERAL RERSOURCES AND ENERGY

EXTRACTIVE INDUSTRY STATISTICAL REPORT 2021 – 2022

2nd Edition 2023

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Moçambique

REPUBLIC OF MOZAMBIQUE
MINISTRY OF MINERAL RESOURCES AND ENERGY
PLANNING AND COOPERATION DIECTORATE

EXTRACTIVE INDUSTRY STATISICAL REPORT 2021 – 2022

2nd Edition 2023

Datasheet

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Extractive Industry Statistical Report 2021 – 2022

Edition

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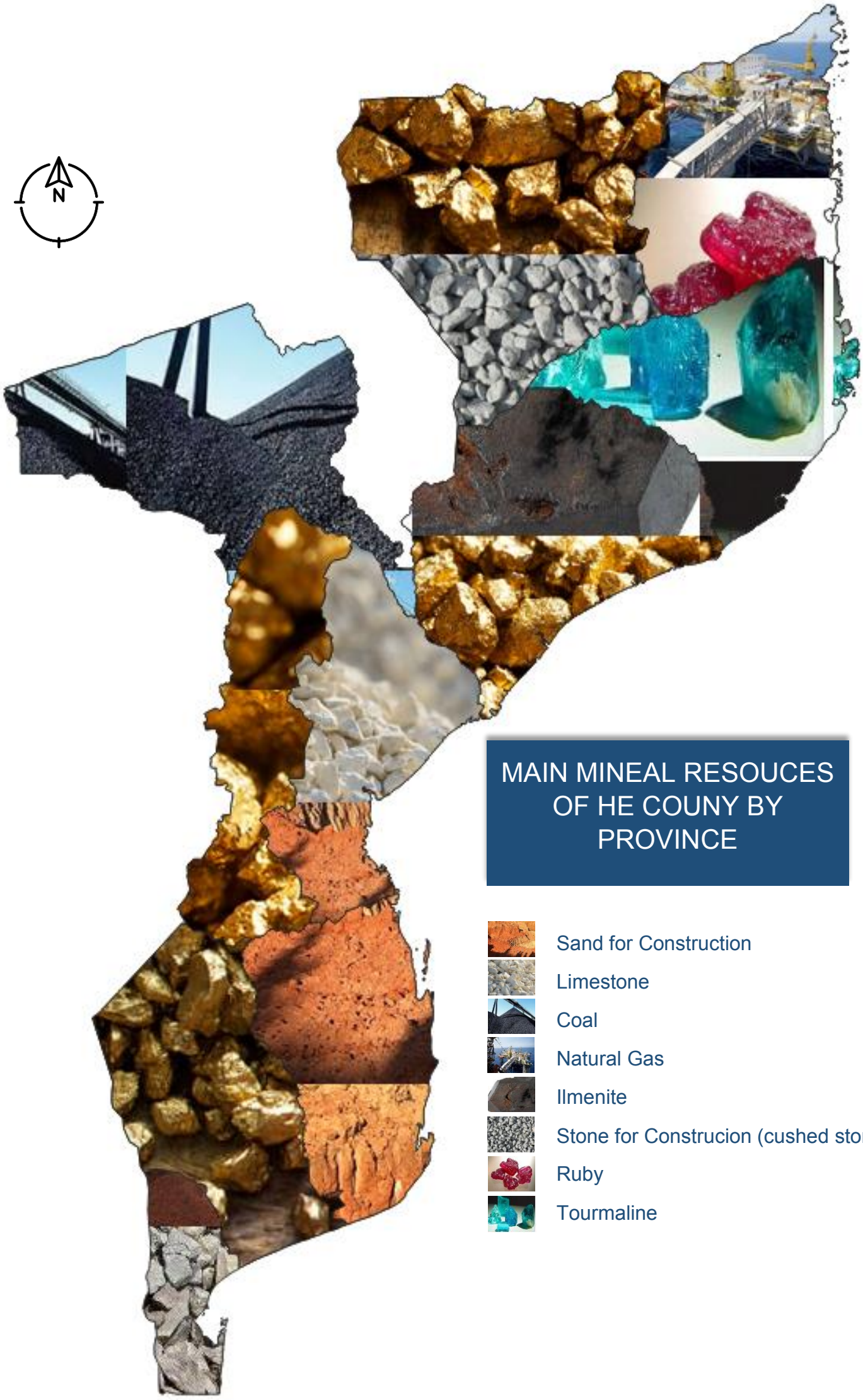


MAIN MINEAL RESOUCES OF HE COUNY BY PROVINCE

Sand for Construction

Limestone

Coal

Natural Gas

Ilmenite

Stone for Construcion (cushed stone)

Ruby

Tourmaline

Preface

Geological diversity and the abundance of mineral and energetic resources have led the Government of Mozambique to adopt policies and strategies for the exploration and production of these resources, with the record of a growing significant socioeconomic impact.

The year 2022 was marked by activities that boosted the sector's participation in the National Gross Domestic Product, from a production perspective. We highlight the beginning of production and export of liquefied Natural Gas, the introduction of new mineral production techniques, the tracking of precious metals and gemes, inspection and supervision actions and the increase of the availability of energy for domestic consumption and export, which allowed the capture of more resources and an impact on revenues.

As we consider it essential to share data regarding the behaviour of the main indicators of the country's mining, hydrocarbon and energy sector, throughout 2021 and 2022, we present the second edition of the Extractive Industry Statistical Report.

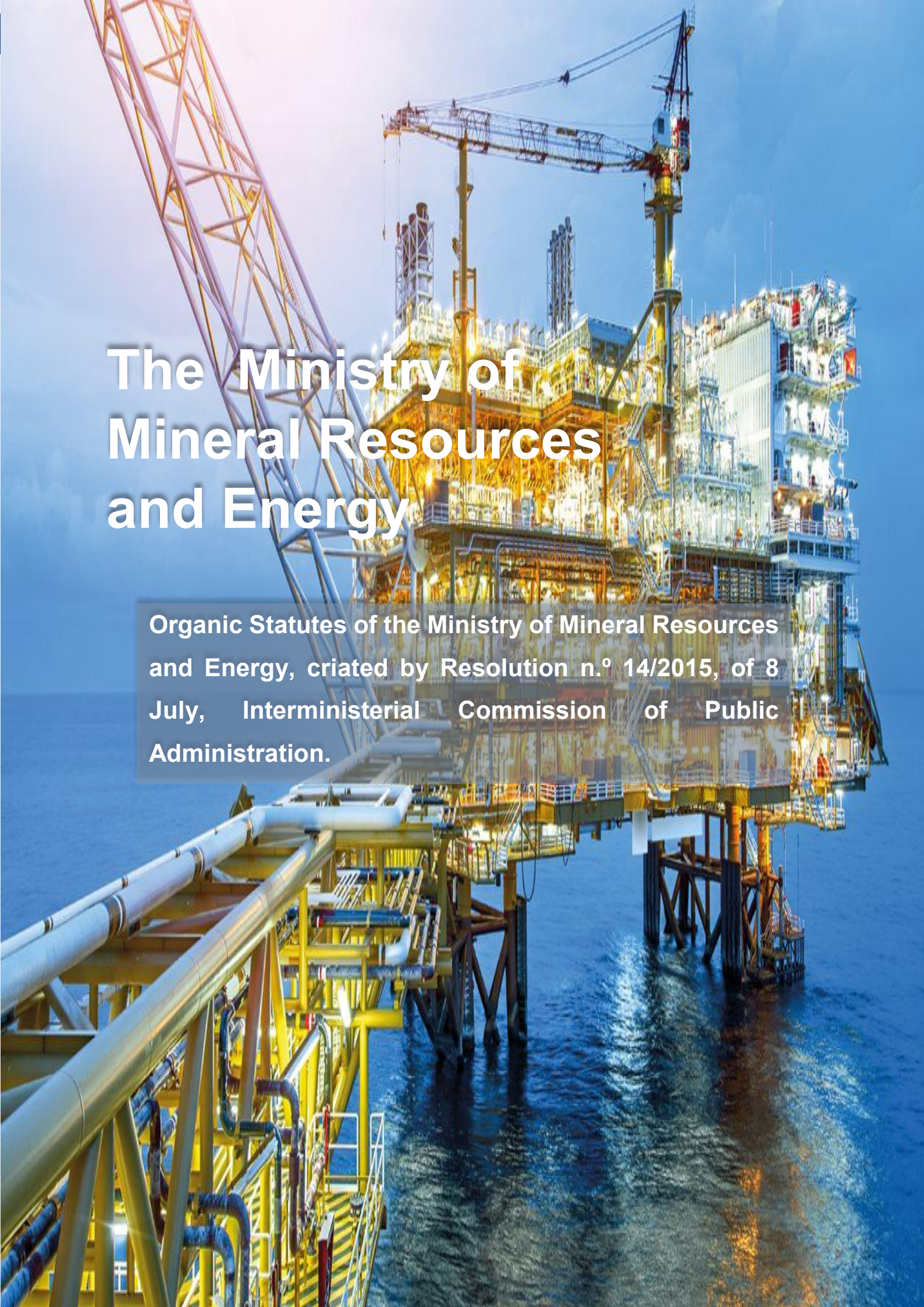
The Report constitutes a guiding document with essential statistical information for planning, definition and redefinition of governance instruments at various levels.

In our sector, the data will reposition our vision set out in the Strategic Plan of the Ministry of Mineral Resources and Energy, aiming at increasing contribution of our resources to socioeconomic and sustainable development, poverty reduction, without neglecting qualitative management based on ethics and transparency.

I express my thanks to all involved in the mining area through organic units, subordinated institutions and those supervised by MIREME for their support and valuable contribution in the process of preparing this statistical report.

Carlos Joaquim Zacarias

Minister of Mineral Resources and Energy



The Ministry of Mineral Resources and Energy

Organic Statutes of the Ministry of Mineral Resources and Energy, criated by Resolution n.º 14/2015, of 8 July, Interministerial Commission of Public Administration.

Nature

The Ministry of Mineral Resources and Energy is the central body of the State Apparatus that, in accordance with the principles, objectives and tasks defined by the Government, directd and ensure the executions of Government policy of geological reserch, exploration of mineral and energy resurces, and in the development and expansion of infrastructures for the supply of electricity, natural gas and petroleum products.

Vision

To be an efficient government entity that contributes to socioeconomic development through exploration and sustainable use of Mineral and Energy Resources.

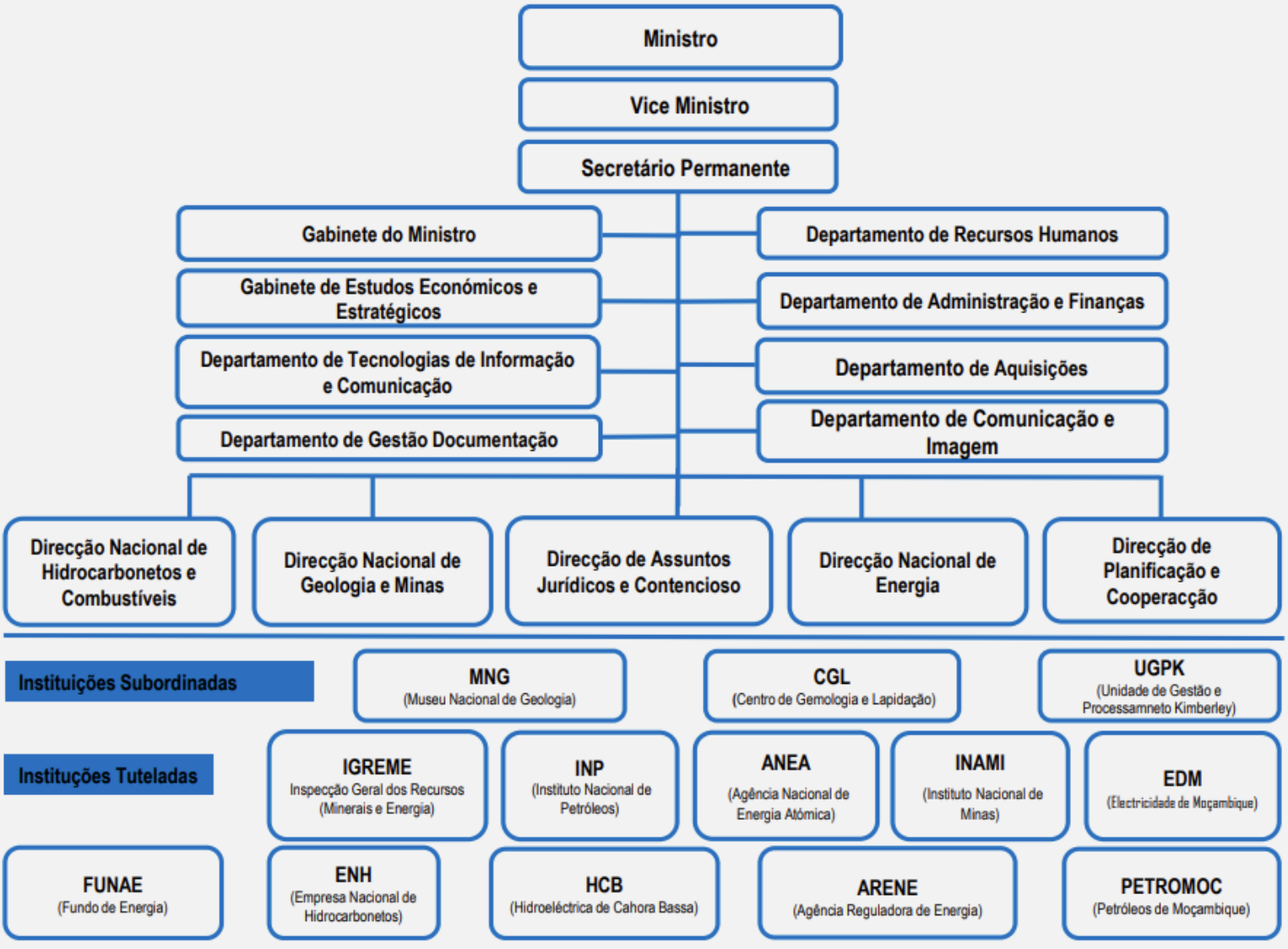
Mission

Ensure the adoption and implementaion of policies and standards that ensure the rational use of Mineral and Energy Resoources to creat wealth and harmonious developmet of the Country.

