



# DEVELOPMENT OF MANUFACTURING INDUSTRIES IN OMAN

**Preparing for the future**

REVIEWING PROGRESS OF VISION 2020





# Oman

**ANALYTICAL REPORT EDITION 2018**  
**DEVELOPMENT OF MANUFACTURING INDUSTRIES IN OMAN**  
Reviewing progress of Vision 2020

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# ACKNOWLEDGEMENTS

The performance assessment of Oman's manufacturing sector presented in this Analytical Report is based on a comprehensive industrial survey, undertaken by the Sultanate's Ministry of Commerce and Industry, of the country's large and middle scale manufacturing establishments. The survey is a component of an ongoing technical cooperation project implemented jointly by UNIDO and Oman's Directorate General of Industry at the Ministry of Commerce and Industry.

Valentin Todorov from the Statistics Division of UNIDO prepared the Report together with UNIDO consultants Ah Young Lee and Ascha Lychett Pedersen. Dina Dragoshinska created the graphical layout and cover design.

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# 01. INTRODUCTION

As the Sultanate of Oman moves towards the completion of the Ninth Five Year Development Plan, the last stage of the country's long-term development plan (Vision 2020), it contemplates whether the overall objectives were met. For a long time, Oman has recognized the need to accelerate its national structural transformation through industrialization and economic diversification to promote a post-oil economy from which all citizens may benefit. The private sector, in particular, the manufacturing industries, have been placed at the center of this transformation given its potentials as an engine of economic growth and employment opportunities across a wide specter of skill-levels (see the UNIDO Industrial Development Report Series).

Against the backdrop of recent year's collapsed oil-prices, Oman - the largest crude oil producer in the Middle East and the only country in the Gulf Cooperation Council (GCC) that is not a member of the Organization of the Petroleum Exporting Countries (OPEC) – has seen its public deficits spiral which has caused delays in the development spending envisaged under the Ninth Five Year Development Plan. Facing subdued GDP growth and pressured by an increased concern for the lack of jobs, especially for the Omani youth, Oman's commitment to reduce its reliance on a single commodity is higher than ever. To meet the objectives of Vision 2020 will hinge on the timely implementation of carefully considered reforms that create a facilitating environment for economic diversification and that enhances Omanization by upgrading the skill and educational levels of the Omani population to make them competitive against the continued influx of expats.

To make the structural transformation sustainable, industrial development must be driven, not by recycled oil-revenues, but by a private sector capable of competing internationally and attracting investments.

Development of Manufacturing Industries in Oman, Edition 2018 is an update of the 2015 report with the primary purpose to review Oman's manufacturing sector development and performance. It is primarily based on data from the Annual Industrial Survey, the improvement of which has been the core outcome of a technical cooperation project between Oman's Ministry of Commerce & Industry (MOCI) and the United Nations Industrial Development Organization (UNIDO). By increasing Oman's capability to produce manufacturing sector statistics on the level with best international practices, the project seeks to develop the country's statistical infrastructure and enhance the institutional capacity of the government. The Survey covers manufacturing establishments engaging ten people or more from which it collects a wide range of data covering basic information about the people they employ (compensation, gender, nationality) and their activities (cost of materials, selected operating expenses and energy consumption, sales of goods manufactured and value added, capital expenditures and inventories). Such data gives insights on industrial trends and structures, enabling a detailed assessment of Oman's industry performance.

The Report is divided into six sections. Section 2 provides an overview of Oman's current economic situation and consider recent trends, including the role of oil in the economy. It also presents the overall visions and objectives of the country's long-term economic development strategy while contemplating the achievements of Vision 2020. With the private sector at the heart of this strategy, Sections 3 and 4 then delves into a statistical account of the performance of Oman's manufacturing sectoreconomically, socially and environmentallymainly employing data from the Annual



Industrial Survey. In line with the TANFEEDH Handbook (the National Program for Enhancing Economic Diversification), it emphasizes the importance of the manufacturing sector in the Omani economy and identifies three priority manufacturing industries, which are then considered in more detail in Section 5. Throughout the analysis, comparisons are drawn to countries, within and beyond the GCC region, who share development characteristics with Oman. Section 6 concludes and considers the transition towards Vision 2040 against the analytical observations.



## 02. OVERVIEW OF OMAN'S INDUSTRIAL DEVELOPMENT

Being the largest crude oil producer in the Middle East that is not a member of the Organization of the Petroleum Exporting Countries (OPEC), Oman is devoted to shift away from its reliance on a single commodity now more than ever. In the last 15 years, Oman's non-oil GDP has accelerated with low inflation and internal/external surpluses. Moreover, Oman's population has been growing, endowing Oman with a young and vibrant workforce. The country's natural endowments also extend beyond oil and gas reserves but includes minerals and access to rich fishing resources. With these valuable factors of human and natural resources, there are sound prospects for Oman to build a diversified economic base. To that end, the government has been implementing supportive macroeconomic policies and pro-FDI industrial policies in order to accelerate non-oil growth in Oman. Oman has placed high importance on non-oil industrial growth since the introduction of the first Five-Year Development Plan in the 1970s. The government continues to achieve sustainable development at the national level under the guidance of the Sultanate of Oman's Supreme Council for Planning (SPC), established in 2012. The SPC is mandated with power to plan strategies and policies gearing towards sustainable development, and to diversify economy and optimize the utilization of Oman's natural and human resources.

This section provides an overview of Oman's economy, the structure hereof and its ability to compete internationally. It also draws up the ambitions of the Vision 2020, the primary policies of the 9th and currently effective Five-Year Development Plan, as well as the derived action-oriented program National Program for Enhancing Economic Diversification (TANFEEDH).

Finally, the section takes a snapshot of the current state of Oman's industrial estates as they provide the crucial infrastructures for the targeted sustainable industrial and entrepreneurial development.

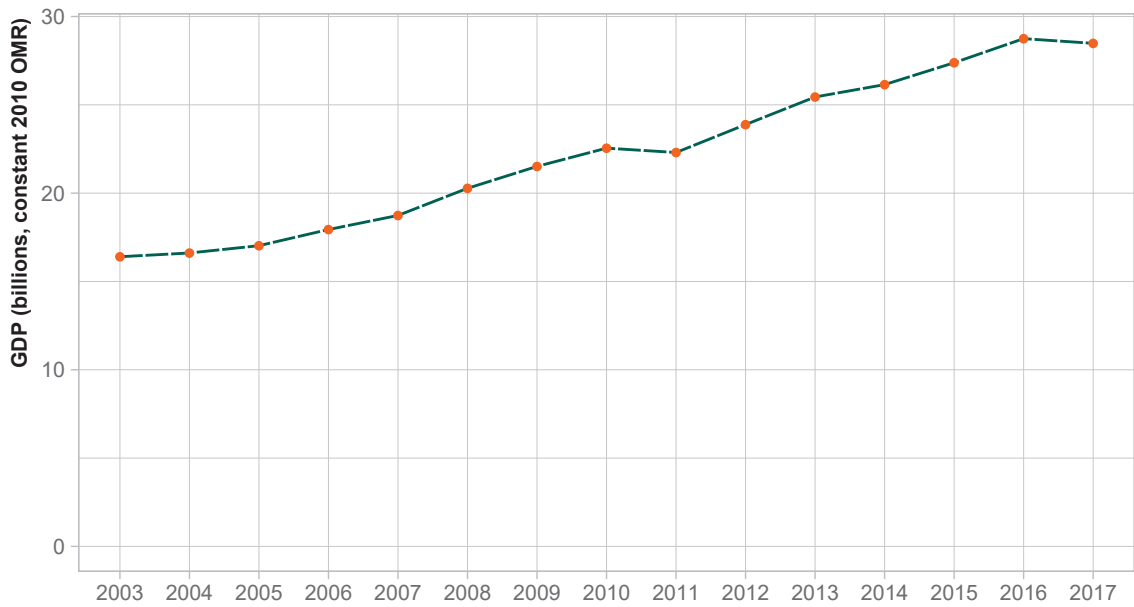
### **Trends, Outlook and Challenges**

Since the early 2000s, Oman's economy has seen more or less undisturbed economic growth with annual growth rates averaging 4.5 percent (Figure 2.1). Between 2003 and 2017, Oman's real GDP grew steadily from 16.4 billion Omani Rial to 28.5 billion Omani Rial, only interrupted by a weakening in 2011 from which the economy quickly recovered. (NCSI 2018b). Growth especially accelerated in the period 2006-2010, with Oman rates exceeding those of the average Gulf region and the world overall. Figure 2.2 shows how economic growth in Oman was lagging behind in the preceding period of 1999-2006.

Oman's non-oil GDP accelerated in the past 15 years accompanied by low inflation, translating positively onto the fiscal balance (Table 2.1). However, public finances declined substantially in 2015, largely due to recent years slowdown in global oil prices. Like other oil-exporting economies, Oman consequently witnessed diminishing oil revenue, which accounts for a substantial part of its national revenues. The growing public deficit adds pressure on the Omani government to push through measures for economic diversification that may reduce the continued prevailing reliance on oil revenues.

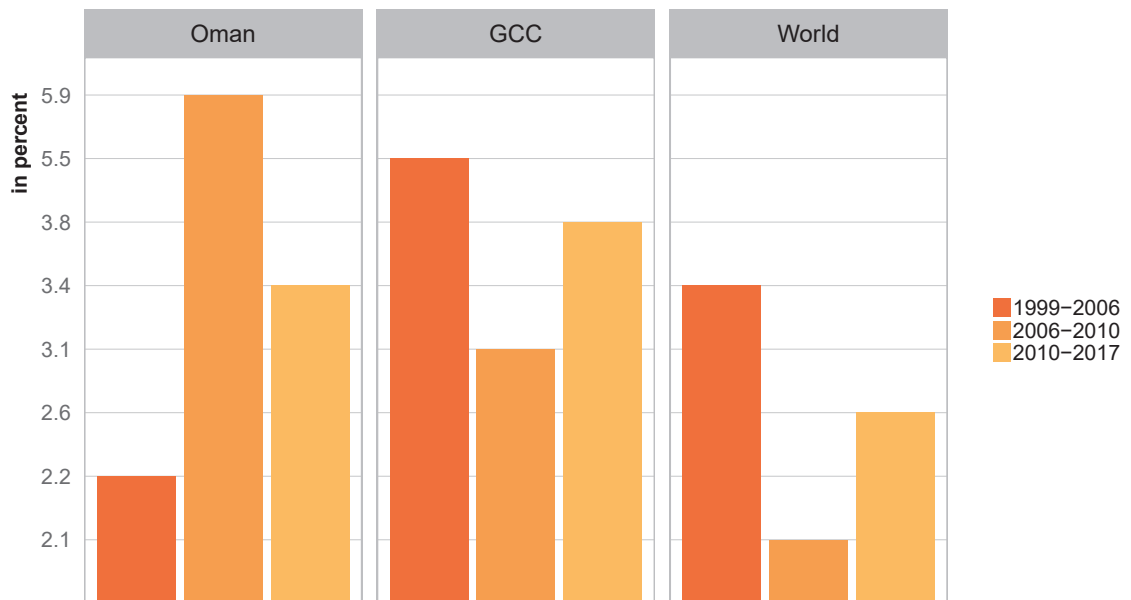
However, indicators of Oman's economic structure show that the production base steadily has become more diversified. For instance, the oil and gas sector only accounted for 27.4 percent of the nominal GDP in 2016 – a noticeable change compared to the 2004 share of 46.4 percent. Although the sector continues to be an integral part of the Omani GDP, this development suggests progress towards achieving the national objective of economic diversification in the long-term.