Values

- Excellency
- Meritocracy
- Impartiality
- Serve well
- Professionalism
- Transparency
- Integrity
- Accountability

Organizational Structure



Production of Minerals with greater weight in the global structure, 2021 – 2022.

2021		2022
764 kg Gold	↑	1 264 kg Gold
5 011 723 cts Ruby	↓	4 212 042 cts Ruby
2 215 844 t Heavy Sands	↑	2 711 488 t Heavy Sands
77 116 t Graphite	↑	165 932 t Graphite
11 079 683 t Coal	↑	14 806 233 t Coal
180 262 281 GJ Natural Gas	↑	187 700 622 GJ Natural Gas
266 327 bbl Condensed Gas	↑	555 806 bbl Condensed Gas

Domestic Gross Product, Extractive Industry Branch: Percentage Change in volume (Year-on-year Período), 2020 – 2022.

	2020	2021	2022
I Quarter	-10,3 %	-15,5%	7,0%
II Quarter	-24,3%	4,0%	7,6%
IIIQuarter	-14,9%	8,3%	7,3%
IV Quarter	-11,7%	10,2%	13,2%

Source: National Statistics Institute, 2023

ACRONYMS AND ABBREVIATIONS

DNGM	National Geology and Mines Directorate
DPC	Planning and Cooperation Directorate
INAMI	National Institute of Mines
INE	Nacional Statistics Institute
INP	Nacional Petroleum Institute
ODINE	Delegated Body of the National Statistics Institute
SEN	National Statistical System
UGPK	Kimberley Management and Processing Unit
U.M.	Unit of Measurement

UNITS OF MEASUREMENTS

%	Percentage
bbl	Barrel
cts	Carates
GJ	Gigajoules
kg	Kilogram
MT	Metical
m^3	Cubic Metre
t	Tonnes
USD	American Dollar
10^6	Millions

CONVENTIONAL SIGNS

-	Null result
..	Category not applicable
…	Data not available at the date of publication
0	Data much smaller than the unit used
*****	Preliminary data
``	I estimated
n	Result not determined

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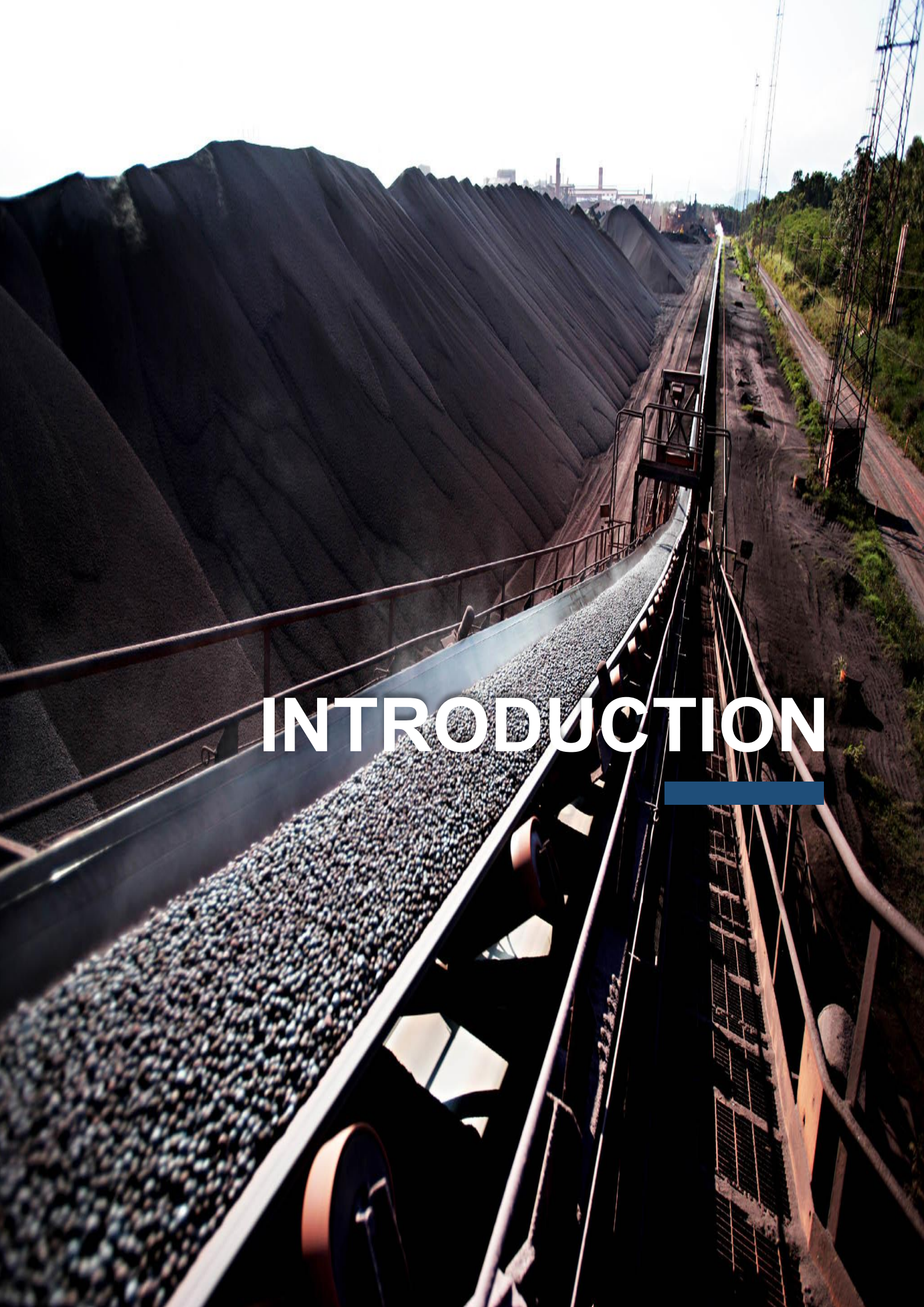


INTRODUCTION

Mozambique has a vast potential for mineral resources; these resources have been driving the country's socioeconomic development and contributing significantly to the Gross Domestic Product (GDP). The Mineral Resources Policy and Strategy emphasizes that it is important that the management and exploitation are carried out in a sustainable and transparent manner so that the resulting benefits contribute to raising standards of living of the Mozambicans today and future generations and to economic transformation of the country.

The main objectives of the mineral resources policy are: Make them one of the main contributors to the country's industrialization and development, economic diversification and transformation and improve the country's balance of payments; Optimize mineral and hydrocarbon production; Add value to the mineral resources in the country; Promote the participation of the national cooperative, associative private sector, granting the right of preference to nationals in the case of identifying mineralized bodies with economic value; Promote gender equity de género; assegurar o desenvolvimento institucional.

In this context, MIREME presents the statistical report on Extractive Industry 2021 to 2022, which falls within the scope of the publications of SEN's Annual Activity and Budget Plan in the context of its powers as a Delegated Body of INE (ODINE).

01

MINERAL RESOURCES

1.1. PRODUCTION

1.1.1. Annual production of mineral resources , 2021 - 2022.

The mining sector presented a positive performance resulting from several screening actions of artisanal mining and an increase in the capabilities and liberalization of mining companies. In 2022, in the group of metallic minerals, gold production recorded a growth of 65,3% compared to 2021.

Ilmenite also stood out with a growth of 23,3% compared to the same period last year resulting from the increase in mining production in Moma, an increase in the number of customers in the international market and companies that were paralized at the beginning of 2021. Due to the Gems and precious metal tracking actions carried out by the sector, products such as Refuse Aquamarine, and Aquamarine exceeded the production plan targets.

Ruby decreased by 16,0% resulting from security instability om the Province of Cabo Delgado.

Fuel minerals, cooking coal and thermal coal recorded a growth of 11,4% and 57,5%, respectively, with emphasis on thermal coal derived from high production levels.

Table 1: Annual Production and percentage change, 2021 - 2022

Product	U.M.	Year 2021	Year 2022	Variation 2022/2021 (%)
Metallic Minerals				
Gold	kg	764	1 264	65,3
Tantalite	kg	178 449	210 547	18,0
Ilmenite	t	2 071 046	2 553 269	23,3
Zircon	t	123 011	134 082	9,0
Rutile	t	8 915	8 869	-0,5
Heavy Sands Concentrate	t	12 872	15 268	18,6
Non-Metallic Minerals				
Beryl	t	330	629	90,5
Refuse Beryl	t	-	656	..
Graphite	t	77 116	165 932	115,2
Diverse Quartz	kg	1 189 329	2 632 526	121,3
Quartzo Rosa	kg	-	878 559	..
Corundum	kg	8 628	37 896	339,2
Refuse Corundum	kg	-	6 000	..
Bentonite	t	118 692	113 985	-4,0
Diatomite	t	72 914	51 449	-29,4
Limestone	t	1 619 681	1 776 559	9,7
Sand for Construction	m^3	5 538 527	3 218 900	-41,9
Clay	t	1 979 489	1 813 751	-8,4
Bauxite	t	7 852	14 583	85,7
Mineral water	m^3	-	59 448	..
Stone for Construction (crushed stone)	m^3	2 156 867	2 195 307	1,8
Guano	t	-	15	..
Ornamental Rocks				
Granite in Blocks	m^3	842	4 260	406,0

Continua…

Precious and Semi- Precious Stones				
Tourmalines	kg	2 680	1 304	-51,3
Refuse Tourmaline	kg	133 379	228 021	71,0
Garnet	kg	-	224 163	..
Refuse Granade	kg	172 035	17 239	-90,0
Aquamarine	kg	27	621	2 221,6
Refuse Aquamarine	kg	3	2 523	94 043,7
Morganite	kg	358	398	11,3
Ruby	cts	5 011 723	4 212 042	-16,0
Refuse Ruby	cts	-	2 900	..
Durmortieritis	kg	-	97 050	..
Rhodonitis	kg	-	1 200	..
Agate	kg	-	895 267	..
Sapphire	kg	-	1	..
Hesonite Garnet	kg	-	290 439	..
Emerald	kg	-	100	..
Amazonite	kg	-	330 930	..
Topaz	kg	-	500	..
Fuel Minerals				
Coal (Coke)	t	5 732 902	6 385 797	11,4
Coal (Thermal)	t	5 346 781	8 420 436	57,5

Source: National Institute of Mines, 2021/2022

1.1.2. Mineral production per quarter in 2021

Over the four quarters of 2021, the growth of the following ores stood out: Ruby, Coal, Sand for Construction, Stone for Construction (crushed stone), Ilmenite and Gold. Heavy Sand, namely: Ilmenite, Zircon, Rutile and Heavy Sands Concentrate achieved a positive performance as a result of better technical production capabilities and an increase in the number of customers in the foreign market.

Actions were developed to control of artisanal mining activities and screening actions by the Management Unit of Kimberley Process that culminated in a significant increase in the production chain of the group of precious and semi-precious stones.

Table 2: Mineral Production per quarter, 2021

Product	U.M.	Quarter I	Quarter II	Quarter III	Quarter IV	Total
Metallic Minerals						
Gold	kg	101	152	196	315	764
Tantalite	kg	47 149	38 193	47 136	45 971	178 449
Ilmenite	t	496 418	514 584	569 788	490 256	2 071 046
Zircon	t	27 308	30 939	37 516	27 248	123 011
Rutile	t	1 948	2 205	2 704	2 058	8 915
Heavy Sand Concentrate	t	2 324	3 310	3 552	3 686	12 872
Non-Metallic Minerals						
Beryl	t	18	141	158	13	330
Graphite	t	6 514	30 333	25 288	14 981	77 116
Diverse Quartz	kg	448 095	622 747	23 554	94 933	1 189 329
Corundum	kg	6 810	1 632	100	86	8 628
Bentonite	t	16 091	35 890	25 689	41 021	118 692
Diatomite	t	12 965	22 262	-	37 687	72 914
Limestone	t	277 755	499 381	631 650	210 895	1 619 681
Sand for Construction	m^3	564 046	3 426 019	1 049 430	499 032	5 538 527
Clay	t	187 412	83 665	1 063 202	645 210	1 979 489
Bauxite	t	2 588	2 114	1 119	2 031	7 852
Stone for Construction (crushed stone)	m^3	645 358	531 912	419 852	559 745	2 156 867
Ornamental Rocks						
Granite in Blocks	m^3	-	475	232	135	842
Precious and Semi- Precious Stones						
Tourmaline	kg	2	40	14	2 624	2 680
Refuse Tourmaline	kg	28 782	93 200	142	11 254	133 379
Refuse Garnet	kg	79 700	92 259	36	40	172 035
Aquamarine	kg	-	5	-	22	27
Refuse Aquamarine	kg	-	3	-	-	3
Morganite	kg	94	10	81	173	358
Ruby	cts	840 005	2 206 017	941 015	1 024 687	5 011 723
Fuel Minerals						
Coal (Coke)	t	997 977	1 465 925	1 590 398	1 678 602	5 732 902
Coal (Thermal)	t	721 071	1 330 508	1 578 948	1 716 254	5 346 781

Source: National Institute off Mines, 2021/2022

1.1.3. Mineral production per quarter in 2022

Over the four quarters of 2022, there was an increase in the mineral chain production resulting from the resumption of previously inactive operators. Products that stood out most due to their high growth rate in 2022 were Gold and Ilmenite; in group of non-metallic mineral, Graphite, Diatomite, Limestone and Ruby in the the Precious and Semi-Precious Stones.

Table 3: Mineral production of minerals per quarter, 2022

Product	U.M.	Quarter I	Quarter II	Quarter III	Quarter IV	Total
Metallic Minerals						
Gold	kg	226	318	326	394	1 264
Tantalite	kg	42 258	67 987	51 093	49 207	210 547
Ilmenite	t	506 734	578 497	729 746	738 292	2 553 269
Zircon	t	30 103	31 406	38 823	33 750	134 082
Rutile	t	1 963	2 077	2 590	2 239	8 869
Heavy Sands Concentrate	t	3 230	3 907	4 255	3 876	15 268
Non-Metallic Minerals						
Beryl	t	200	242	47	140	629
Refuse Beryl	t	90	173	326	67	656
Graphite	t	46 825	44 187	29 766	45 154	165 932
Diverse Quartz	kg	868 697	240 567	607 741	915 522	2 632 526
Rose Quartz	kg	281 539	189 000	306 020	102 000	878 559
Corundum	kg	19 706	3 260	6 833	8 098	37 896
Refuse Corundum	kg	0	6 000	-	-	6 000
Bentonite	t	18 644	29 885	40 284	25 172	113 985
Diatomite	t	9 995	11 960	-	29 494	51 449
Limestone	t	506 523	409 605	270 275	590 156	1 776 559
Sand for Construction	m^3	425 269	1 227 680	984 349	581 601	3 218 900
Clay	t	471 456	431 069	685 668	225 557	1 813 751
Bauxite	t	5 065	6 425	2 493	600	14 583
Mineral Water	m^3	9 453	15 629	21 359	13 007	59 448
Stone for Construction (crushed stone)	m^3	403 207	529 514	412 491	850 095	2 195 307
Guano	t	-	9	6	-	15
Ornamental Rocks						
Granite in Blocks	m^3	932	481	1 846	1 000	4 260

Continue…

Continuation

Precious and Semi- Precious Stones						
Tourmaline	kg	52	994	139	119	1 304
Refuse Tourmaline	kg	72 951	88 652	55 514	10 905	228 021
Garnet	kg	37 832	36 644	22 201	127 486	224 163
Refuse Garnet	kg	16 129	-	110	1 000	17 239
Aquamarine	kg	2	126	488	6	621
Refuse Aquamarine	kg	2	54	1 405	1 062	2 523
Morganite	kg	52	76	82	188	398
Ruby	cts	1 246 563	959 124	835 719	1 170 635	4 212 042
Refuse Ruby	cts	1 830	1 070	-	-	2 900
Durmortieritis	kg	49 000	23 050	25 000	-	97 050
Rodonitis	kg	200	1 000	0	-	1 200
Agate	kg	302 500	393 000	134 547	65 220	895 267
Sapphire	kg	0	-	1	0	1
Hesonite Garnet	kg	49 500	-	139 239	101 700	290 439
Emerald	kg	-	-	0	100	100
Amazonite	kg	36 300	127 500	101 630	65 500	330 930
Topaz	kg	87	370	-	43	500
Fuel Minerals						
Coal (Coke)	t	1 465 104	2 074 612	1 478 524	1 367 557	6 385 797
Coal (Thermal)	t	1 399 400	1 683 808	2 740 194	2 597 034	8 420 436

Source: National Institute of Mines, 2021/2022

1.2. EXPORT

1.2.1. Export of minerals, 2021 - 2022

The increase in the quantities produced in 2022 contributed to the increase in the quantities exported compared to 2021, with emphasis on the increase above 100% in Graphite and Granite in Blocks (revitalization of the company based in Manica and the emergence of a new company in Nampula) and an increase of Thermal Coal by 79,7%. Ruby, resulting from auctions in the international markets, indicates a growth rate of about 28,3% in 2022 when compared to the previous year.

Table 4: Annual Export of minerals, 2021 - 2022

		Year		Variation
Product	**U.M.**	**2021**	**2022**	**2022/2021 (%)**
Metallic Minerals				
Gold	kg	210	294	40,1
Tantalite	kg	198 223	117 391	-40,8
Ilmenite	t	2 225 367	2 428 179	9,1
Zircon	t	92 735	100 552	8,4
Rutile	t	3 639	13 054	258,7
Heavy Sand Concentrate	t	10 830	23 912	120,8
Non-Metallic Minerals				
Beryl	t	414	236	-43,1
Refuse Beryl	t	-	361	..
Graphite	t	68 853	153 928	123,6
Bentonite	t	72 826	77 233	6,1
Diatomite	t	330	60	-81,8
Bauxite	t	4 937	6 538	32,4
Diverse Quartz	kg	1 893 117	3 327 413	75,8
Corundum	kg	17 501	79 951	356,9
Ornamental Rocks				
Granite in Blocks	m^3	23	3 027	13 278,2
Precious and Semi- Precious Stones				
Tourmaline	kg	48	19	-59,5
Refuse Tourmaline	kg	502 142	200 039	-60,2
Aquamarine	kg	1 666	192	-88,5
Refuse Aquamarine	kg	145	2 638	1 720,2
Refuse Garnet	kg	203 688	42 159	-79,3
Morganite	kg	96	83	-14,2
Ruby	cts	2 224 946	2 853 862	28,3
Agate	kg	-	985 348	..
Rose Quartz	kg	-	1 055 276	..
Durmortieritis	kg	-	48 000	..
Rodonite	kg	-	1 001	..
Amazonitis	kg	-	191 300	..
Garnet	kg	-	762 330	..
Refuse Corundum	kg	-	4 010	..
Hesonite Garnet	kg	-	293 240	..
Emerald	kg	-	120	..
Sapphire	kg	-	1	..
Topaz	kg	-	185	..
Fuel Minerals				
Coal (Coke)	t	5 222 338	4 798 615	-8,1
Coal (Thermal)	t	5 261 346	9 452 082	79,7

Source: National Institute of Mines, 2021/2022

1.2.2. Export of minerals per quarter in 2021

Breaking down data by quarter, Ruby stands out destaca-se o minério Ruby, with the largest quantity exported in 2021 and with the greatest representation in the global weight structure, followed by coal. Ilmenite, zircon and graphite also contributed to the increase in exports.

Table 5: Export of minerals per quarter, 2021

Product	U.M.	Quarter I	Quarter II	Quarter II	Quarter IV	Total
Metallic Minerals						
Gold	kg	18	92	3	97	210
Tantalite	kg	89 055	32 390	42 021	34 757	198 223
Ilmenite	t	544 695	435 169	493 062	752 442	2 225 367
Zircon	t	17 806	18 182	29 704	27 043	92 735
Rutile	t	-	-	3 639	-	3 639
Heavy Sands Concentrate	t	4 803	-	6 027	-	10 830
Non-Metallic Minerals						
Beryl	t	24	44	269	77	414
Graphite	t	1 910	29 038	22 383	15 522	68 853
Bentonite	t	750	1 090	-	70 986	72 826
Diatomite	t	60	90	90	90	330
Bauxite	t	2 588	2 114	235	-	4 937
Diverse Quartz	kg	419 385	374 257	341 166	758 309	1 893 117
Corundum	kg	2 780	1 200	4 520	9 000	17 501
Ornamental Rocks						
Granite in Blocks	m^3	-	-	-	23	23
Precious and Semi- Precious Rocks						
Tourmaline	kg	-	0	2	45	48
Refuse Tourmaline	kg	13 440	139 712	284 783	64 207	502 142
Aquamarines	kg	-	2	1 664	-	1 666
Refuse Aquamarines	kg	3	136	6	-	145
Refuse Garnet	kg	102 600	65 200	34 888	1 000	203 688
Morganite	kg	-	-	-	96	96
Ruby	cts	142 151	747 562	1 223 870	111 364	2 224 946
Fuel Minerals						
Coal (Coke)	t	896 635	1 215 350	1 600 893	1 509 461	5 222 338
Coal (Thermal)	t	736 443	1 224 358	1 528 255	1 772 290	5 261 346

Source: National Institute of Mines, 2021/2022

1.2.3. Export of minerals per quarter em 2022

The evolution over the quarter of 2022 illustrates one of the trends of increasing quantities of products exported, characterised by an increase in production volume, relaxation of restrictions imposed by the COVID -19 pandemic and control of the market flow of minerals.adro 6: Exportação de minerais por trimestre, 2022

Table 6: Export of minerals per quarter, 2022

Product	U.M.	Quarter I	Quarter II	Quarter III	Quarter IV	Total
Metallic Minerals						
Gold	kg	86	17	113	79	294
Tantalite	kg	33 094	-	67 755	16 542	117 391
Ilmenite	t	482 080	496 493	902 416	547 190	2 428 179
Zircon	t	16 258	19 467	27 621	37 206	100 552
Rutile	t	4 905	-	5 339	2 810	13 054
Heavy Sands Concentrate	t	12 001	-	5 900	6 011	23 912
Non-Metallic Minerals						
Beryl	t	10	47	88	90	236
Refuse Beryl	t	97	125	123	17	361
Graphite	t	43 474	44 213	36 668	29 573	153 928
Bentonite	t	4 800	21 105	33 762	17 566	77 233
Diatomite	t	-	-	-	60	60
Bauxite	t	3 486	1 503	1 230	319	6 538
Diverse Quartz	kg	772 900	258 121	876 491	1 419 901	3 327 413
Corundum	kg	21 120	2 069	56 331	431	79 951
Ornamental Rocks						
Granite in Blocks	m^3	820	263	1 377	567	3 027

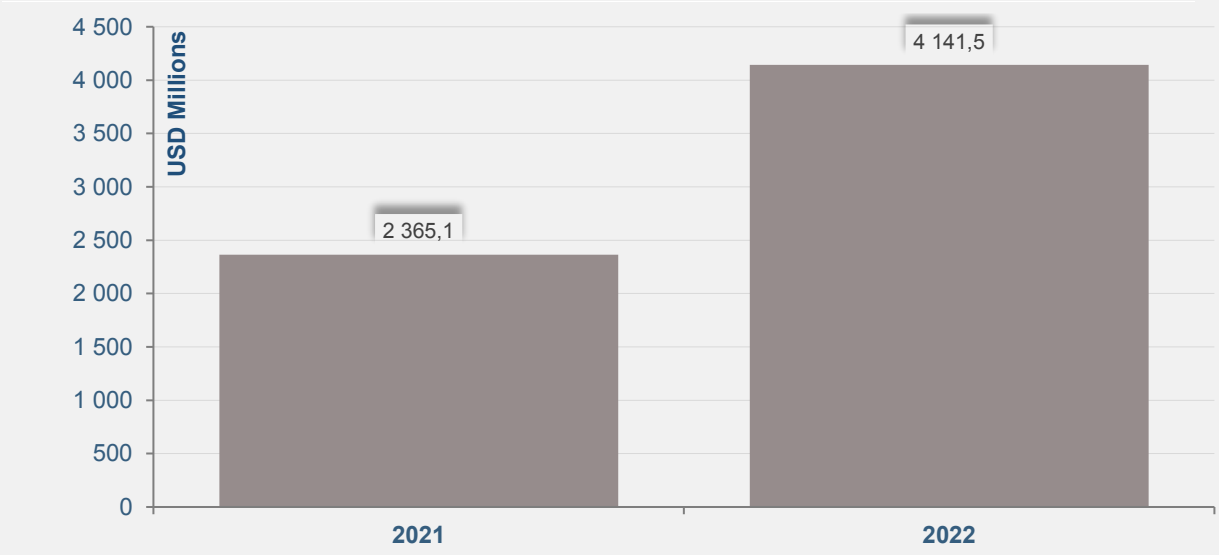
Continue…

Precious and Semi- Precious Stones						
Tourmaline	kg	11	1	5	2	19
Refuse Tourmaline	kg	95 690	30 698	40 713	32 938	200 039
Aquamarine	kg	2	0	131	59	192
Refuse Aquamarine	kg	1	188	1 332	1 117	2 638
Refuse Garnet	kg	16 129	25 270	150	610	42 159
Morganite	kg	-	0	13	70	83
Ruby	cts	648 946	834 017	864 876	506 023	2 853 862
Agate	kg	255 500	434 500	83 548	211 800	985 348
Rose Quartz	kg	189 124	207 500	227 720	430 932	1 055 276
Durmortieritis	kg	-	23 000	25 000	-	48 000
Rodonitis	kg	-	1 001	0	-	1 001
Amazonite	kg	11 300	101 500	2 000	76 500	191 300
Garnet	kg	37 374	400 085	219 831	105 040	762 330
Refuse Corundum	kg	-	-	10	4 000	4 010
Hesonite Garnet	kg	49 500	9 000	138 238	96 501	293 240
Emerald	kg	-	-	20	100	120
Sapphire	kg	-	1	-	0	1
Topaz	kg	87	3	-	95	185
Fuel Minerals						
Coal (Coke)	t	1 227 344	1 240 536	1 133 205	1 197 530	4 798 615
Coal (Thermal)	t	1 235 898	1 754 955	3 316 497	3 144 731	9 452 082