**FIG. 2.1 | HIGH AND SUSTAINED GROWTH RATES IN OMAN'S GDP FOR DECADES**  
**GROWTH IN GDP (CONSTANT 2010 OMANI RIAL)**



**SOURCE |** ELABORATION BASED ON THE 2018 STATISTICAL YEAR BOOK (NCSI 2018B), TABLE 5-13, SEE APPENDIX TABLE C.1.

**FIG. 2.2 | CONTRAST TO THE GULF REGION AND THE WORLD OVERALL, OMAN SAW A DIP IN AVERAGE GROWTH RATES POST-2010**  
**GROWTH IN GDP (CONSTANT 2010 US DOLLARS)**



**SOURCE |** ELABORATION BASED ON THE MVA 2018 DATABASE (UNIDO 2018A).

**NOTES |** ALL VALUES IN CONSTANT 2010 US DOLLARS.

**TABLE 2.1 | DEEPENING FISCAL DEFICIT POSES A CHALLENGE TO ECONOMIC DEVELOPMENT**  
CURRENT OMANI RIAL UNLESS OTHERWISE INDICATED

	2005	2010	2011	2012	2013	2014	2015	2016
<b>Total revenues</b>	4,511	7,917	10,625	13,475	13,908	14,108	90,675	76,082
<b>Year-to-year change</b>		75.5%	34.2%	26.8%	3.2%	1.4%	542.7%	-16.1%
<b>Oil revenues</b>	3,556	6,400	8,971	11,415	11,925	11,893	71,406	51,878
<b>Share of total revenues</b>	78.8%	80.8%	84.4%	84.7%	85.7%	84.3%	78.7%	68.2%
<b>Total expenditure</b>	4,208	7,965	10,738	13,555	13,990	15,172	13,699	12,908
<b>Year-to-year change</b>		89.3%	34.8%	26.2%	3.2%	8.4%	-9.7%	-5.8%
<b>Fiscal surplus/deficit</b>	303	-49	-113	-81	-83	-1,064	76,976	63,174

SOURCE | ELABORATION BASED ON THE NCSI DATA PORTAL (2018), 'PUBLIC FINANCE'.

**TABLE 2.2 | PETROLEUM ACTIVITIES IN OMAN ARE LOSING OUT TO SERVICE ACTIVITIES**  
PERCENTAGES (2010 CONSTANT OMANI RIAL)

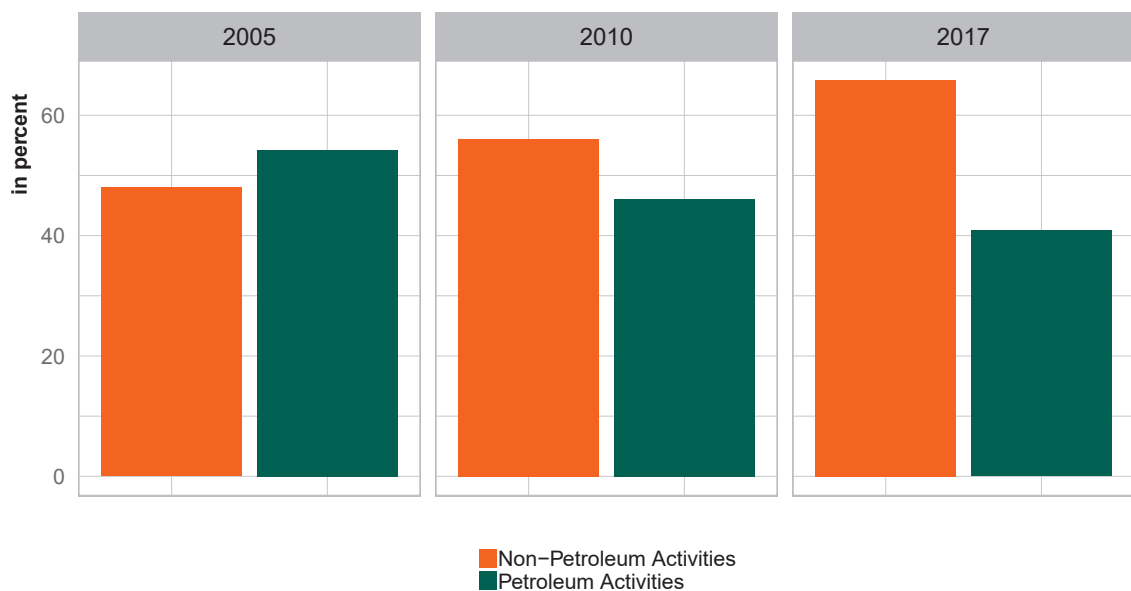
	2005	2010	2011	2012	2013	2014	2015	2016	2017
<b>Total petroleum activities</b>	54.2	46.1	47.5	45.7	44.1	42.4	42.3	41.7	40.9
<b>Total non-petroleum activities:</b>	48	56	59.8	61.4	63	64.1	64.7	64.6	65.8
Agriculture and fishing	1.5	1.4	1.4	1.3	1.4	1.4	1.8	1.9	2
Industry activities	12.6	18	18.8	19.3	18.8	18.8	19.2	19.6	19.4
- Mining and quarrying	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
- Manufacturing	8.6	10.6	10.8	10.3	10.2	9.6	9.5	9.3	9.5
- Electricity and water supply	0.9	1.2	1.4	1.5	1.7	1.8	1.9	1.9	2.1
- Building and construction	2.8	5.8	6.2	7.1	6.6	7.1	7.3	7.9	7.4
Services activities	33.9	36.6	39.6	40.9	42.8	43.9	43.7	43.2	44.4
<b>Financial intermediation services</b>	-1.5	-2.1	-2.3	-2.3	-2.3	-2.5	-2.6	-2.5	-2.4
<b>GDP at basic prices</b>	100.7	100.0	105.0	104.8	104.8	104.1	104.4	103.9	104.4
<b>Plus: Taxes less subsidies on products</b>	-0.7	0	-5	-4.8	-4.8	-4.1	-4.4	-3.9	-4.4
<b>GDP at market prices</b>	100	100	100	100	100	100	100	100	100

SOURCE | 2018 STATISTICAL YEAR BOOK (NCSI 2018B), TABLE 6-13.

NOTE | GDP IS GROSS DOMESTIC PRODUCT. SEE APPENDIX TABLE C.1 FOR ABSOLUTE VALUES COVERING THE PERIOD 2003-2017, AND APPENDIX TABLE C.2 FOR THE GDP COMPOSITION IN THE PERIOD 1998-2017.

This picture is confirmed when considering Oman’s economic activities (Table 2.2). Total petroleum activities have been decreasing from 54.2 in 2005 to 40.9 in 2017, whereas non-petroleum activities have increased from 48.0 percent to 65.8 percent in the same period (Table 2.2). Interestingly, the share of the manufacturing sector in GDP rose from 8.6 percent in 2005, peaked in 2010 with 10.6 percent, and declined slightly to 9.5 in 2017. The building and construction sector has become another key driver of non-oil activities with its share more than doubling from 2005 to 2017 (2.8 percent to 7.4 percent). The primary driver of the increase in total non-petroleum activities over the last decade has been services activities, which contributed 44.4 percent in 2017. Figure 2.3 illustrates the development in Oman’s oil and non-oil activities.

**FIG. 2.3 | NON-PETROLEUM ACTIVITIES CONTINUE TO INCREASE THEIR LION SHARE OF GDP**  
 PERCENTAGES (2010 CONSTANT OMANI RIAL)



**SOURCE |** ELABORATION BASED ON THE 2018 STATISTICAL YEAR BOOK (NCSI 2018B), TABLE 5-13.

**NOTES |** GDP IS GROSS DOMESTIC PRODUCT. SEE APPENDIX TABLE C.1 FOR ABSOLUTE VALUES COVERING THE PERIOD 2003-2017, AND APPENDIX TABLE C.2 FOR THE GDP COMPOSITION IN THE PERIOD 1998-2017.

## Trade performance

Located in the south-eastern part of the Arabian Peninsula at the mouth of the Persian Gulf, Oman enjoys a strategic geographic advantage for one of the most important marine trade routes and choke points in the world: The Strait of Hormuz that connects the members of the Gulf Cooperation Council – Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates – as well as Iraq and Iran to the Indian Ocean. Oman’s coastline spans 1,700 kilometers between Yemen to the south and the United Arab Emirates to the north, while Saudi Arabia borders the west of the country. Three strategically located seaports and two industrial port, whose development are supported by logistics and infrastructure projects targeting port-handling and land-transport connectivity, position Oman as a critical re-distribution point and transit hub for shipments to and from East and Central Africa, Asia, and the Indian subcontinent.

Two key characteristics of Oman’s export are mirrored in recent trends in the country’s trade balance. First, from reaching an all-time high in 2013, the value of Oman’s merchandise exports plunged in 2015-2016 due to a slowdown in global trade, exhausting the country’s trade balance (see Table 2.3). According to the Central Bank of Oman, the net exports suffered as a result of cheaper commodity and crude oil prices in and after 2015, despite increased oil production. The structure of Oman’s export basket remained heavily focused

**TABLE 2.3 | CHANGES IN OMAN’S TRADE BALANCE MIRRORS OIL-DEPENDENCY**  
CURRENT OMANI RIAL

	2005	2010	2011	2012	2013	2014	2015	2016	2017
<b>Merchandise imports</b>	3,450	7,680	9,235	10,811	13,680	11,898	11,412	9,145	10,590
<b>Merchandise exports</b>	7,187	14,073	18,107	20,047	21,697	20,463	13,415	10,295	12,652
<b>Trade balance</b>	3,737	6,394	8,872	9,236	8,017	8,565	2,003	1,150	2,062

**SOURCE |** 2018 STATISTICAL YEAR BOOK (NCSI 2018B), TABLE ‘FOREIGN TRADE INDICATORS’.



on a few commodities in the hydrocarbon sector like crude oil, refined oil, and liquefied natural gas, which added up to 58.2 percent of the total merchandise export in 2017 (Table 2.4). A trade structure such as this makes the Omani economy more sensitive to fluctuations in the global markets. However, Table 2.4 shows an increasing balance between oil and non-oil sector shares in Oman's total merchandise exports. From just short of 8 percent in 2005, non-oil commodities made up 25.1 percent in 2017. The government's efforts to place Oman as a key trading port have been fruitful (partly due to heavy investments in modern industrial estates); the value of reexports has been gradually increasing and constitute nearly a fifth of total exports in 2017.