Source: National Institute of Mines, 2021/2022

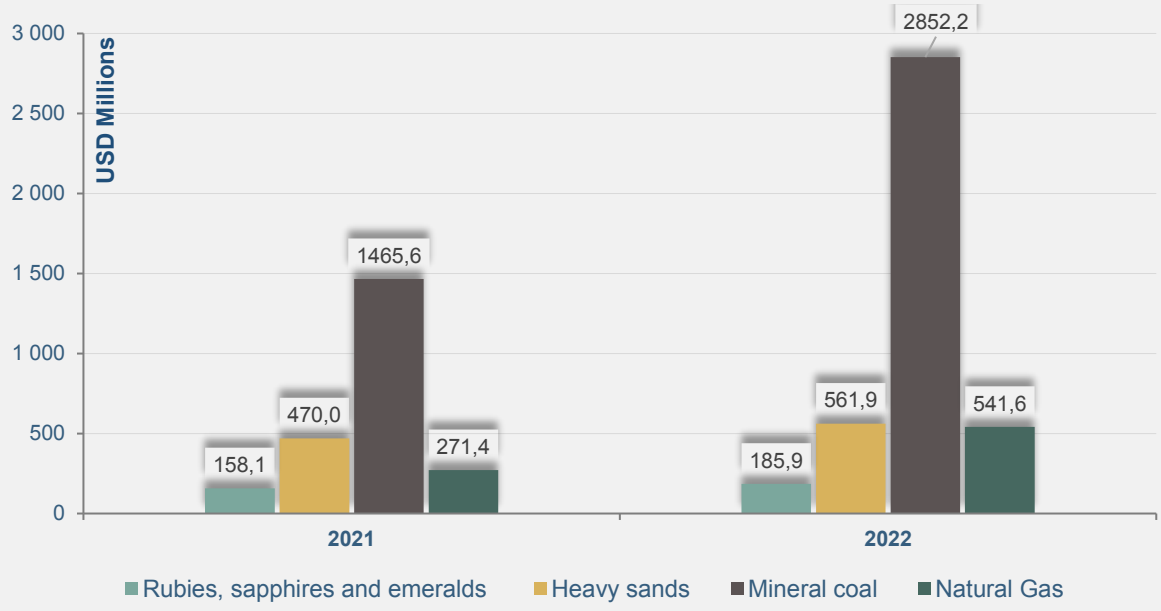
1.2.4. Extractive Industry Exports in Values

Chart 1: Total export of the Extractive Industry (USD), 2021 - 2022



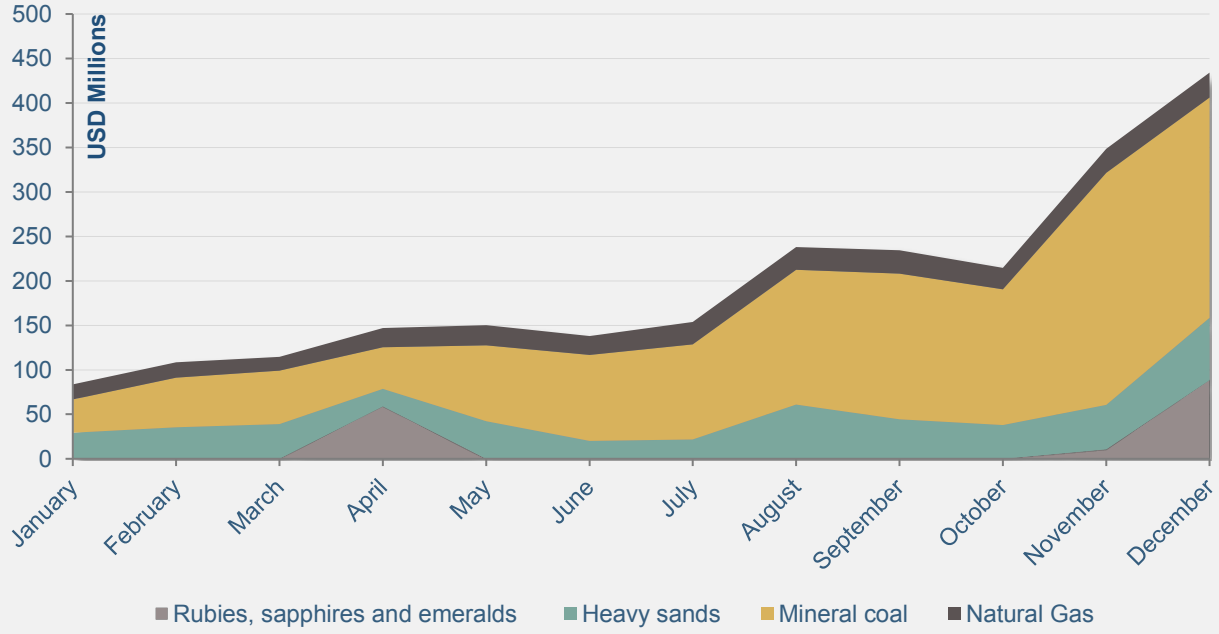
Source: Banco de Moçambique - Mozambique's Central Bank, 2023

Chart 2: Extractive Industry Export by product (USD), 2021 - 2022



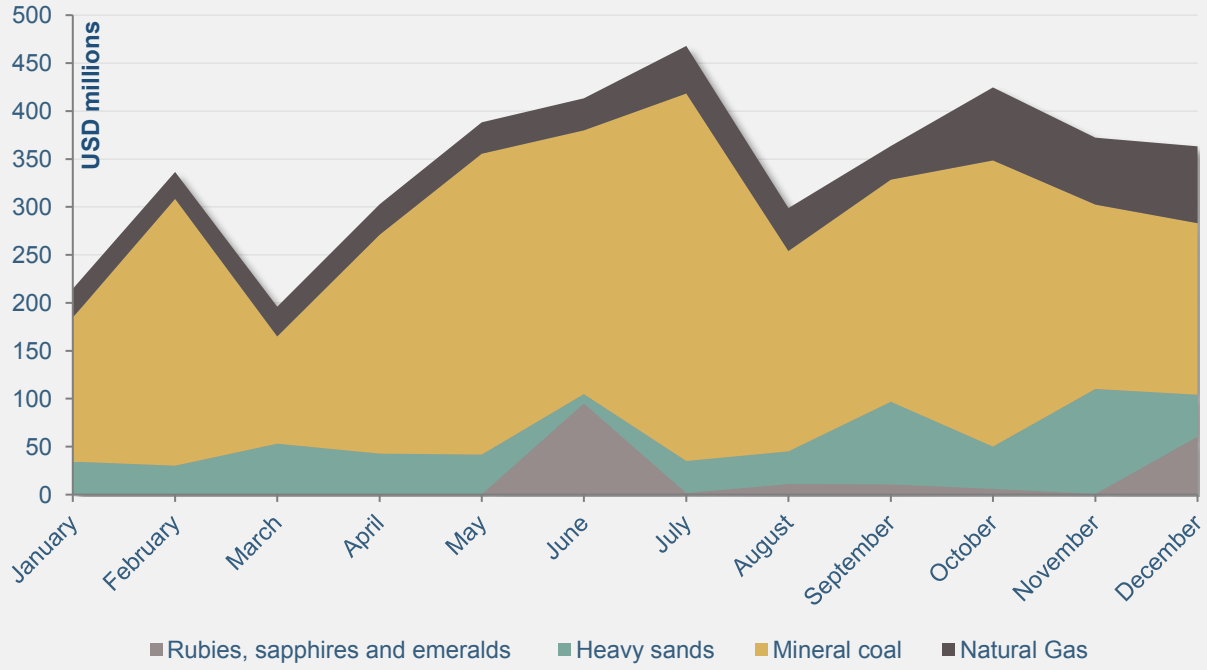
Source: Banco de Moçambique - Mozambique's Central Bank, 2023

Chart 3: Monthly export of the Extractive Industry by product (USD), 2021



Source: Banco de Moçambique - Mozambique's Central Bank, 2023

Chart 4: Monthly export of the Extractive Industry per product (USD), 2022



Source: Banco de Moçambique - Mozambique's Central Bank, 2023

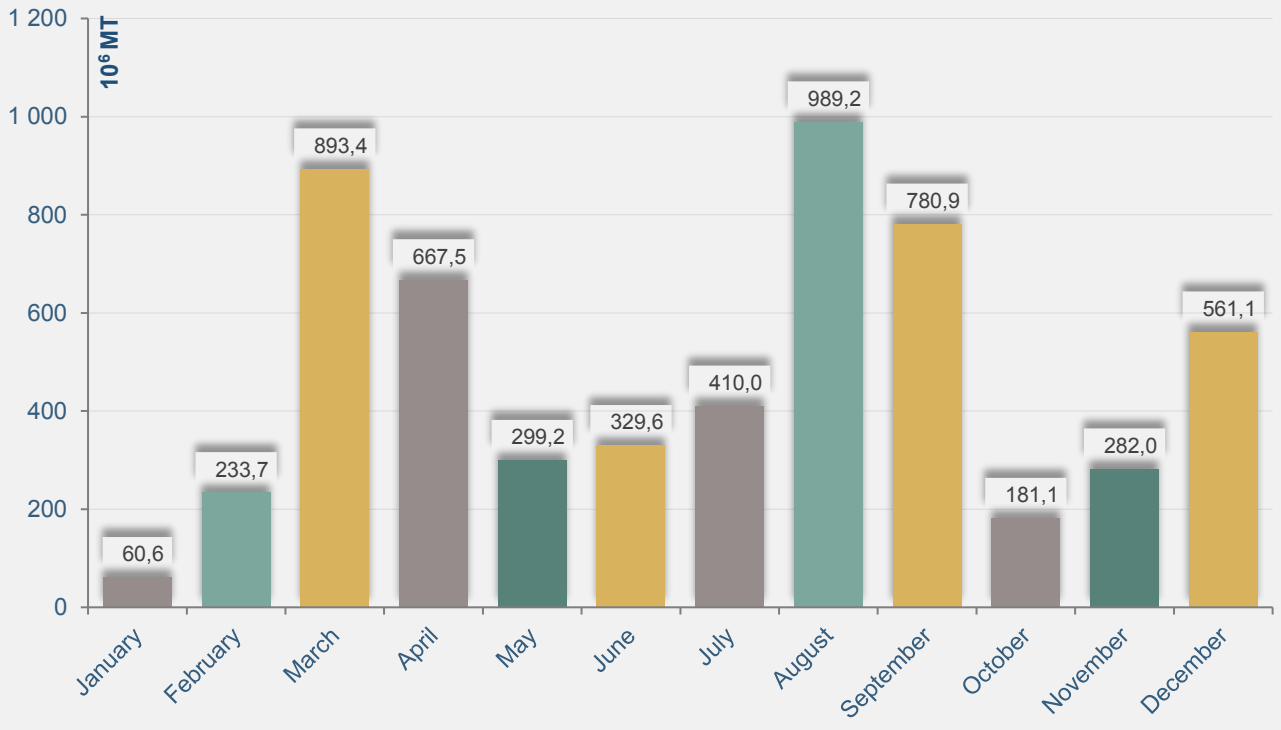
1.2.5. Sales of Precious Metals and Gems

Table 7: Quantity and volume of sales at Ruby auctions (USD), 2022

Period	Quantity (cts)	Sale (USD)
21 - 29 April	1 292 732,05	19 002 870,93
30 June - 17 July	514 913,00	95 637 767,92
19 - 23 September	3 618 016,46	4 181 512,24
03 - 07 October	158 105,20	4 053 698,03
14 - 21 October	465 059,25	18 693 582,95
21 November - 08 December	525 245,00	66 841 582,04
Total	**6 574 070,96**	**208 411 014,11**

Source: Kimberley Process and Management Unit, 2022

Graph 5: Monthly export value of Precious Metals and Gems in Meticals (10^6), 2022



Source: Kimberley Process and Management Unit, 2022

Table 8: Export value of Precious Metals and Gems per destination (10^6 MT), 2022

Destination	Export (10^6 MT)
South Africa	1,9
Germany	8,0
China	174,3
United Arab Emirates	3 610,7
United States of America	139,6
France	2,7
India	7,5
Italy	0,2
Lebanon	0,2
Portugal	0,2
United Kingdom	0,0
Singapore	1 020,8
Sri Lanka	5,7
Switzerland	0,0
Thailand	707
Tanzania	1,2
Vietnam	8,2
Total	5 688,2

Source: Kimberley Process and Management Unit, 2022

1.3. SALES

1.3.1 Sale of minerals on the national market in 2021 - 2022

The sale of mineral on the national market in 2022 showed decreased trends, with exception of Limestone, which registered an increase of 115,6% compared to 2021.

Table 9: Sale of minerals on the national market, 2021 - 2022

		Year		Variation
Product	**U.M.**	**2021**	**2022**	**2022/2021 (%)**
Fuel Minerals				
Coal (Thermal)	t	10 789	2 193	-79,7
Non-Metallic Minerals				
Diatomite	t	72 584	69 167	-4,7
Limestone	t	379 278	817 589	115,6
Clay	t	85 997	29 199	-66,0
Sand for Construction	m^3	4 100 252	1 144 206	-72,1
Mineral Water	m^3	-	45 994	..
Bentonite	t	-	183	..
Guano	t	-	22	..
Stone for Construction (crushed stone)	m^3	893 289	884 367	-1,0
Metallic Minerals				
Gold	kg	-	159	..

Source: National Institute of Mines, 2021/2022

1.3.2. Sale of minerals on the national market per quarter in 2021

Breaking down by quarter, data shows that the sale of thermal coal suffered a reduction throughout the year in the domestic market, whereas ores showed an increase in sales in the fourth quarter in all products, with the exception of sand for construction. However, this product had larger amount of consumption in the country.