Secondly, Oman's trade is concentrated to a limited number of trade partners in certain regions, most significantly the GCCs. In 2017, more than half of the country's non-oil exports and re-exports went to Arab countries (56.1 percent) from which 52.1 percent of Oman's total commodity imports also originated (NCSI 2018b). According to Oman's official investment and export promotion agency, the Investment Promotion and Development of Exports (Ithraa), Oman's top ten trade partners are either from Asia or the Gulf region: The United Arab Emirates, Saudi Arabia, Pakistan, China, India, the Republic of Korea, Kuwait, South Africa, Iran and Qatar.

**TABLE 2.4 | THE SHARE OF NON-OIL IN OMAN'S MERCHANDISE EXPORTS STRUCTURE IS RISING AT A LOW BUT STEADY RATE**  
SHARE OF TOTAL MERCHANDISE EXPORTS (PERCENTAGE)

Sectors	2005	2010	2011	2012	2013	2014	2015	2016	2017
<b>Crude oil</b>	70.6%	56.9%	58.9%	58.8%	56.9%	56.6%	49.8%	48.0%	45.8%
<b>Refined oil</b>	1.2%	3.7%	3.8%	2.8%	1.6%	1.5%	1.4%	1.8%	3.2%
<b>Liquefied natural gas</b>	12.4%	8.4%	8.1%	8.1%	7.7%	7.3%	7.3%	7.0%	9.2%
<b>Non-oil</b>	7.7%	17.4%	16.8%	17.9%	17.5%	20.2%	22.4%	23.3%	25.1%
<b>Re-exports</b>	8.1%	13.7%	12.4%	12.4%	16.3%	14.4%	19.2%	20.0%	16.7%

**SOURCE |** ELABORATION BASED ON THE 2017 STATISTICAL YEAR BOOK (NCSI 2017), TABLE 'FOREIGN TRADE INDICATORS'.

These trends simultaneously underline the progress and ongoing need to transform the export structure by moving to higher value added activities and diversifying the export base in order to compete internationally and access new markets.

### **Development Planning and Policies for Industrialization through Economic Diversification**

The Sultanate of Oman began defining the country's development strategy in the early 1970s, hence becoming one of the very first countries in the GCC region to undertake formal development planning. Emphasis on economic diversification and economy sustainability has been at the heart of this process from the very beginning. To that end, the Government introduced several forward-looking policies that granted economic freedom to promote non-oil sector development and to foster industrial-driven structural changes.

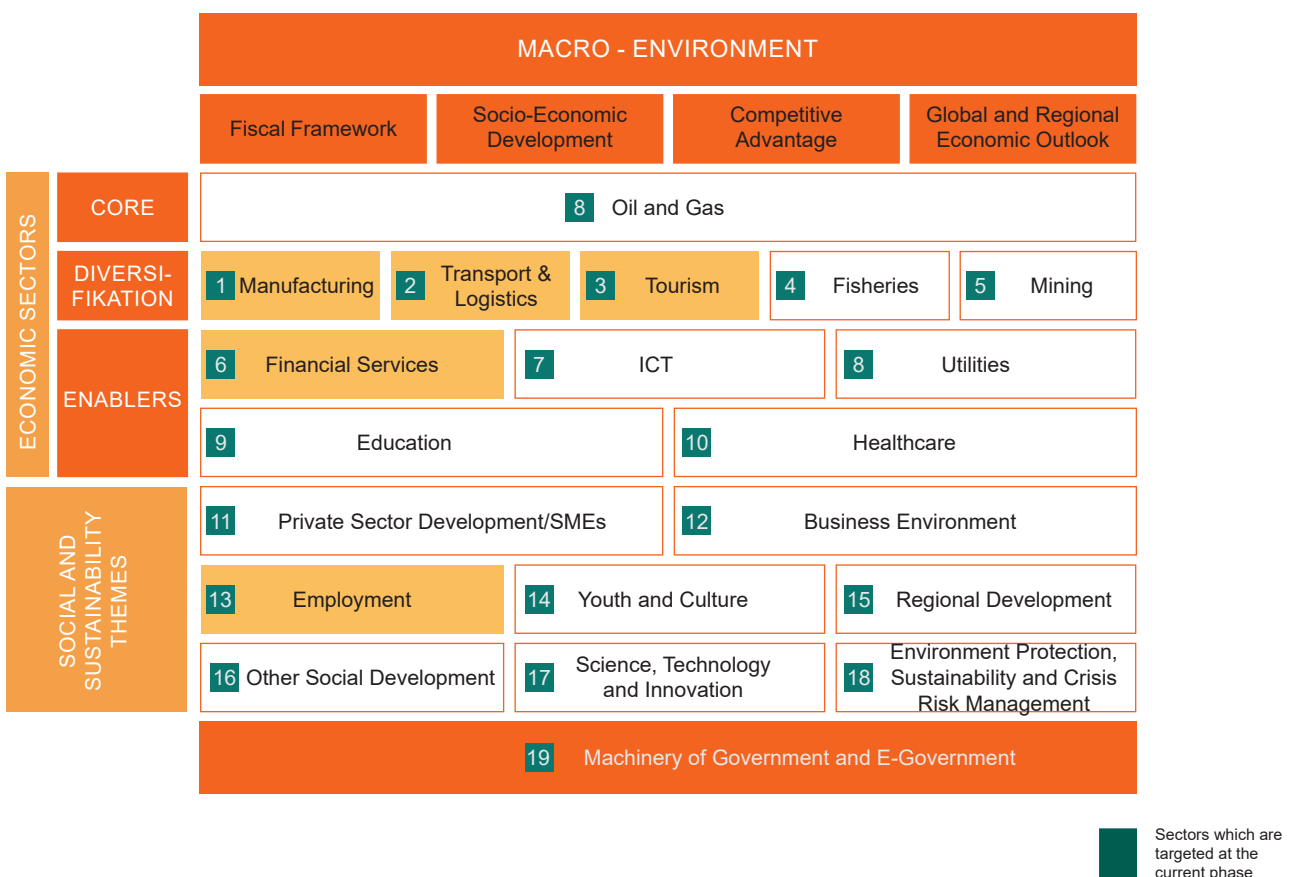
### **The 9th Five-Year Development Plan (2016-2020)**

Since 1976, the Sultanate of Oman introduced a series of Five-Year Plans to promote non-oil exports and manufacturing development. The Five-Year Plans focus on economic diversification, boosting the private sector and promoting non-oil exports. Currently, the 9th Five-Year Development Plan (2016-2020), the last of its kind under the Vision 2020, is being implemented. The underlining key objectives and policy pillars of this plan is summarized below and illustrated in Figure 2.3:

- Sustainability of economic growth in a changing world;
- Economic diversification and broadening the production base;
- Provision of productive and remunerative work opportunities for citizens;
- Development of private sector and improving the business environment and investment climate;
- Emphasis on comprehensive social development;
- Enhancing the role of youth;
- Implementation of the National Strategy for Urban Development;

- Development of governorates and local communities;
- Enriching cultural life and promoting the role of citizenship and identity;
- Furthering environmental sustainability and confronting natural disasters;
- Upgrading government performance.

FIG 2.4 | VISUAL SUMMARY OF THE 9TH FIVE-YEAR PLAN (2016-2020)



SOURCE | TANFEEDH HANDBOOK (SUPREME COUNCIL FOR PLANNING 2017).

Specific targets are also defined in the 9th Five Year Development Plan. This includes achieving an annual real gross domestic growth rate of 3 percent, as well as further diversification to develop non-oil sectors, and the strengthening of partnerships between the public and private sector. Moreover, it targets to achieve an 11 percent GDP-share of the manufacturing sector by 2020 – an achievement within close reach as a 10 percent share was accomplished already in 2015. The government has also set to decrease the share of oil in GDP to 30 percent before 2020. As of 2017, total petroleum activities were recorded at 40.9 percent of GDP (Figure 2.3). A simple projection based on the annual average decline between 2010 and 2017 would suggest that this target would not be met before 2030, underlining the need for further industrial policies.

A special policy program “TANFEEDH” or the ‘National Program for Enhancing Economic Diversification’ has been launched in collaboration with the government of Malaysia, benefitting from the Malaysian success of raising the contribution of specific sectors to the economy. The following sectors have been selected as the most promising to achieve the ambitions of Oman’s development plans: 1) tourism, 2) mining, 3) manufacturing, 4) logistics and transport and 5) fisheries. By narrowing the government’s focus on further development of the five priority sectors, the government hopes to boost private sector development and thereby creating more job opportunities. Creating an enabling environment for businesses in order to attract private/public investments (FDI or local investments) is an equally important objective. Finally, another objective of the Five-Year Plan is to create a pool of qualified Omani workforce and encourage entrepreneurship among youth. This is an important objective as it affects Oman’s long-term employment trend and the education level of its population.

Overall, this Five-Year Plan highlights the government's determination to transform its economy from relying on an oil-based production base to a more diversified one. Also, it shows that the government is equally focused on improving the wellbeing of its citizens through social development initiatives, particularly Omanization, and not just through economic growth.

### **Oman Vision 2020**

The Oman Vision 2020 is a long-term plan that acts as a methodology and roadmap for Oman's sustainable economy rooted in diversification and private sector development. This first long-term Vision 2020 was introduced in 1995 alongside with the 5th Five Year Plan that was primarily designed to transform Oman's single-commodity, oil-based economy. The Vision 2020 is based on four main pillars of:

- Economic balance and financial sustainability;
- Human resource development – upgrading the skills of the Omani workforce;
- Economic diversification – diversifying the economic base and source of national income;
- Private sector development – reshaping the role of government in the economy and broadening private sector participation.

Oman 2020 is also referred to as an approach that is guiding the country's development by the SPC. One of the main goals set by the SPC is to ensure that the per capita income will double in real terms by 2020 compared to the level of 1995. Vision 2020 aims to boost industrialization within the Sultanate and emphasizes that Oman will continue to increase and diversify non-oil revenues in the coming years by introducing new measures. Currently, the government is preparing the launch of its second long-term strategic plan called the Vision 2040, which will be implemented after the completion of the ongoing Vision 2020.

From the inauguration of the first industrial estate in 1985, One of the most prioritized long-term objectives at the national level has been to expand private sector development. To do so, the Government has placed strong emphasis on the modernization of the country's infrastructures and has invested heavily herein. Besides boosting the role of the private sector in the economy, a modern industrial and transportation infrastructure will create enabling synergies allowing Oman to integrate deeper into the global economy and attract further foreign investment.

Benefiting from its unique geopolitical location and neutral foreign policies, Oman has especially invested in establishing new and upgrading existing Special Economic Zones (SEZ) and Free Zones (FZ), specifically Al Mazunah Zone (established in 1999), Salalah (established 2005), Sohar (under development), and the Special Economic Zone (SEZ) in Duqm, which is expected to become biggest economic zones in the Middle East.

It has been the government's priority to transform the Duqm region into a hub for trade activities in the Middle East. In fact, the Special Economic Zone Authority at Duqm (SEZAD) has already unlocked various foreign direct investment projects and attracted a large amount of investments. Moreover, it is expected to generate many new job opportunities for young Omanis. Oman also has nine industrial estates that are managed by the Public Establishment for Industrial Estates (PEIE), namely Rusayl, Sohar, Raysut, Sur, Nizwa Industrial Estate, Buraimi, Al-Mazunah and Smail (see Appendix B for details on each estate). The estates are attracting substantial foreign investments and ambitious expansion plans are in place for many of them, as are the development of supportive infrastructure such as sea- and airports. An additional four estates are currently in the pipeline (James 2018).

Although it is difficult to pinpoint the facilitating role these estates have played in Oman's manufacturing development, the Annual

Industrial Survey shows that employment opportunities and the number of establishments have increased at a more rapid pace between 2012 and 2017 within the estates than outside (Table 2.5). In 2017, 44.4 percent of the establishments were located within the industrial estates and accounted for 52.9 percent of total manufacturing employment in Oman in 2017.

The government will continue to attract further foreign investment and partnerships by offering incentives, such as tax cut, and creating a business friendly environment. Therefore, the industrial estates and Special Economic Zones (SEZ) will continue to play a key role in escalating private sector involvement in Oman’s non-oil development journey.

**TABLE 2.5 | INCREASING NUMBER OF MANUFACTURING ESTABLISHMENTS AND EMPLOYEES WITHIN THE INDUSTRIAL ESTATES**

		LOCATION OF OPERATION		
		Within industrial estate	Outside	Total
2012	Number of establishments	261 (37.2%)	440 (62.8%)	701
	Number of employees	32,428 (45.5%)	38,906 (54.5%)	71,334
2017	Number of establishments	364 (44.4%)	455 (55.6%)	746
	Number of employees	51,584 (52.9%)	45,943 (47.1%)	97,527

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE YEARS 2012 AND 2016 (MOCI 2013 AND 2017).

**NOTES |** THE ANNUAL INDUSTRIAL SURVEY COVERS ESTABLISHMENTS WITH TEN OR MORE EMPLOYEES; SEE APPENDIX A FOR FURTHER DETAILS. IN 2016, 37 ESTABLISHMENTS (5 PERCENT) WERE CLASSIFIED AS 'UNDEFINED'. SEE APPENDIX TABLE C.15 FOR THE INDUSTRY-SPECIFIC DISTRIBUTION OF ESTABLISHMENTS.





# 03. ECONOMIC PERFORMANCE OF OMAN'S MANUFACTURING SECTOR

With two years remaining of the planning horizon of Vision 2020, it is essential to assess the performance of Oman's manufacturing sector; whether it has met the Vision's objectives and in which dimensions it must improve to deliver the structural changes needed for the country to meet its development targets. This section reviews the industry-specific performance of the manufacturing sector and considers any noticeable structural changes. It implies a review of the economy's oil dependency as industrialization, and economic growth in general (Looney 2009), in single-commodity producing countries often lags behind – a common characteristic of the GCC countries. Faced with increased volatility on the global oil market, Oman has in recent years made dedicated and continuous efforts to diversify the production base towards non-oil activities. To create the necessary job opportunities for Oman's young and growing population, it will be critical to boost the productivity and competitiveness of the country's manufacturing sector.

For a fair evaluation of Oman's performance, the Report has benchmarked a number of countries for comparison when reviewing certain economic and structural indicators. This will help to determine Oman's position in the context of regional and global development trends. The four countries chosen include Egypt, which is a non-OPEC member. Its oil and natural gas industry is regarded as one of the most dynamic in the country, and it has one of the most diversified economies in the MENA region. The only comparator country outside the MENA region is Malaysia; an upper-middle income country that has successfully transformed its economy by lowering

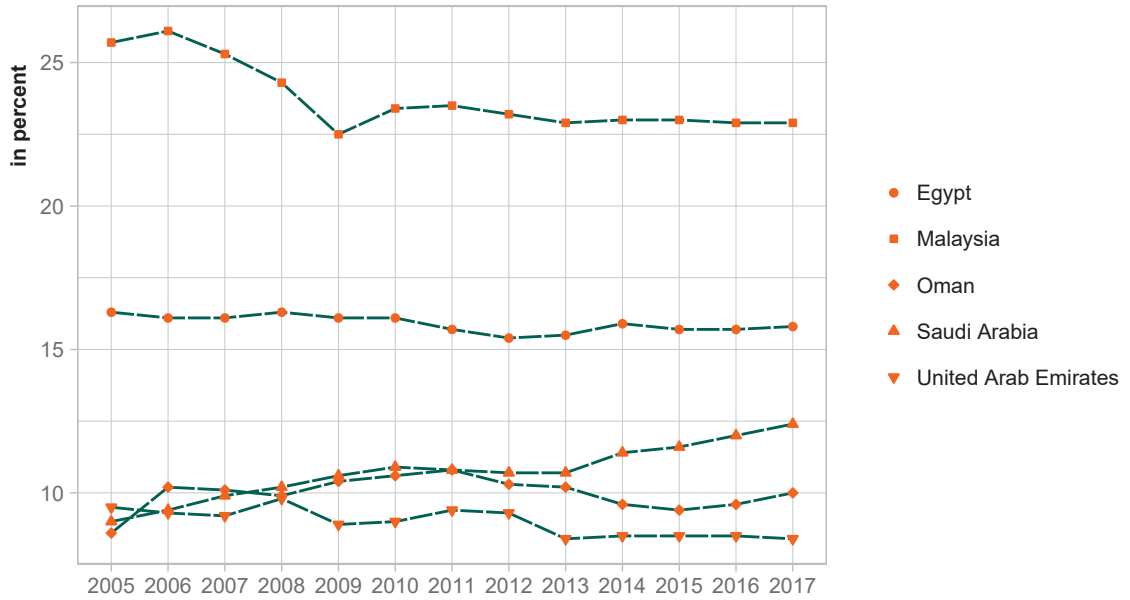
dependence on natural resources (i.e. mineral fuel exports) to a diversified industrial base and developed new economic sectors (fostered by private sector-led growth). Oman looked to Malaysia's economic transformation model when designing the TANFEEDH program, which was implemented in 2016. This Report also compares Oman to its direct neighbour, Saudi Arabia – one of the largest GCC member states – as the two countries share similar geographical advantages and production structure. And finally, like the three other comparator countries, the United Arab Emirates also pursues increased economic diversification. The country has invested heavily in the modernization of its infrastructure, thereby contributing to a more business-friendly environment in the GCC region. In the following, data for these four countries will be held against that of Oman to assess the performance of its manufacturing sector.

### **The importance of manufacturing to Oman's economy**

Oman's manufacturing sector share in GDP has been slowly progressing from 8.6 percent in 2005 to 9.5 percent in 2017. Nonetheless, the growth of manufacturing value added share in GDP has been somewhat stagnant in recent years, especially since 2011. Nevertheless, the value added share of Oman's manufacturing sector in the economy was just short of 10 percent in 2017 (Figure 3.1). Together with Saudi Arabia, Oman was the only country to record positive growth in the sector's contribution between 2005 and 2017.

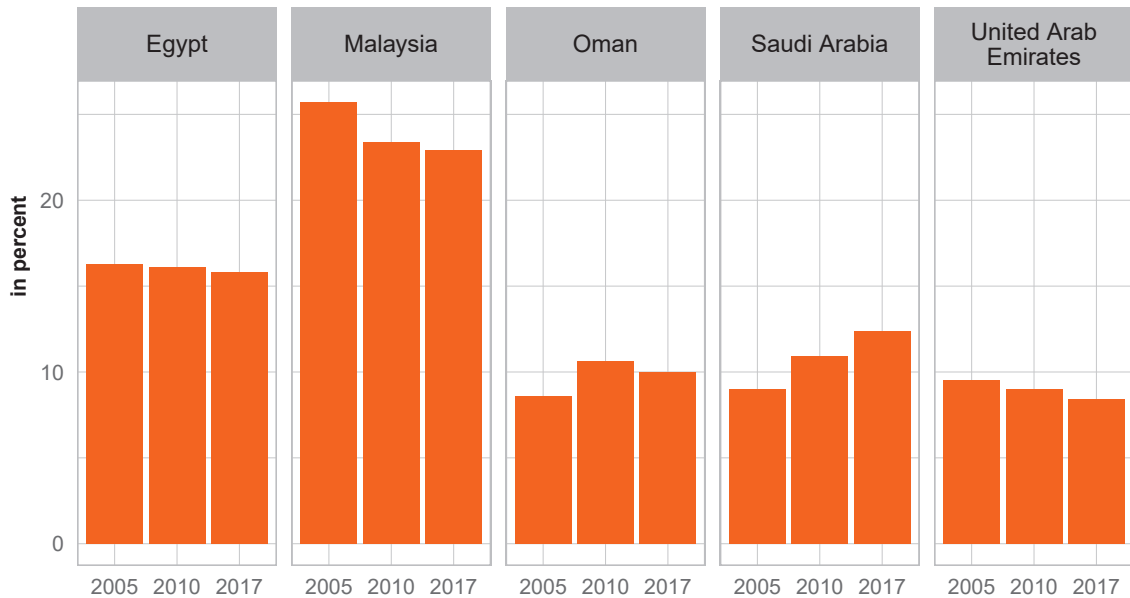
For instance, countries like Malaysia and the United Arab Emirates recorded a decline in the share of manufacturing value added in GDP as presented in Figure 3.2. From 2005 to 2017, Oman was able to advance ahead of the United Arab Emirates by 1.3 percent point. An increasing trend of manufacturing value added share in GDP could be regarded as a positive indicator for economic diversification.

**FIG. 3.1 | THE DEVELOPMENT OF OMAN'S MANUFACTURING SECTOR DEVELOPMENT LACKS MOMENTUM**  
**CROSS-COUNTRY COMPARISON OF THE MANUFACTURING SECTOR'S CONTRIBUTION TO TOTAL OUTPUT (PERCENTAGE)**



**SOURCE |** ELABORATION BASED ON THE MVA 2018 DATABASE (UNIDO 2018A).  
**NOTES |** PERCENTAGES BASED ON VALUES IN CONSTANT 2010 US DOLLARS. GDP IS GROSS DOMESTIC PRODUCT.