Table 10: Sale of mineral on the national market per quarter, 2021

Product	U.M.	Quarter I	Quarter II	Quarter III	Quarter IV	Total
Fuel Minerals						
Coal (Thermal)	t	4 111	5 989	151	538	10 789
Non-Metallic Minerals						
Diatomite	t	12 845	22 202	13 545	23 991	72 584
Limestone	t	61 233	160 363	65 628	92 055	379 278
Clay	t	489	2 340	-	83 168	85 997
Sand for Construction	m^3	485 670	3 206 245	276 183	132 155	4 100 252
Stone for Constructions (crushed stone)	m^3	201 399	87 840	64 754	539 296	893 289

Source: National Institute of Mines, 2021/2022

1.3.3. Sale of minerals on the national market per quarter in 2022

2022 stood out in the inclusion of new minerals in the Annual Plan, namely: Mineral Water, Bentonite, Guano and Gold. In general, the products showed fluctuations in the market over the quarters, with greater focus on the second quarter, when there was a greater consumption.

Table 11: Sale of minerals on the national market per quarter, 2022

Product	U.M.	Quarter I	Quarter II	Quarter III	QuarterIV	Total
Fuel Minerals						
Coal (Thermal)	t	-	-	2 193	-	2 193
Non-Metallic Minerals						
Diatomite	t	9 995	11 960	17 778	29 434	69 167
Limestone	t	82 779	508 301	116 559	109 950	817 589
Clay	t	765	1 301	726	26 406	29 199
Sand for Construction	m^3	319 929	216 477	257 610	350 189	1 144 206
Mineral Water	m^3	8 000	11 884	12 254	13 856	45 994
Bentonite	t	4	79	64	36	183
Guano	t	4	7	8	3	22
Stone for Construction (crushed stone)	m^3	172 581	323 161	249 571	139 054	884 367
Metallic Minerals						
Gold	kg	20	41	44	54	159

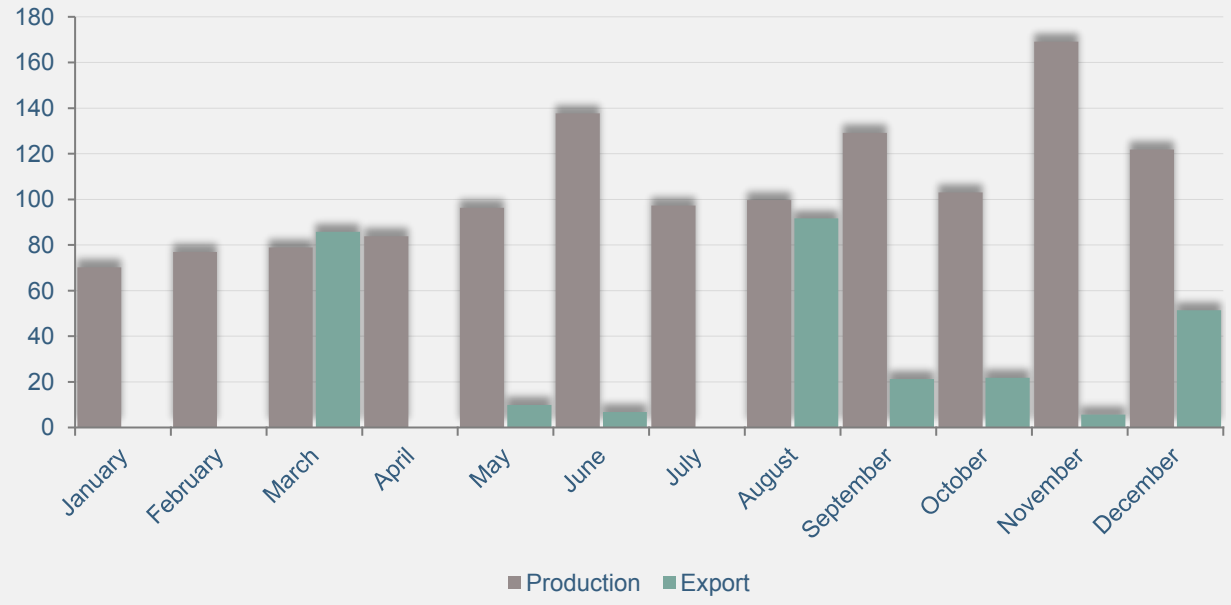
Source: National Institute of Mines, 2021/2022

Table 12: Production and export with greater weight in the global structure of minerals, 2020 - 2022

		Year			Variation	
Product	**U.M.**	**2020**	**2021**	**2022**	**2021/2020 (%)**	**2022/2021 (%)**
			Production			
Gold	kg	488	764	1 264	56,7	65,3
Ruby	cts	1 598 796	5 011 723	4 212 042	213,5	-16,0
Heavy Sand	t	1 725 374	2 215 844	2 711 488	28,4	22,4
Graphite	t	18 159	77 116	165 932	324,7	115,2
Coal (Coke)	t	4 670 626	5 732 902	6 385 797	22,7	11,4
Coal (Thermal)	t	3 370 585	5 346 781	8 420 436	58,6	57,5
			Export			
Gold	kg	368	210	294	-43,0	40,1
Ruby	cts	-	2 224 946	2 853 862	..	28,3
Heavy Sand	t	1 304 819	2 332 571	2 565 697	78,8	10,0
Graphite	t	23 637	68 853	153 928	191,3	123,6
Coal (Coke)	t	4 139 570	5 222 338	4 798 615	26,2	-8,1
Coal (Thermal)	t	3 201 676	5 261 346	9 452 082	64,3	79,7

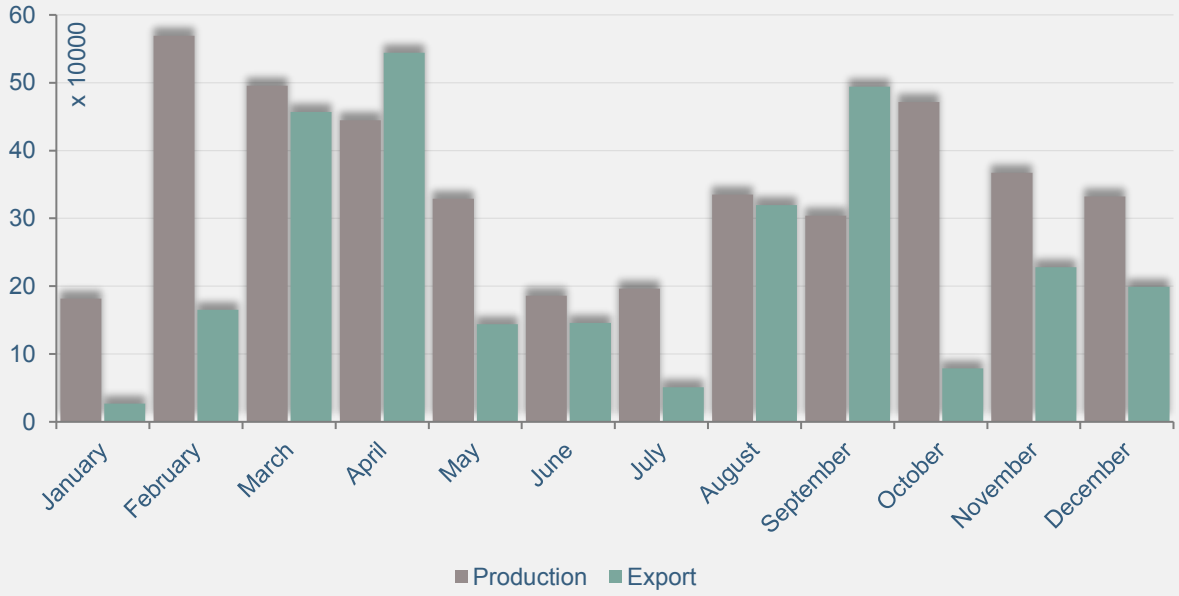
Source: National Institute of Mines, 2021/2022

Chart 6: Monthly Gold production and export (kg), 2022



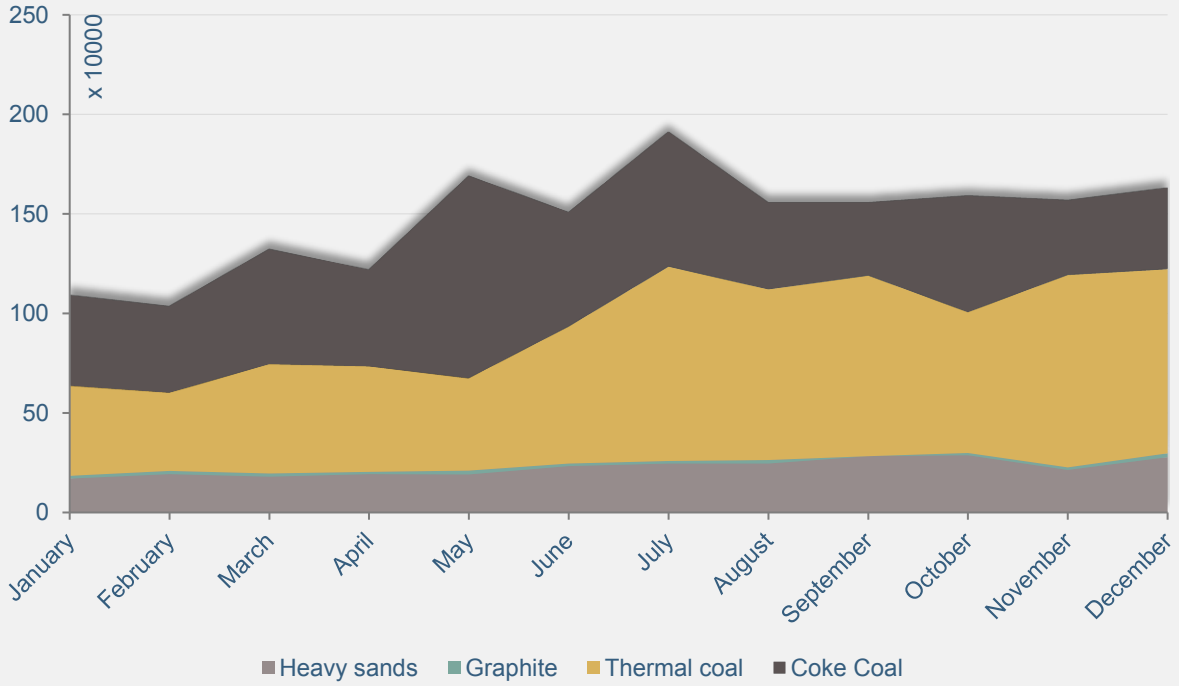
Source : National Institute of Mines, 2021/2022

Chart 7: Monthly production and export of Ruby (cts), 2022



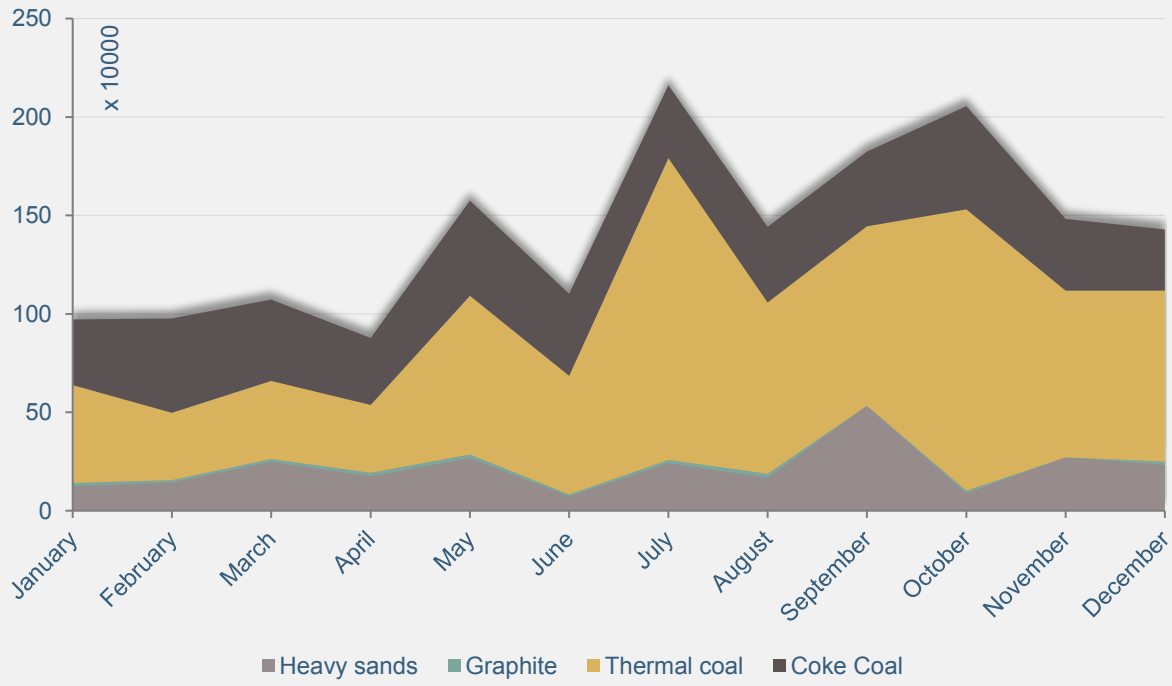
Source: National Institute of Mies, 2021/2022

Chart 8: Monthly production of Heavy Sands, Graphite and Coal (t), 2022



Source: National Institute of Mines, 2021/2022

Chart 9: Monthly export of Heavy Sands, Graphite and Coal (t), 2022



Source: National Institute of Mines, 2021/2022

1.4. LICENSING

Table 13: License number by type, 2021

License Type	Requests submitted by the third quarter of 2021	Total orders across the country by 30.09.2021	Titles issued/in force in the third quarter of 2021	Titles issued/in force across the country by 30.09.2021	Titles issued to Mozambicans
Prospecting and search License	110	1 453	44	854	11
Mining Concession	42	264	11	325	4
Mining Certificates	70	402	26	563	26
Mineira Password/Shibboleth	33	21	18	63	18
Mining Treatment License	1	1	-	1	-
Mining Processing License	-	2	-	-	-
Sub. Total Lic. Spatial	**256**	**2 143**	**99**	**1 806**	**59**
Commercialization License	69	249	46	459	46
Sub. Total	**325**	**2 392**	**145**	**2 265**	**105**
Authorization to extract material construction	3	29	2	24	-
Designated Area for Mining Password/Shibboleth	11	21	2	107	-
Reserved Areas	1	22	-	2	-
Competition/Tendering areas	5	31	-	95	-
Total	**345**	**2 495**	**149**	**2 493**	**105**