**FIG. 3.2 | ONLY OMAN AND SAUDI ARABIA SAW A SIZEABLE INCREASE IN THE SHARE OF MANUFACTURING IN TOTAL OUTPUT OVER THE COURSE OF A DECADE**  
**CROSS-COUNTRY COMPARISON OF THE MANUFACTURING SECTOR'S CONTRIBUTION TO TOTAL OUTPUT (PERCENTAGE)**



**SOURCE |** ELABORATION BASED ON THE MVA 2018 DATABASE (UNIDO 2018A).  
**NOTES |** PERCENTAGES BASED ON VALUES IN CONSTANT 2010 US DOLLARS. GDP IS GROSS DOMESTIC PRODUCT.

## Structure of the manufacturing sector

Between 2007 and 2017, Oman's manufacturing sector more than doubled in terms of value added. This is partly due to the recent decline in global oil prices (in 2015), adding pressure for non-oil activities to become more productive. Nevertheless, Oman's 'Coke and refined petroleum products' industry still generated the biggest manufacturing value added with 583,196 thousand Omani Rial in 2017 (Table 3.1). Although manufacturing value added declined for 'Fabricated metal

**TABLE 3.1 | LARGEST YEAR-TO-YEAR FLUCTUATIONS IN MANUFACTURING VALUE ADDED FOR THE LARGE PETROLEUM-RELATED INDUSTRIES**  
MANUFACTURING VALUE ADDED (CONSTANT 2007 PRICES, THOUSAND OMANI RIAL)

Manufacturing industry (ISIC Rev. 4)	2007	2010	2011	2012	2013	2014	2015	2016	2017
<b>10 Food products</b>	81,940	114,321	122,309	128,010	105,120	123,499	255,974	209,759	204,070
<b>16 Wood products, excluding furniture</b>	7,719	15,729	23,976	13,256	20,030	31,504	53,810	38,554	40,658
<b>19 Coke and refined petroleum products</b>	639,423	844,977	410,176	453,451	571,773	972,083	857,778	566,981	583,196
<b>20 Chemicals and chemical products</b>	147,056	370,311	772,308	1,184,776	414,090	321,967	386,190	358,732	343,117
<b>22 Rubber and plastics products</b>	27,797	48,813	32,743	38,434	42,533	51,512	94,176	76,561	113,415
<b>23 Other non-metallic mineral products</b>	178,707	239,886	242,887	294,970	295,244	286,407	335,197	275,266	347,542
<b>24 Basic metals</b>	57,217	294,303	266,510	349,685	451,878	391,456	445,296	524,246	496,152
<b>25 Fabricated metal products, except machinery</b>	48,865	176,729	68,174	101,105	161,000	220,977	747,371	347,472	433,267
<b>27 Electrical equipment</b>	45,167	58,915	146,589	164,838	148,977	150,972	183,093	146,717	185,835
<b>28 Machinery and equipment n.e.c.</b>	13,716	9,806	20,253	21,854	31,319	40,988	46,397	37,369	31,978
<b>Total manufacturing sector</b>	1,346,702	2,288,198	2,267,748	2,943,357	2,376,708	2,716,203	3,563,296	2,779,122	2,973,041

**SOURCE** | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES** | 1. MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE APPENDIX TABLE C.7 FOR ALL MANUFACTURING INDUSTRIES IN THE PERIOD 2007-2017.

products, except machinery' in 2016, the industry still saw the biggest increase recorded by 15.3 times from 2007 to 2015 by recording 747,371 thousand Omani Rial. 'Basic metals' peaked at 496,152 thousand Omani Rial in 2017, making it the second biggest industry. In terms of share in total manufacturing, four

**TABLE 3.2 | THE VALUE ADDED CONTRIBUTION OF PETROLEUM PRODUCTS IN RAPID DECLINE  
SHARE OF SELECTED INDUSTRIES IN TOTAL MANUFACTURING VALUE ADDED (PERCENTAGE)**

Manufacturing industry (ISIC Rev. 4)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
10 Food products	6.1	5.4	6.4	5.0	5.4	4.3	4.4	4.5	7.2	7.5	6.9
11 Beverages	1.8	1.1	1.0	1.1	1.6	1.2	0.9	0.8	0.9	2.3	1.0
16 Wood products, excluding furniture	0.6	0.6	0.6	0.7	1.1	0.5	0.8	1.2	1.5	1.4	1.4
18 Printing and reproduction of recorded media	1.0	1.0	0.7	0.5	1.1	1.0	0.7	0.6	0.8	0.6	0.7
19 Coke and refined petroleum products	47.5	52.5	33.4	36.9	18.1	15.4	24.1	35.8	24.1	20.4	19.6
20 Chemicals and chemical products	10.9	11.1	24.8	16.2	34.1	40.3	17.4	11.9	10.8	12.9	11.5
22 Rubber and plastics products	2.1	1.8	1.9	2.1	1.4	1.3	1.8	1.9	2.6	2.8	3.8
23 Other non-metallic mineral products	13.3	13.1	10.8	10.5	10.7	10.0	12.4	10.5	9.4	9.9	11.7
24 Basic metals	4.2	3.1	11.9	12.9	11.8	11.9	19.0	14.4	12.5	18.9	16.7
25 Fabricated metal products, except machinery	3.6	2.7	3.7	7.7	3.0	3.4	6.8	8.1	21.0	12.5	14.6
27 Electrical equipment	3.4	2.6	2.0	2.6	6.5	5.6	6.3	5.6	5.1	5.3	6.3
28 Machinery and equipment n.e.c.	1.0	1.2	0.4	0.4	0.9	0.7	1.3	1.5	1.3	1.3	1.1
33 Repair and installation of machinery/equipment	-	-	-	-	0.9	1.9	1.7	0.8	0.9	1.0	1.0
<b>Total manufacturing</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** PERCENTAGES BASED ON VALUES IN CONSTANT 2007 THOUSAND OMANI RIAL. MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE APPENDIX TABLE C.7 FOR DATA ON ALL MANUFACTURING INDUSTRIES.

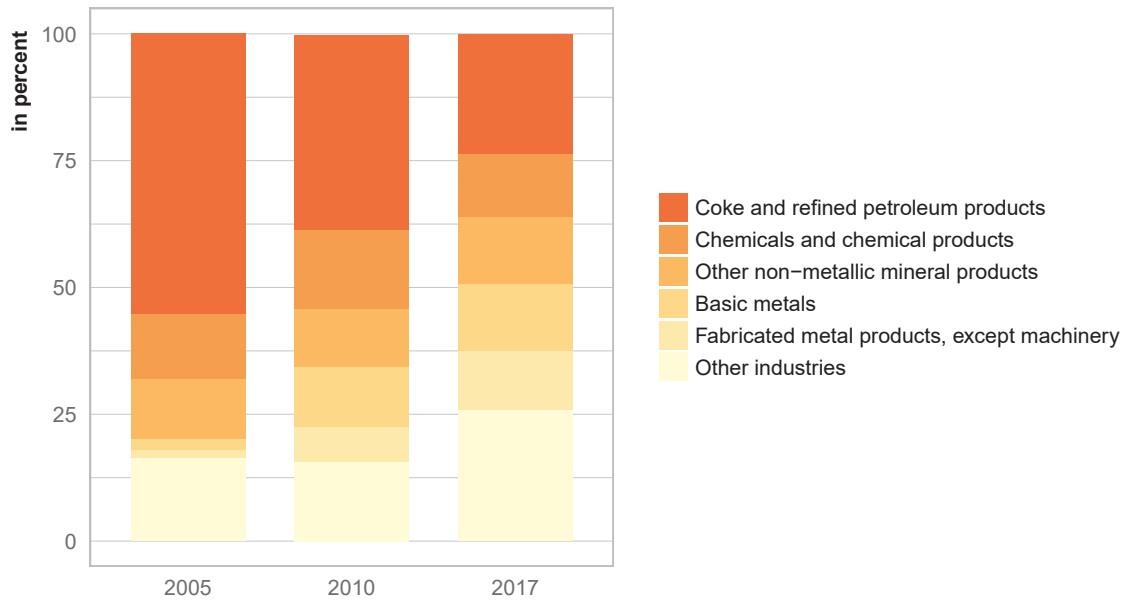
industries recorded decreased share from 2007 to 2017 (see Table 3.2): 'Beverages,' 'Printing and reproduction of recorded media,' 'Coke and refined petroleum products,' and 'Other non-metallic mineral products'.

According to the Annual Industrial Survey, Oman's manufacturing sector is still largely tied to natural resource extraction as 'Coke and refined petroleum products' and 'Chemical and chemical products' remain the primary industries with value added shares of, respectively, 19.6 percent and 11.5 percent in 2017. Following in size are 'Other non-metallic mineral products' (11.7 percent), 'Fabricated metal products, except machinery' (14.7 percent), and 'Basic metals' (16.7 percent). Together these industries comprised 68 percent of the manufacturing value added. This is a stark contrast to 2005, when 85.9 percent of the sector's value added was generated by four large industries ('Coke and refined petroleum products,' 'Chemicals and chemical products,' 'Food products' and 'Other non-metallic mineral products'), exemplifying the absence of economic diversification. Reflective of the situation was the concentration of the 'Coke and refined petroleum products' sector, which accounted for more than half of total manufacturing value added, specifically 55.3 percent.

The situation looks markedly different a decade on. As evident in Figure 3.3, Oman has progressed towards a more diversified production base. The 'Coke and refined petroleum products' industry declined steeply from 2005 to 2017 (from 55.3 percent to 19.6 percent), while new industries claimed their space, particularly 'Fabricated metal products, except machinery' and 'Basic metals.'

The growth pattern of Oman's manufacturing sector at the industrial level was the most impressive in 'Motor vehicles, trailers and semi-trailers' in which the Compound Annual Growth Rate (CAGR) was at 29.1 percent between 2008 and 2017 (Table 3.3). One of the most interesting observations

**FIG. 3.3 | MORE INDUSTRIES ARE CONTRIBUTING TO MANUFACTURING VALUE ADDED**  
**COMPOSITION OF THE MANUFACTURING SECTOR (PERCENTAGE)**



**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** PERCENTAGES BASED ON VALUES IN CURRENT PRICES; SEE APPENDIX TABLE C.5. MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE APPENDIX TABLE C.5 FOR DATA ON ALL MANUFACTURING INDUSTRIES.

from the table is that ‘Coke and refined petroleum products’ recorded negative growth of -0.9 CAGR between 2008 and 2017; one of the lowest observed in the industrial survey.

Overall, the manufacturing sector saw an average growth rate of 8.2 percent despite significant declines in individual industries in 2017. Table 3.4 shows the performance of the six largest industries in the period, indicating that metal-related industries have emerged as key engines of growth.