Source: National Institute of Mines, 2021

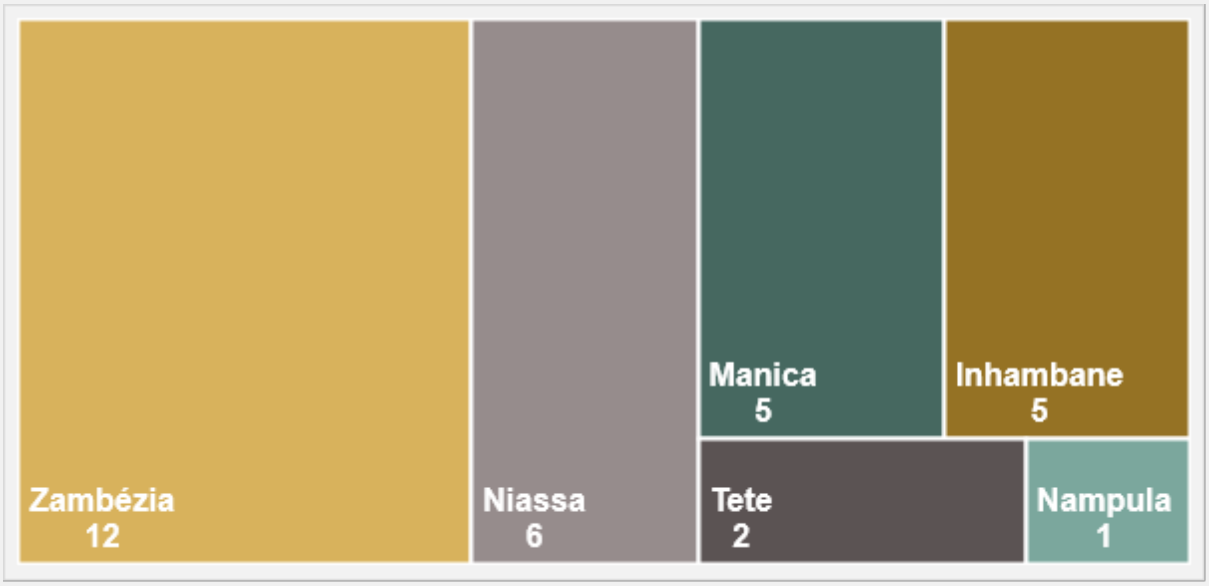
Table 14: License number by type, 2022

Licença Type	Requests submitted in 2022	Total orders across the country by 31.12.2022	Titles issued in 2022	Titles in force across the country by 31.12.2022	Titles issues to Mozambicans
Prospecting and search License	153	1 413	90	784	-
Mining Concession	86	329	14	340	-
Mining Certificate	67	454	22	566	22
Mining Password/Shibboleth	31	29	8	87	8
Mining Treatment License	-	1	-	-	-
Mining Processing License	-	1	1	2	-
Sub. Total Lic. Spatial	**337**	**2 227**	**135**	**1 779**	**30**
Commercialization License	110	165	126	647	126
Sub. Total	**447**	**2 392**	**261**	**2 426**	**156**
Authorization to extract material for construction	36	30	34	55	34
Designated Area for Mining Password/Shibboleth	19	17	13	35	13
Reserved Areas	36	69	-	1	-
Areas for Competition/Tendering	23	58	-	80	-
Total	**561**	**2 566**	**308**	**2 597**	**203**

Resource: National Institute of Mines, 2022

1.5. ARTISAN MINING

Chart 10: Number of formalized cooperatives in the country, 2021 - 2022



Source: National Directorate of Geologia and Mining, 2021/2022

Table 15: Number of formalized cooperatives per mineral and province, 2021

Province	Mineral	N° of Cooperatives	N° of Companies
Total		**12**	**4**
Niassa	Gold	4	
Zambézia	Sand for Construction	1	
	Gold	2	
	Gems	2	
	Precious Stone	1	
Tete	Gold	2	
Manica	Gold		4

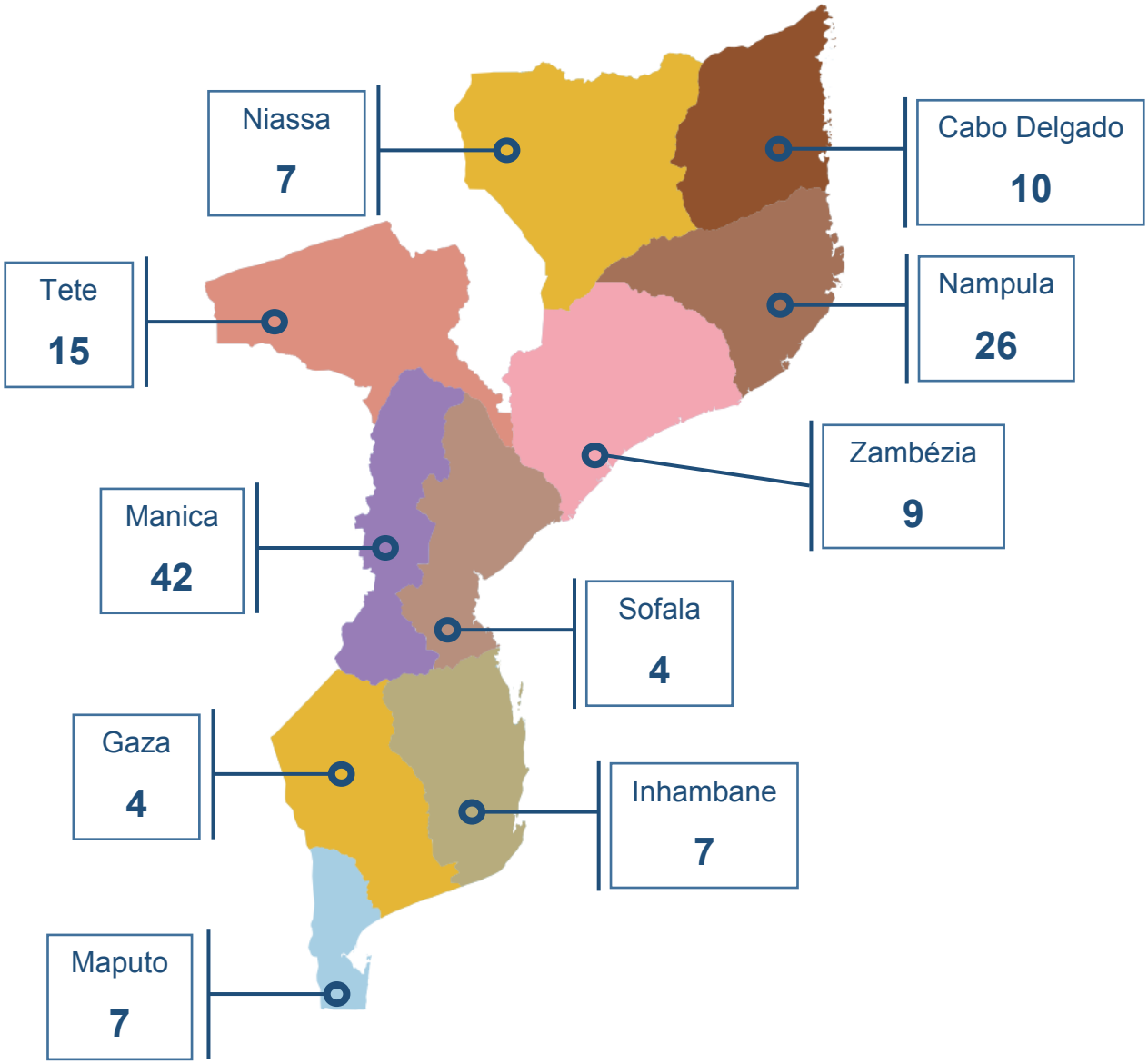
Source: National Directorate of Geologia and Mining, 2021/2022

Table 16: Number of formalized cooperatives per mineral and province, 2022

Province	Mineral	N° of Cooperatives
Total		**15**
Niassa	Gold	2
Nampula	Gems	1
Zambézia	Gems	5
	Gold	1
Manica	Gold	1
Inhambane	Mimestone	3
	Clay	2

Source: National Directorate of Geologia and Mining, 2021/2022

Figure 1: Number of areas designated for Small-Scale Artisanal Mining per Province, 2022



Source:National Directorate of Geologia and Mining, 2021/2022

02

HYDROCARBONS

2.1. PRODUCTION

Table 17: Annual hydrocarbon production, 2021 - 2022

		Year		Variation
Product	**U.M.**	**2021**	**2022**	**2022/2021 (%)**
Natural Gas	GJ	180 262 281	187 700 622	4,1
Condensed Gas	bbl	266 327	555 806	108,7

Source: National Pertroleum Institute, 2021/2022

Table 18: Hydrocarbon production per quarter, 2021

Product	U.M.	Quarter I	Quarter II	Quarter III	Quarter IV	Total
Natural Gas	GJ	43 192 949	46 628 568	46 892 533	43 548 231	180 262 281
Condensed Gas	bbl	63 040	73 457	62 590	67 239	266 327

Source: National Pertroleum Institute, 2021/2022

Table 19: Hydrocarbon production per quarter, 2022

Product	U.M.	Quarter I	Quarter II	Quarter III	Quarter IV	Total
Natural Gas	GJ	43 806 513	44 817 770	44 265 896	54 810 443	187 700 622
Condensed	bbl	67 952	64 755	140 440	282 658	555 805

Source: National Pertroleum Institute, 2021/2022

2.2. EXPORT

Table 20: Annual export of hydrocarbons, 2021 - 2022

		Year		Variation
Product	**U.M.**	**2021**	**2022**	**2022/2021 (%)**
Natural Gas	GJ	150 944 266	156 966 923	4,0
Condensed Gas	bbl	268 870	466 064	73,3

Source: National Pertroleum Institute, 2021/2022

Table 21: Hydrocarbon export per quarter, 2021

Product	U.M.	Quarter I	Quarter II	Quarter III	Quarter IV	Total
Natural Gas	GJ	35 984 192	39 173 538	39 254 171	36 532 365	150 944 266
Condensed Gas	bbl	64 911	72 541	64 049	67 369	268 870

Source: National Pertroleum Institute, 2021/2022

Table 22: Hydrocarbon export per quarter, 2022

Product	U.M.	Quarter I	Quarter II	Quarter III	Quarter IV	Total
Natural Gas	GJ	36 642 394	37 560 518	36 217 345	46 546 666	156 966 923
Condensed Gas	bbl	66 229	64 054	59 282	276 500	466 064

Source: National Pertroleum Institute, 2021/2022

2.3. SALES

Table 23: Sale of hydrocarbon on the national market, 2021 - 2022

		Year		Variation
Product	U.M.	2021	2022	2022/2021 (%)
Natural Gas	GJ	29 318 015	30 527 811	4,1

Source: National Pertroleum Institute, 2021/2022

Table 24: Sale of hydrocarbon on the national market per quarter, 2021

Product	U.M.	Quarter I	Quarter II	Quarter III	Quarter IV	Total
Natural Gas	GJ	7 208 757	7 455 029	7 638 362	7 015 866	29 318 015

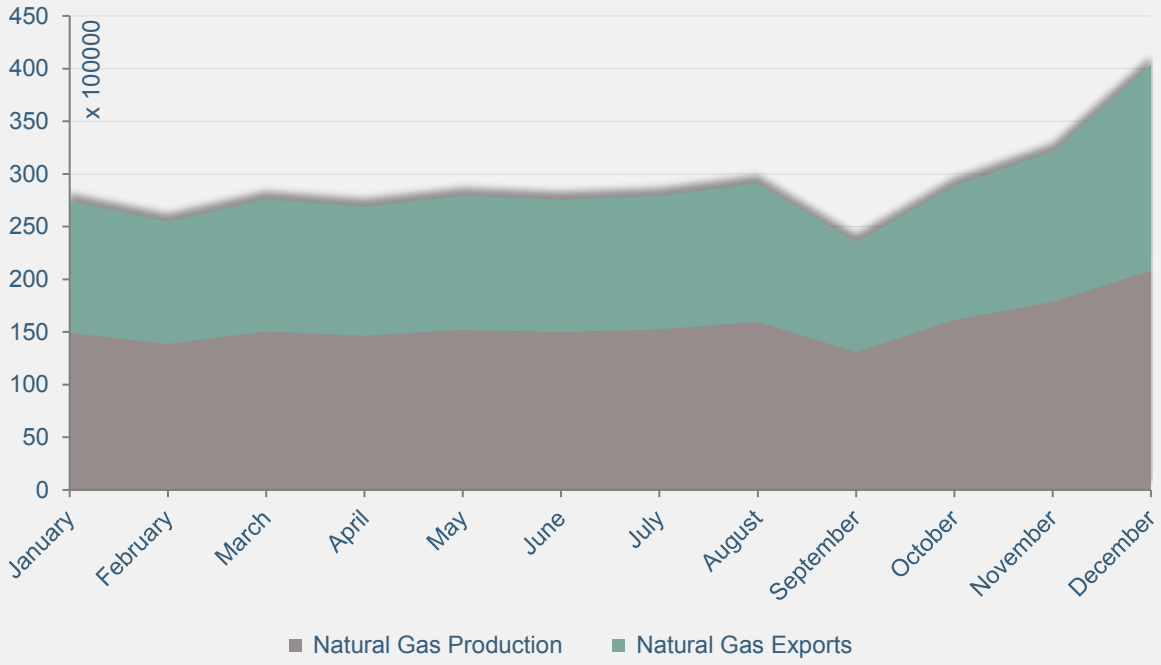
Source: National Pertroleum Institute, 2021/2022

Table 25: Sale of hydrocarbon on the national market per quarter, 2022

Product	U.M.	Quarter I	Quarter II	Quarter III	Quarter IV	Total
Natural Gas	GJ	7 164 119	7 257 252	8 048 551	8 057 889	30 527 811

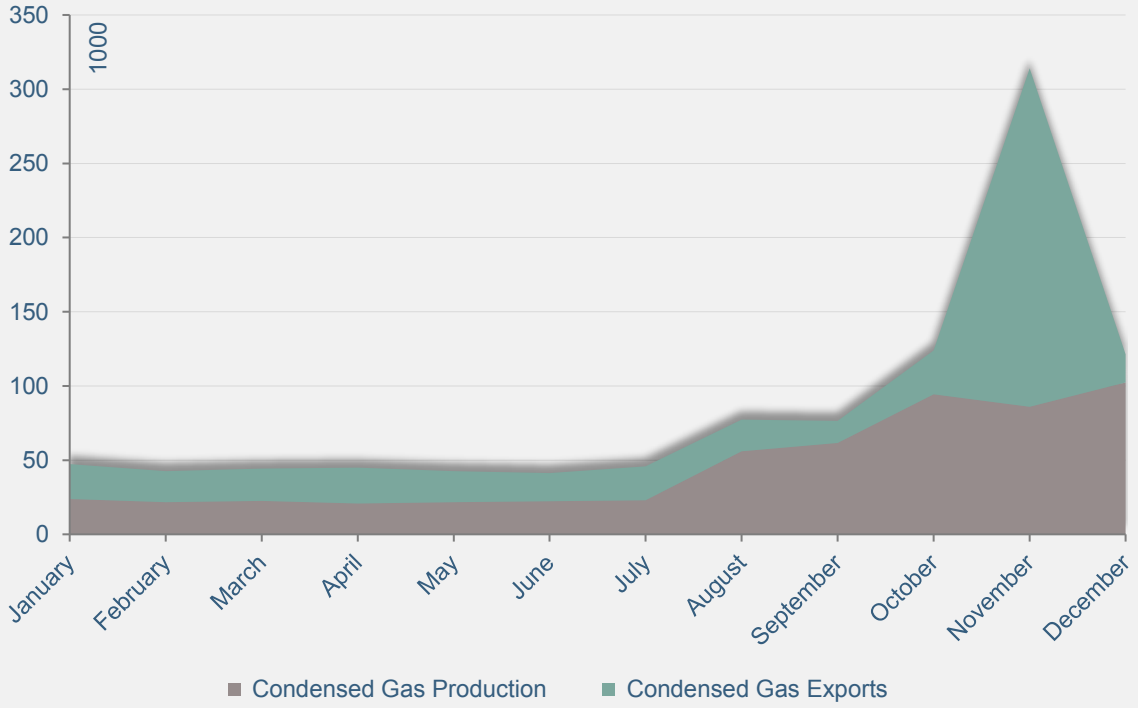
Source: National Pertroleum Institute, 2021/2022

Chart 11: Monthly production and export of Natural Gas (GJ), 2022



Source: National Pertroleum Institute, 2021/2022

Chart 12: Monthly production and export of Condensed Gas (bbl), 2022



Source: National Pertroleum Institute, 2021/2022

2.4. Production, export and sale in the national hydrocarbon market, 2020 - 2022

Natural gas production, between 2020 and 2022, recorded a cumulative 548 455 687 GJ and exports to international market around of around 460 577 127 GJ. Condensed gas production in the same period recorded 1 103 271 bbls and a cumulative 1 014 022 bbls were sold on the international market.

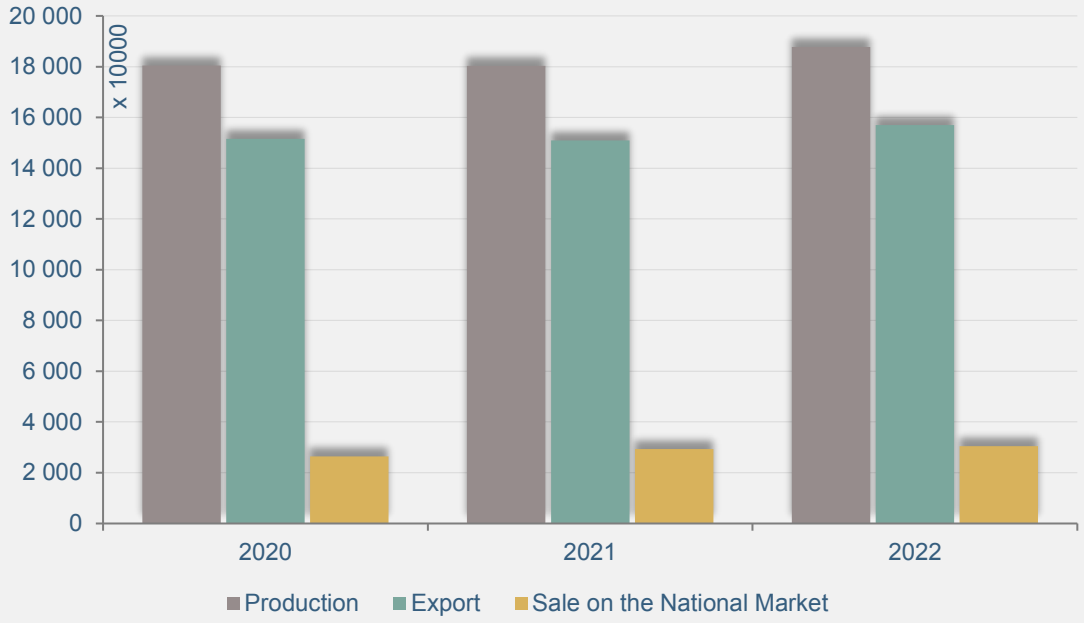
Between 2020 and 2022 the national market sold 86 270 139 GJ, representing growth in total quantity. Around 80,0% of the gas produce at Processing Plants is exported to South Africa and and the remainder is sold on the national market.

Table 26: Production, export and sale in the national hydrocarbon market, 2020 – 2022

		Year			Variation	
Product	**U.M.**	**2020**	**2021**	**2022**	**2021/2020 (%)**	**2022/2021 (%)**
Production						
Natural Gas	GJ	180 492 784	180 262 281	187 700 622	-0,1	4,1
Condensed Gas	bbl	281 139	266 327	555 806	-5,3	108,7
Export						
Natural Gas	GJ	151 580 225	150 944 266	158 052 629	-0,4	4,7
Condensed Gas	bbl	279 088	268 870	466 064	-3,7	73,3
Sale on the National Market						
Natural Gas	GJ	26 424 314	29 318 015	30 527 811	11,0	4,1

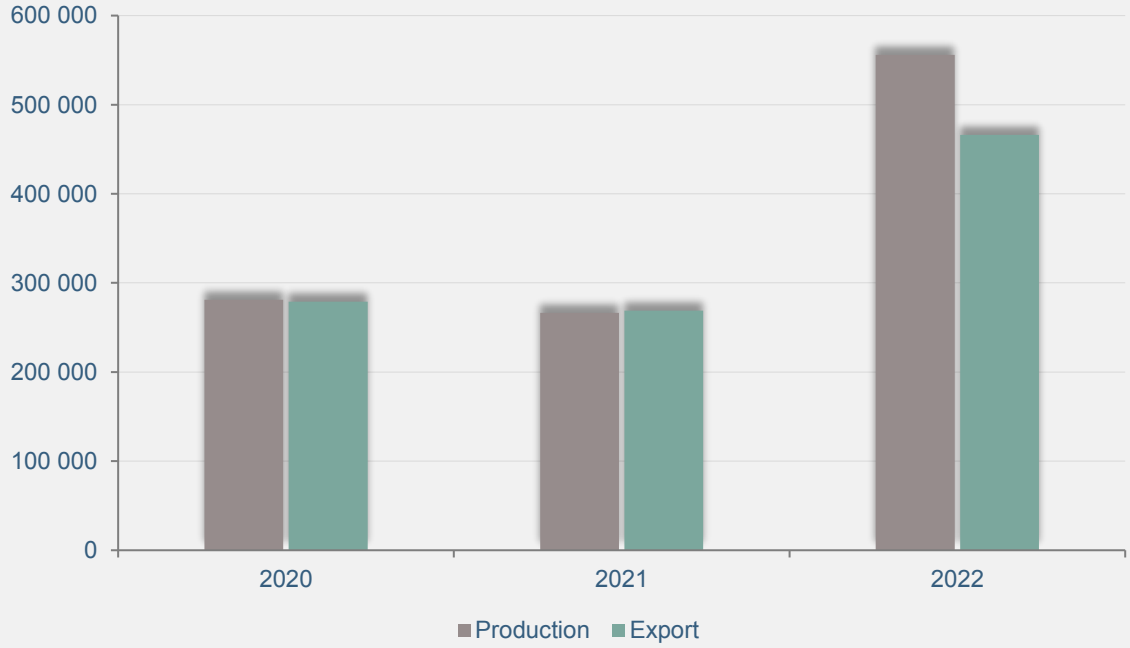
Source: National Pertroleum Institute, 2021/2022

Chart 13: Production, export and sale of Natural Gas, 2020 - 2022



Source: National Pertroleum Institute, 2021/2022

Chart 14: Production and export of Condensed Gas, 2020 – 2022



Source: National Pertroleum Institute, 2021/2022

03

CONCEPTS AND DEFINITIONS

Domestic Consumption: transactions that occur within the national territory.

Export: comprises the amount that exceeded the country's national territorial limits, whether or not customs clearance has occurred.

> For coal: Exports comprise the amount of fuel supplied to other countries, whether or not there is an economic or customs union between the countries.
>
> Coal in transit should not be included
>
> For oil and natural gas: Quantities of crude oil and derivatives exported under processing agreements (i.e, refining on account) are included.
>
> Reexport of exported oil for processing in bonded areas are shown as export of product from the processing country to the final destination.
>
> Imported LNG that is exported to another country after regasification is considered both as import and export of gas..

Condensed Gas: refers to a hydrocarbon that is originally in gaseous form and that comes to liquid formation depending on the condition of the reservoir or on the surface..

Natural Gas: Natural Gas is defined as the oil that under normal atmospheric conditions is in a gaseous state, as well as unconventional gas, consisting essentially on methane, which exists in its natural state in underground deposits, associated with crude oil or gas recovered from coal mines.

Hydrocarbons: they are compounds formed merely by carbon and hydrogen joined tetrahedrally by a covalent bond, the main source being petroleum.

Production: refers to the quantity of products extracted or produced, calculated after any operation to remove inert matter or impurities.

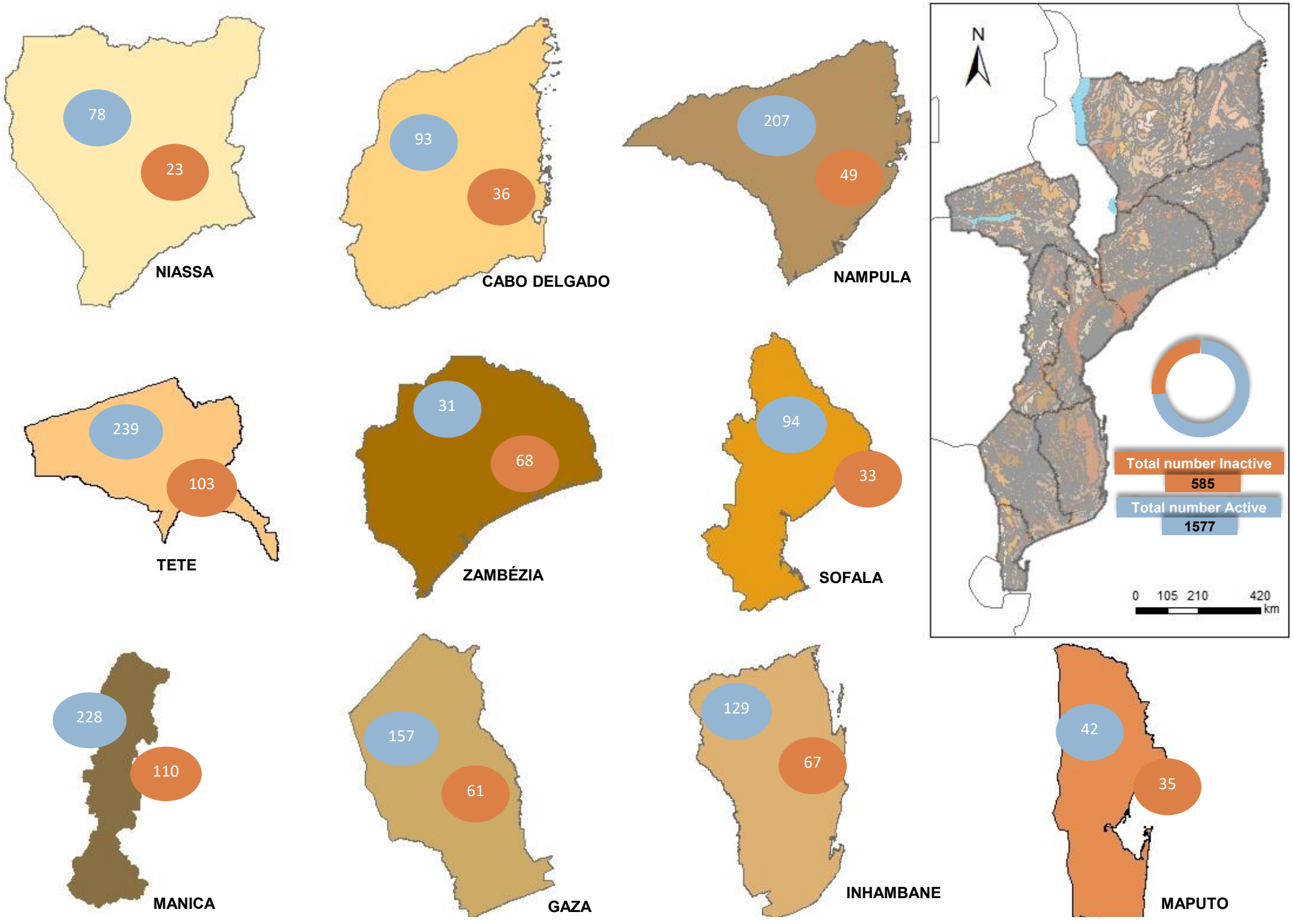
“In energy statistics, the production of secondary products is also included. The production of secondary petroleum products represent the refinery’s gross production. Coal secondary products and gases represent the outputs of output of coke ovens, gas plants, blast furnaces and other transformation processes”

Mineral resources: are physical resources extracted from surface or subsurface of the earth, characterized as inorganic materials present in the earth’s crust.