**TABLE 3.3 | SIGNIFICANT LEAP FORWARD OF NON-OIL INDUSTRIES, ESPECIALLY MOTOR VEHICLES AND METAL PRODUCTS**  
**ANNUAL GROWTH RATE IN MANUFACTURING VALUE ADDED OF SELECTED INDUSTRIES (PERCENTAGE)**

Manufacturing industry (ISIC Rev. 4)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	CAGR
<b>10 Food products</b>	9.3	58.2	-19.3	7	4.7	-17.9	17.5	107.3	-18.1	-2.7	9.6
<b>13 Textiles</b>	95.2	-30	423	-3.3	-5.2	-54.5	62.6	4.5	-1.7	6.8	18.2
<b>15 Leather and related products</b>	55.1	-27.8	-72.6	218.7	8.3	-30.6	16.4	59	200.3	-67.7	2.8
<b>16 Wood products, excluding furniture</b>	31.8	24.8	23.9	52.4	-44.7	51.1	57.3	70.8	-28.4	5.5	18.1
<b>18 Printing and reproduction of recorded media</b>	20	-9.7	-26	126.6	21.9	-45.4	0.8	73.2	-44.2	26.6	4.1
<b>19 Coke and refined petroleum products</b>	36.8	-15.7	14.6	-51.5	10.6	26.1	70	-11.8	-33.9	2.9	-0.9
<b>20 Chemicals and chemical products</b>	25.2	197.6	-32.4	108.6	53.4	-65	-22.2	19.9	-7.1	-4.4	8.8
<b>22 Rubber and plastics products</b>	9.1	35.8	18.5	-32.9	17.4	10.7	21.1	82.8	-18.7	48.1	15.1
<b>23 Other non-metallic mineral products</b>	21.7	9.6	0.6	1.3	21.4	0.1	-3	17	-17.9	26.3	6.9
<b>24 Basic metals</b>	-10.3	410.3	12.3	-9.4	31.2	29.2	-13.4	13.8	17.7	-5.4	24.1
<b>25 Fabricated metal products, except machinery</b>	-6.4	79.8	114.8	-61.4	48.3	59.2	37.3	238.2	-53.5	24.7	24.4
<b>26 Computer, electronic and optical products</b>	9	78.1	17	19.7	1.1	7.2	-34.3	-22.3	39.3	38.6	11.3
<b>27 Electrical equipment</b>	-3.5	-0.1	35.3	148.8	12.4	-9.6	1.3	21.3	-19.9	26.7	15.2
<b>29 Motor vehicles, trailers and semi-trailers</b>	-64.7	146.2	243.5	537.6	-72.6	-13	-0.5	33.6	117.5	-2	29.1
<b>Total manufacturing</b>	23.7	32.5	3.7	-0.9	29.8	-19.3	14.3	31.2	-22	7	8.2

**SOURCE** | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES** | PERCENTAGES BASED ON VALUES IN CONSTANT 2007 OMANI RIAL; SEE APPENDIX TABLE C.7. MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). CAGR IS THE COMPOUND ANNUAL GROWTH RATE. SEE APPENDIX TABLE C.8 FOR DATA ON ALL MANUFACTURING INDUSTRIES.



**TABLE 3.4 | THE BIG SIX: BASIC METALS HAS EMERGED AS THE SECOND LARGEST INDUSTRY WITH THE HIGHEST ANNUAL GROWTH RATE**  
**ANNUAL GROWTH IN MANUFACTURING VALUE ADDED OF THE SIX LARGEST INDUSTRIES (PERCENTAGE)**

Manufacturing industry (ISIC Rev. 4)	Share in total manufacturing value added (2017)	Value added annual growth rate										Average annual growth rate (2008-2016)
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
<b>10 Food products</b>	6.9	9.3	58.2	-19.3	7.0	4.7	-17.9	17.5	107.3	-18.1	-2.7	16.5
<b>19 Coke and refined petroleum products</b>	19.6	36.8	-15.7	14.6	-51.5	10.6	26.1	70.0	-11.8	-33.9	2.9	5.0
<b>20 Chemicals and chemical products</b>	11.5	25.2	197.6	-32.4	108.6	53.4	-65.0	-22.2	19.9	-7.1	-4.4	30.9
<b>23 Other non-metallic mineral products</b>	11.7	21.7	9.6	0.6	1.3	21.4	0.1	-3.0	17.0	-17.9	26.3	5.6
<b>24 Basic metals</b>	16.7	-10.3	410.3	12.3	-9.4	31.2	29.2	-13.4	13.8	17.7	-5.4	53.5
<b>25 Fabricated metal products, except machinery</b>	14.6	-6.4	79.8	114.8	-61.4	48.3	59.2	37.3	238.2	-53.5	24.7	50.7
<b>25 Fabricated metal products, except machinery</b>	14.6	-6.4	79.8	114.8	-61.4	48.3	59.2	37.3	238.2	-53.5	24.7	50.7

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** PERCENTAGES BASED ON VALUES IN CONSTANT 2007 OMANI RIAL; SEE APPENDIX TABLE C.7. MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE APPENDIX TABLE C.8 FOR DATA ON ALL MANUFACTURING INDUSTRIES.

## Productivity

Industrial competitiveness is strongly determined by the efficient allocation of resources and the technology intensity of value-added activities. There are several ways to assess a country's productivity. Examining a country's manufacturing value added per capita reveals valuable information about the level of industrialization by capturing the size of the manufacturing sector relative to its population, and about the sector's production efficiency (see Table 3.5).

Oman's manufacturing value added values in constant price jumped from 1,347 million Omani Rial in 2007 (constant

prices) to 3,563 million Omani Rial in 2015 and detracted back to just above the 2011-level in the subsequent two years. At the same time, the population of Oman has increased at an overall steady pace and grew by a factor 1.5 times over the period. The fluctuating behavior of manufacturing value added is projected onto manufacturing value added per capita - the per capita indicator also declined slightly in 2016 and 2017 after peaking at 857 million Omani Rial the year before. Overall, manufacturing value added per capita increased only slightly between 2007 and 2017. The lack of momentum in the growth of the manufacturing sector can be traced back to large fluctuations in the oil-producing industries as shown in Table 3.6, which details the annual development among the top-eight industries.

**TABLE 3.5 | THE MANUFACTURING SECTOR'S LACKING MOMENTUM ALSO REFLECTED IN FLUCTUATING PER CAPITA VALUE ADDED MANUFACTURING VALUE ADDED PER CAPITA (CONSTANT 2007 PRICES, MILLION OMANI RIAL)**

	Manufacturing value added (millions)		Population (thousands)	Manufacturing value added per capita (thousands)
	Current prices	Constant 2007 prices		Constant 2007 prices
<b>2007</b>	1,347	1,347	2,743	491
<b>2008</b>	2,020	1,666	2,867	581
<b>2009</b>	2,100	2,207	3,174	695
<b>2010</b>	2,450	2,288	2,773	825
<b>2011</b>	2,692	2,268	3,295	688
<b>2012</b>	3,489	2,943	3,623	812
<b>2013</b>	2,806	2,377	3,855	617
<b>2014</b>	3,254	2,716	3,993	680
<b>2015</b>	3,718	3,563	4,159	857
<b>2016</b>	2,612	2,779	4,414	630
<b>2017</b>	2,982	2,973	4,560	652

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C) AND THE 2018 STATISTICAL YEAR BOOK (NCSI 2018B), TABLE 'POPULATION INDICATORS'.

**NOTES |** SEE APPENDIX TABLES C.4, C.7, C.9 AND C.16 FOR DATA ON ALL INDUSTRIES IN TERMS OF, RESPECTIVELY, MANUFACTURING VALUE ADDED IN CURRENT AND CONSTANT PRICES, PER CAPITA MANUFACTURING VALUE ADDED IN CONSTANT PRICES AND POPULATION.

**TABLE 3.6 | WHILE OIL-PRODUCTS STILL OFFER THE HIGHEST VALUE ADDED PER CAPITA, METAL PRODUCTS ARE CLOSING THE GAP  
MANUFACTURING VALUE ADDED PER CAPITA OF THE TOP-EIGHT INDUSTRIES (CONSTANT 2007 PRICES, MILLION OMANI RIAL)**

Manufacturing industry (ISIC Rev. 4)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>10 Food products</b>	29.9	31.2	44.6	41.2	37.1	35.3	27.3	30.9	61.5	47.5	44.8
<b>19 Coke and refined petroleum products</b>	233.1	305.0	232.4	304.7	124.5	125.2	148.3	243.4	206.2	128.5	127.9
<b>20 Chemicals and chemical products</b>	53.6	64.2	172.7	133.5	234.4	327.0	107.4	80.6	92.9	81.3	75.2
<b>22 Rubber and plastics products</b>	10.1	10.6	13.0	17.6	9.9	10.6	11.0	12.9	22.6	17.3	24.9
<b>23 Other non-metallic mineral products</b>	65.2	75.9	75.1	86.5	73.7	81.4	76.6	71.7	80.6	62.4	76.2
<b>24 Basic metals</b>	20.9	17.9	82.6	106.1	80.9	96.5	117.2	98.0	107.1	118.8	108.8
<b>25 Fabricated metal products, except machinery</b>	17.8	16.0	25.9	63.7	20.7	27.9	41.8	55.3	179.7	78.7	95.0
<b>27 Electrical equipment</b>	16.5	15.2	13.7	21.2	44.5	45.5	38.6	37.8	44.0	33.2	40.8

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C) AND THE 2018 STATISTICAL YEAR BOOK (NCSI 2018B), TABLE 'POPULATION INDICATORS'.

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE DATA FOR ALL MANUFACTURING INDUSTRIES IN APPENDIX TABLE C.9. DATA ON VALUE ADDED IS FROM APPENDIX TABLE C.7 AND POPULATION DATA IS FROM APPENDIX TABLE C.16.

**TABLE 3.7 | UNLIKE COMPARATOR COUNTRIES, OMAN HAS SEEN A DECLINE IN PER CAPITA MANUFACTURING VALUE ADDED  
MANUFACTURING VALUE ADDED PER CAPITA OF SELECTED COUNTRIES (CONSTANT 2010 PRICES, US DOLLARS)**

	2005	2010	2011	2012	2013	2014	2015	2016	2017
<b>Egypt</b>	337	411	399	393	393	402	405	416	426
<b>Malaysia</b>	2,048	2,126	2,200	2,255	2,290	2,391	2,468	2,520	2,629
<b>Oman</b>	1,524	2,040	1,941	1,885	1,810	1,645	1,600	1,604	1,600
<b>Saudi Arabia</b>	1,736	2,097	2,218	2,241	2,250	2,398	2,474	2,534	2,579
<b>United Arab Emirates</b>	5,289	3,113	3,256	3,351	3,134	3,256	3,331	3,404	3,372

**SOURCE |** ELABORATION BASED ON THE MVA 2018 DATABASE (UNIDO 2018C).

While ‘Coke and refined petroleum products’ is the main contributor to the sector’s manufacturing value added per capita, it has seen a steep decline since 2014. Among the top-eight industries, ‘Rubber and plastic products’ contributes the least. This dynamic was the same in 2007 with the notable difference in the relative distribution. From a share of almost 50 percent, the ‘Coke and refined petroleum products’ industry accounted for less than 20 percent in 2017 testifying to a more diverse production base. Especially the metals industries have gained significance in Oman with ‘Basic metals’ almost at par with the primary industry. Compared to the benchmark countries in the 2007-2017 period, Oman’s manufacturing value added per capita has been lower in all cases but Egypt. For all other comparator countries, the gap with Oman has increased.

**TABLE 3.8 | MANUFACTURING VALUE ADDED BY EMPLOYEE IS AT ITS LOWEST SINCE 2007**  
**MANUFACTURING VALUE ADDED PER EMPLOYEE (CONSTANT 2007 PRICES, OMANI RIAL)**

	Number of employees	Manufacturing value added at constant 2007 prices (millions, Omani Rial)	Manufacturing value added per employee
2007	46,228	1,347	29,132
2008	51,185	1,666	32,557
2009	57,504	2,207	38,387
2010	61,239	2,288	37,365
2011	62,833	2,268	36,092
2012	69,864	2,943	42,130
2013	72,308	2,377	32,869
2014	77,438	2,716	35,076
2015	86,470	3,563	41,224
2016	90,489	2,779	30,711
2017	96,702	2,973	30,744

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** SEE INDUSTRY-SPECIFIC DATA IN APPENDIX TABLES C.7 FOR MANUFACTURING VALUE ADDED AND C.12 FOR MANUFACTURING VALUE ADDED PER EMPLOYEE.

Another powerful indicator of productivity is labor productivity, which can be measured by looking at manufacturing value added per employee (Table 3.8). By using this indicator, it is possible to evaluate the performance of employees within a single establishment: when the value added per employee rises, it reflects an improvement in productivity. The growth in manufacturing value added per employee has fluctuated during the past decade, arriving at 30,744 OMR in 2017 – not far from

**TABLE 3.9 | THE TOP-10 INDUSTRIES WITH THE HIGHEST MANUFACTURING VALUE ADDED PER EMPLOYEE**  
**MANUFACTURING VALUE ADDED PER EMPLOYEE (CONSTANT 2007 PRICES, OMANI RIAL)**

Manufacturing industry (ISIC Rev. 4)	2007	2010	2011	2012	2013	2014	2015	2016	2017
<b>15 Leather and related products</b>	8,921	2,499	7,384	7,443	6,504	8,283	12,690	24,950	8,351
<b>19 Coke and refined petroleum products</b>	287,510	348,300	245,614	237,907	322,853	445,501	313,745	188,116	179,114
<b>20 Chemicals and chemical products</b>	62,979	114,577	233,750	245,143	84,096	64,009	75,149	68,657	60,782
<b>24 Basic metals</b>	31,647	55,845	41,884	42,712	59,309	58,002	47,111	62,100	59,010
<b>26 Computer, electronic and optical products</b>	29,969	49,931	43,158	43,902	49,588	31,535	27,011	33,940	49,330
<b>27 Electrical equipment</b>	25,898	24,922	51,507	52,296	46,951	44,799	55,282	40,586	46,366
<b>28 Machinery and equipment n.e.c.</b>	33,618	15,589	32,614	31,445	43,926	62,292	73,296	33,818	42,866
<b>29 Motor vehicles, trailers and semi-trailers</b>	3,247	3,140	18,856	17,315	19,839	17,963	20,180	43,235	39,437
<b>32 Other manufacturing</b>	14,052	5,743	25,437	25,989	5,842	21,871	30,856	34,813	45,627
<b>33 Repair and installation of machinery/equipment</b>	-	-	44,620	45,247	33,506	26,429	30,617	25,163	25,770
<b>Total manufacturing</b>	29,132	37,365	36,092	42,130	32,869	35,076	41,224	30,711	30,744

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE APPENDIX TABLE C.12 FOR DATA ON ALL MANUFACTURING INDUSTRIES.

the 2007 level. This development occurred in the context of the number of employees almost doubling in the same period, while increased in manufacturing value added have failed to manifest. Hence, Oman's rapid labor force growth is mirrored in the labor productivity pattern.

Labor productivity at the industry level suggests which industries are driving manufacturing performance. Table 3.9 again highlights the heavy dependence on 'Coke and refined petroleum products' with the gap to non-petroleum industries remaining wide. The significant drop between 2015 and 2017 may be no more than a fluctuation similar to previous years. It is noticeable how non-petroleum industries, in general, demonstrate much steadier and continuous growth.

### **Ownership of establishments**

The ownership structure of a country's industrial establishments reveals underlying dynamics of its manufacturing sector at large. As of 2017, 72.3 percent of all industrial establishments in Oman (a total of 819 in the Annual Industrial Survey) were locally-owned, while 23.8 percent had a mixed ownership structure (see Table 3.10). Only 3.9 percent were foreign-owned. A positive and significant relationship has been established between foreign ownership and firm performance in Oman (Al-Matari et al. 2017). Current legislation requires foreign investors to have a local shareholder with at least a 35 percent stake. However, a new foreign capital investment law—drafted in collaboration with the World Bank—will help facilitate a more conducive environment for investments by allowing 100 percent foreign ownership and removing minimal capital requirements to set up business in the Sultanate (Rejimon 2016).

At industry-specific level (see Table 3.11), the majority of fully Omani-owned establishments is in the 'Other Non-Metallic Mineral Products' industry followed by 'Food Products,' while the industries with the lowest shares are 'Basic Metals' and 'Chemicals and chemical products.' Most establishments with foreign ownership are found in the first and last-mentioned industries.

**TABLE 3.10 | INDUSTRIAL ESTATES NOW THE HOME FOR THE MAJORITY OF ESTABLISHMENTS IN OMAN**  
**NUMBER OF ESTABLISHMENTS BY LOCATION AND ORIGIN OF OWNERSHIP**

		Location of operation		Origin of ownership			Total
		Within industrial estate	Outside	Omani	Foreign	Mixed	
2012	Number of establishments	261 (34.9%)	440 (58.9%)	544 (72.8%)	15 (2.0%)	142 (19.0%)	701 (100.0%)
	Number of employees	32,428 (45.5%)	38,906 (54.5%)	46,831 (65.7%)	1,917 (2.7%)	22,586 (31.7%)	71,334 (100.0%)
2017	Number of establishments	364 (44.4%)	455 (55.6%)	592 (72.3%)	32 (3.9%)	195 (23.8%)	819 (100.0%)
	Number of employees	51,584 (52.9%)	45,943 (47.1%)	59,362 (60.9%)	5,796 (5.9%)	32,369 (33.2%)	97,527 (100.0%)

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** SEE APPENDIX TABLE C.15 FOR 2017 DATA ON ALL MANUFACTURING INDUSTRIES.

**TABLE 3.11 | THE BIG SIX: ALMOST HALF OF THE SURVEYED ESTABLISHMENTS ARE IN THE METAL-PRODUCING INDUSTRIES**  
**ORIGIN OF OWNERSHIP IN SELECTED INDUSTRIES, 2017**

Manufacturing industry (ISIC Rev. 4)	Omani	Foreign	Mixed	Total
10 Food products	69 (11.7%)	2 (6.3%)	20 (10.3%)	91 (11.1%)
20 Chemicals and chemical products	43 (7.3%)	3 (9.4%)	12 (6.2%)	58 (7.1%)
22 Rubber and plastics products	51 (8.6%)	3 (9.4%)	15 (7.7%)	69 (8.4%)
23 Other non-metallic mineral products	185 (31.3%)	5 (15.6%)	56 (28.7%)	246 (30.0%)
24 Basic metals	13 (2.2%)	2 (6.3%)	20 (10.3%)	35 (4.3%)
25 Fabricated metal products, except machinery	68 (11.5%)	6 (18.8%)	32 (16.4%)	106 (12.9%)

**SOURCE |** ELABORATION BASED ON THE ANNUAL INDUSTRIAL SURVEY 2017 (MOCI 2018A, 2018B).

**NOTES |** THE TABLE SHOWS THE SIX INDUSTRIES WITH THE MOST ESTABLISHMENTS IN THE SURVEY. SEE APPENDIX TABLE C.15 FOR DATA ON ALL MANUFACTURING INDUSTRIES.

## Industrial competitiveness

A country's capacity to export manufactured goods and its participation in international trade is indicative of its industrial competitiveness both regionally and globally. Oman's export performance has been remarkable compared to the benchmark countries (Table 3.12). Oman's manufactured exports per capita jumped from 515 US dollars in 2005 to 1,725 US dollars in 2016; the biggest increase observed. In 2015, Oman had advanced ahead of Saudi Arabia, while the gap between the two economies was threefold in 2005 – however, the cards were turned again in the subsequent year as Oman's economy struggled.

Oman experienced a rapid rise in the manufactured exports' share in total exports as well (Figure 3.4). In 2016, Oman's non-oil export accounted for 27 percent of Oman's total exports. This is in stark contrast to a share of just 8 percent in 2005. In comparison, Malaysia and the United Arab Emirates saw the share decline slightly.

Oman's manufactured export volume grew at a satisfactory pace as well, increasing from 1,5 million US dollars in 2005 to 6,1 million US dollars in 2015. Impressive growth was especially seen in 'Chemical and chemical products' and 'Basic metals.'