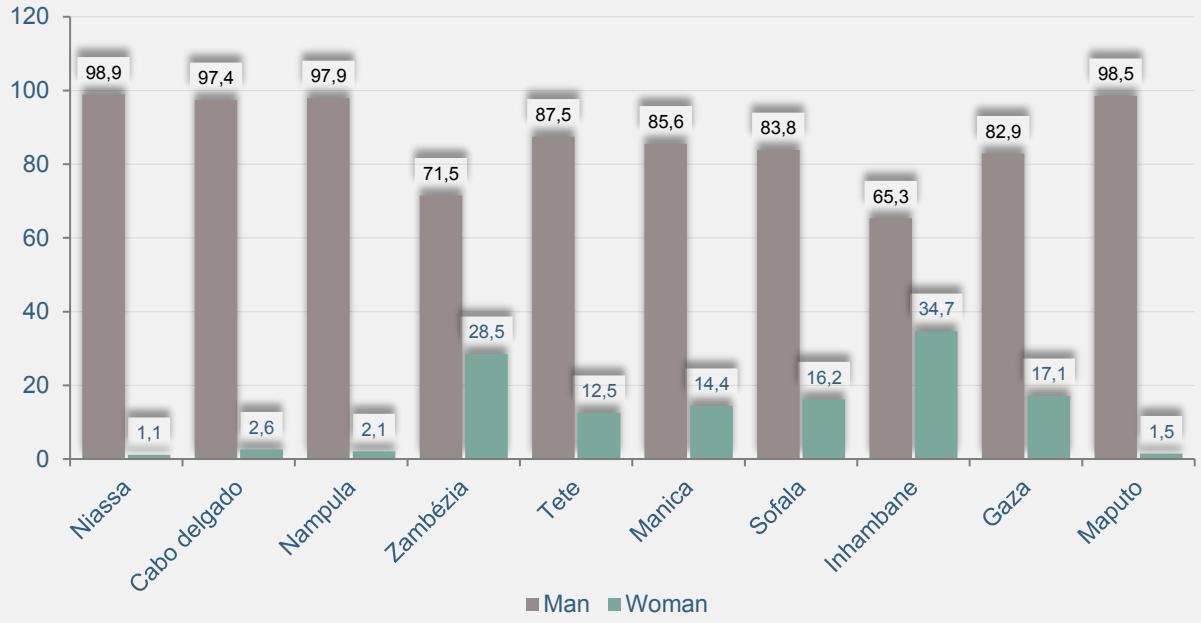
04

ANNEXES

Figure 3: Distribution of artisanal mining hotspots by Province, 2021

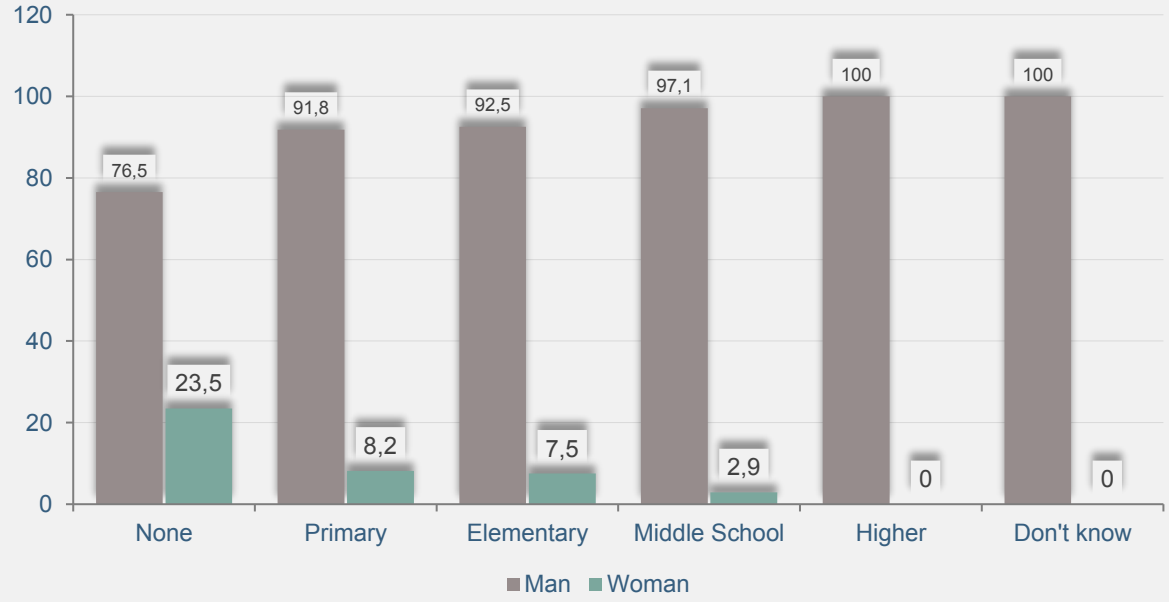


Graph 15: Percentage distribution of mining operators per gender and province de, 2021



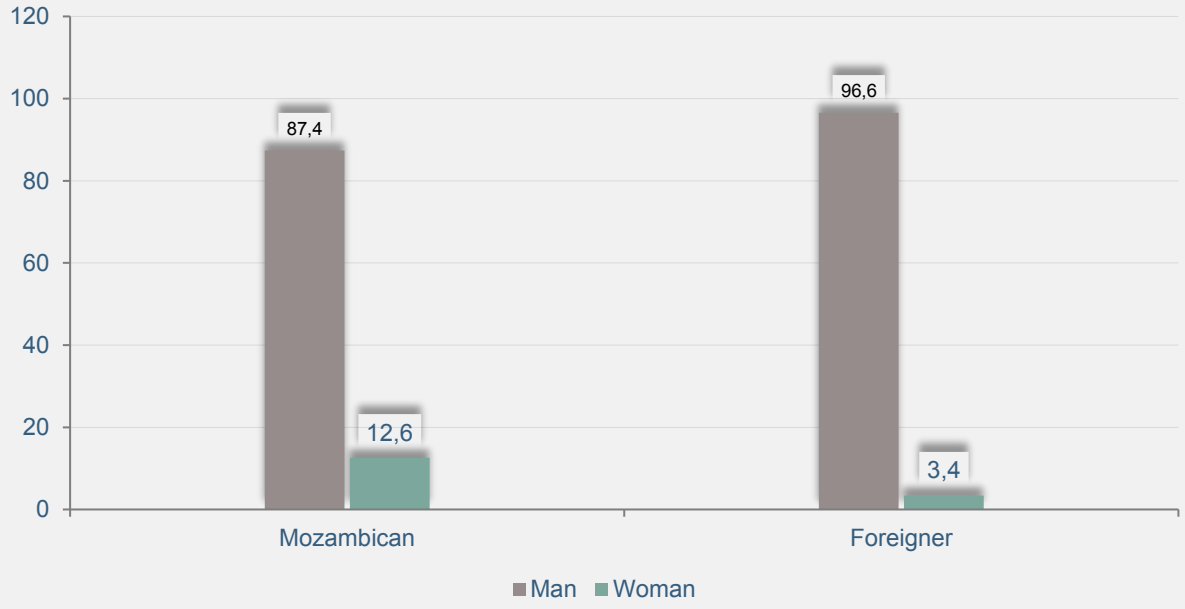
Source: Results pf the Census of Artisanal Miners in Mozambique, 2022

Chart 16: Percentage distribution of mining operators by gender and level of education, 2021



Source: Results pf the Census of Artisanal Miners in Mozambique, 2022

Chart 17. Percentage distribution of mining operators by gender and nationality, 2021



Source: Results pf the Census of Artisanal Miners in Mozambique, 2022

Tabela 27: Global mine balance, 2021 - 2022

Product	U.M.	2021	2022
Production			
	Metallic Minerals		
Gold	kg	764	1 264
Tantalite	kg	178 449	210 547
Ilmenite	t	2 071 046	2 553 269
Zircon	t	123 011	134 082
Rutile	t	8 915	8 869
Heavy Sand concentrate	t	12 872	15 268
	Non-Metallic Minerals		
Beryl	t	330	629
Refuse Beryl	t	-	656
Graphite	t	77 116	165 932
Diverse Quartz	kg	1 189 329	2 632 526
Rose Quartz	kg	-	878 559
Corundum	kg	8 628	37 896
Refuse Corundum	kg	-	6 000
Bentonite	t	118 692	113 985
Diatomite	t	72 914	51 449
Limestone	t	1 619 681	1 776 559
Sand of construction	m^3	5 538 527	3 218 900
Clay	t	1 979 489	1 813 751
Bauxite	t	7 852	14 583
Mineral Water	m^3	-	59 448
Stone for construction (crushed stone)	m^3	2 156 867	2 195 307
Guano	t	-	15
	Ornamental Rocks		
Granite in Blocks	m^3	842	4 260

Continues…

Continuation

Precious and e Semi- Precious Stones			
Tourmaline	kg	2 680	1 304
Turmalina Refugo	kg	133 379	228 021
Garnet	kg	-	224 163
Refuse Garnet	kg	172 035	17 239
Aquamarine	kg	27	621
Refuse Aquamarine	kg	3	2 523
Morganite	kg	358	398
Ruby	cts	5 011 723	4 212 042
Refue RubyRefugo	cts	-	2 900
Durmortieritis	kg	-	97 050
Rodonitis	kg	-	1 200
Agate	kg	-	895 267
Sapphire	kg	-	1
Hesonite Garnet	kg	-	290 439
Emerald	kg	-	100
Amazonite	kg	-	330 930
Topaz	kg	-	500
Minerais Combustíveis			
Coal (Coke)	t	5 732 902	6 385 797
Coal (Thermal)	t	5 346 781	8 420 436
Export			
Metallic Minerals			
Gold	kg	210	294
Tantalite	kg	198 223	117 391
Ilmenite	t	2 225 367	2 428 179
Zircon	t	92 735	100 552
Rutile	t	3 639	13 054
Heavy Sands Concentrate	t	10 830	23 912
Non-Metallic Minerals			
Beryl	t	414	236
Refuse Beryl	t	-	361
Graphite	t	68 853	153 928
Bentonite	t	72 826	77 233
Diatomite	t	330	60
Bauxite	t	4 937	6 538
Diverse Quartz	kg	1 893 117	3 327 413
Corundum	kg	17 501	79 951
Ornamenta Rocks			
Granite in Blockss	m^3	23	3 027

Continues…

Precious and Semi- Precious Stones			
Tourmaline	kg	48	19
Refute Tourmaline	kg	502 142	200 039
Aquamarine	kg	1 666	192
Refute Aquamarine	kg	145	2 638
Refute Garnet	kg	203 688	42 159
Morganite	kg	96	83
Ruby	cts	2 224 946	2 853 862
Agate	kg	-	985 348
Rose Quartz	kg	-	1 055 276
Durmortieritis	kg	-	48 000
Rodonitis	kg	-	1 001
Amazonite	kg	-	191 300
Garnet	kg	-	762 330
Refuse Corundum	kg	-	4 010
Hesonite Garnet	kg	-	293 240
Emerald	kg	-	120
Sapphire	kg	-	1
Topaz	kg	-	185
Fuel Minerals			
Coal (Coke)	t	5 222 338	4 798 615
Coal (Thermal)	t	5 261 346	9 452 082
Sale on the National Market			
Fuel Minerals			
Coal (Thermal)	t	10 789	2 193
Non-Metallic Minerals			
Diatomite	t	72 584	69 167
Limestone	t	379 278	817 589
Clay	t	85 997	29 199
Sand for Construction	m^3	4 100 252	1 144 206
Mineral Water	m^3	-	45 994
Bentonite	t	-	183
Guano	t	-	22
Stone for Construction (crushed stone)	m^3	893 289	884 367
Metallic Minerals			
Gold	kg	-	159

Source: National Petroleum Institute, 2021/2022

Table 28: Global hydrocarbon balance, 2021 - 2022

Product	U.M.	2021	2022
Production			
Natural Gas	GJ	180 262 281	187 700 622
Condensed	bbl	266 327	555 806
Export			
Natural Gas	GJ	150 944 266	156 966 923
Condensed Gas	bbl	268 870	466 064
Sales on the National Market			
Natural Gas	GJ	29 318 015	30 527 811

Source: National Petroleum Institute, 2021/2022

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