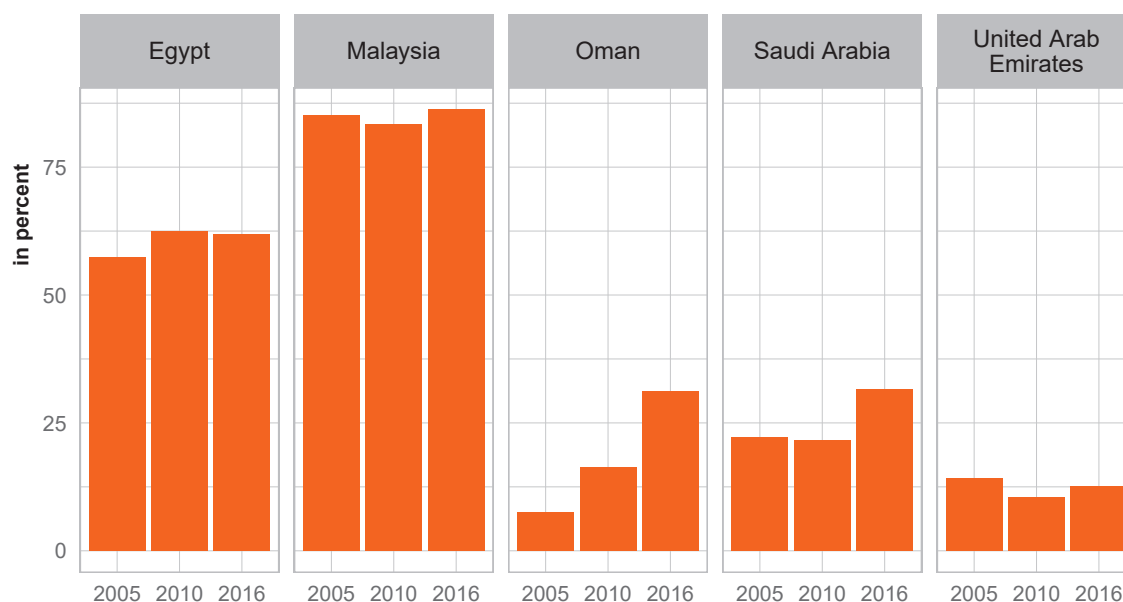
**TABLE 3.12 | OMAN'S MANUFACTURING EXPORTS PER CAPITA HAS SLIPPED BACK TO THE 2010 LEVEL**  
**MANUFACTURED EXPORTS PER CAPITA OF SELECTED COUNTRIES (CURRENT PRICES, US DOLLARS)**

	2005	2010	2011	2012	2013	2014	2015	2016
<b>Egypt</b>	80	195	229	209	209	201	160	146
<b>Malaysia</b>	4,701	5,890	6,435	6,347	6,204	6,292	5,476	5,240
<b>Oman</b>	514	1,690	2,047	2,673	2,259	2,277	2,033	1,725
<b>Saudi Arabia</b>	1,642	1,939	2,456	2,490	2,339	2,564	1,886	2,034
<b>United Arab Emirates</b>	2,746	1,868	2,382	2,933	4,969	5,082	3,632	3,245

SOURCE | CIP 2018 DATABASE (UNIDO 2018C).



**FIG. 3.4 | ...BUT MANUFACTURING EXPORTS HAS GROWN INCREASINGLY IMPORTANT TO OMAN'S TRADE**  
**CROSS-COUNTRY COMPARISON OF THE SHARE OF MANUFACTURED EXPORTS IN TOTAL EXPORTS (PERCENTAGE)**



**SOURCE |** ELABORATION BASED ON THE CIP 2018 DATABASE (UNIDO 2018C).  
**NOTES |** PERCENTAGES BASED ON VALUES IN CURRENT US DOLLARS.

**TABLE 3.13 | LARGE FLUCTUATIONS IN MANUFACTURING EXPORTS IN CURRENT PRICES ACROSS INDUSTRIES**  
**MANUFACTURED EXPORTS (CURRENT PRICES, THOUSAND US DOLLARS)**

Manufacturing industry (ISIC Rev. 4)	2005	2010	2011	2012	2013	2014	2015
<b>10 Food products</b>	284,513	611,191	812,811	555,760	495,906	539,341	656,597
<b>19 Coke and refined petroleum products</b>	272,296	1,552,554	1,949,750	4,427,787	5,031,118	2,375,276	2,367,074
<b>20 Chemicals and chemical products</b>	243,867	10,146	3,651,573	1,773,731	85,374	109,947	721,614
<b>22 Rubber and plastics products</b>	69,387	267,120	309,964	219,505	24,888	4,718	386,087
<b>23 Other non-metallic mineral products</b>	131,630	193,718	222,864	199,045	260,427	249,998	286,036
<b>24 Basic metals</b>	143,173	874,410	1,378,253	749,069	876,780	856,780	648,856
<b>25 Fabricated metal products, except machinery</b>	29,106	78,828	80,503	32,721	41,640	36,637	49,832
<b>27 Electrical equipment</b>	122,516	76,861	397,874	313,740	452,040	403,870	415,865
<b>Total manufacturing</b>	<b>1,533,719</b>	<b>4,023,021</b>	<b>9,538,694</b>	<b>8,723,074</b>	<b>7,875,021</b>	<b>4,704,185</b>	<b>6,133,951</b>

**SOURCE |** UNIDO INDUSTRIAL DEMAND SUPPLY DATABASE 2018 (UNIDO 2018D).  
**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC).

Eight industries form the lion's share of Oman's manufactured export, together accounting for about 98 percent in 2015 (Table 3.14). The same industries used to account for less, around 90 percent of the total manufactured exports in 2005. Especially the 'Chemicals and chemical products' saw a significant change as its share jumped from 2.3 percent to 11.8 percent.

Tables 3.15 and 3.16 summarize Oman's industrial performance. Firstly, Oman's technology deepening and upgrading have been satisfactory both at production and trade perspectives. The share of medium-and high-technology activities in total manufacturing production and trade activities each jumped from 16 percent to 20 percent, and 30 percent to 38 percent respectively. Nonetheless, some countries like the United Arab Emirates, Saudi Arabia, and Egypt have progressed more than Oman in terms of upgrading the technology level of their manufactured exports, making it more sophisticated and competitive than before.

**TABLE 3.14 | OMAN'S MANUFACTURING EXPORTS IS BECOMING INCREASINGLY DIVERSE**  
INDUSTRY-SHARE OF EXPORTS IN TOTAL MANUFACTURED EXPORTS, SELECTED INDUSTRIES (PERCENTAGE)

Manufacturing industry (ISIC Rev. 4)	2005	2010	2011	2012	2013	2014	2015
<b>10 Food products</b>	18.6	15.2	8.5	6.4	6.3	11.5	10.7
<b>19 Coke and refined petroleum products</b>	17.8	38.6	20.4	50.8	63.9	50.5	38.6
<b>20 Chemicals and chemical products</b>	15.9	0.3	38.3	20.3	1.1	2.3	11.8
<b>22 Rubber and plastics products</b>	4.5	6.6	3.2	2.5	0.3	0.1	6.3
<b>23 Other non-metallic mineral products</b>	8.6	4.8	2.3	2.3	3.3	5.3	4.7
<b>24 Basic metals</b>	9.3	21.7	14.4	8.6	11.1	18.2	10.6
<b>26 Computer, electronic and optical products</b>	2.5	1.3	0.9	0.9	1.1	0	1.6
<b>27 Electrical equipment</b>	8	1.9	4.2	3.6	5.7	8.6	6.8
<b>28 Machinery and equipment n.e.c.</b>	0.7	0.6	1.7	0.8	1.2	0	1.7
<b>30 Other transport equipment</b>	4.6	0.7	2	0.6	0.9	0	1.3

**SOURCE |** UNIDO 2018D. INDUSTRIAL DEMAND SUPPLY DATABASE 2018

**NOTES |** THE TABLE SHOWS INDUSTRIES WITH AN EXPORT SHARE IN TOTAL MANUFACTURING EXPORTS OF 1 PERCENT OR MORE. PERCENTAGES BASED ON VALUES IN US DOLLARS.

**TABLE 3.15 | OMAN IS THE ONLY COUNTRY TO SEE PROGRESS ACROSS ALL KEY INDICATORS FOR MANUFACTURING VALUE ADDED**  
**MANUFACTURING VALUE ADDED INDICATORS OF INDUSTRIAL PERFORMANCE**

	Manufacturing value added per capita		Share of manufacturing value added in GDP		Share of medium-and high-tech activities in total manufacturing value added	
	2005	2016	2005	2016	2005	2016
<b>Egypt</b>	337	416	16.3%	15.7%	29.0%	14.0%
<b>Malaysia</b>	2,049	2,520	25.7%	22.9%	48.4%	44.1%
<b>Oman</b>	1,524	1,604	8.6%	9.6%	15.8%	21.9%
<b>Saudi Arabia</b>	1,736	2,534	9.0%	12.0%	41.7%	37.9%
<b>United Arab Emirates</b>	5,289	3,404	9.5%	8.5%	12.6%	25.5%

**SOURCE |** ELABORATION BASED ON THE CIP 2018 DATABASE (UNIDO 2018C).

**NOTES |** SHARE OF MEDIUM- AND HIGH-TECH ACTIVITIES IS BASED ON VALUES IN CURRENT US DOLLARS. ALL OTHER INDICATORS ARE BASED ON VALUES IN CONSTANT 2010 US DOLLARS. GDP IS GROSS DOMESTIC PRODUCT.

**TABLE 3.16 | ONLY A SMALL PART OF THE IMPRESSIVE GROWTH IN MANUFACTURING EXPORTS IS DRIVEN BY MEDIUM AND HIGH TECH ACTIVITIES**  
**MANUFACTURED EXPORTS INDICATORS OF INDUSTRIAL PERFORMANCE**

	Manufacturing exports per capita		Share of manufacturing exports in total exports		Share of medium-and high-tech activities in total manufacturing exports	
	2005	2016	2005	2016	2005	2016
<b>Egypt</b>	79.7	145.5	57.5%	61.8%	11.8%	35.5%
<b>Malaysia</b>	4,700.9	5,240.2	85.2%	86.3%	72.3%	62.5%
<b>Oman</b>	514.0	1,725.2	7.5%	31.2%	30.1%	34.0%
<b>Saudi Arabia</b>	1,642.3	2,034.1	22.1%	31.7%	23.5%	39.6%
<b>United Arab Emirates</b>	2,745.8	3,244.8	14.1%	12.5%	9.4%	26.4%

**SOURCE |** ELABORATION BASED ON THE CIP 2018 DATABASE (UNIDO 2018C).

**NOTES |** ALL INDICATORS BASED ON VALUES IN US DOLLARS.

### **International competitiveness rankings**

In recent years, different benchmarking tools to compare competitiveness internationally have seen the light of day. Covering various aspects of competitiveness, these indexes guide a constructive global dialogue, helping countries to make better policy choices and businesses to shape better strategies (UNIDO 2017c). Using such indexes, it is possible to place Oman's industrial advancement in an even broader context and assess progress achieved so far.

According to UNIDO's Competitive Industrial Performance index (CIP), Oman ranked 66th out of 150 countries in 2016 (see Table 3.17). The CIP ranking shows that Oman has advanced rapidly, moving up from a rank of 98th in 1990 and 66th just 20 years after. Even though Oman performs second to last compared to the benchmark countries, it has seen the most considerable improvement in industrial competitiveness according to the CIP. To continue such advancements, Oman will have to strengthen its focus on diversifying the manufacturing sector and increasing the industrial performance.

The Global Competitiveness Index of the World Economic Forum paints a different picture (Table 3.18). Oman's ranking dropped dramatically from 34th in 2010/11 to 62th in 2016/17. Malaysia and the United Arab Emirates were the only countries to see their competitiveness improve since 2005. Also here, the GCC countries (Saudi Arabia and the United Arab Emirates) were ranked higher than Oman, and Egypt still got a lower score.

**TABLE 3.17 | OMAN'S MANUFACTURING SECTOR IS RAPIDLY CLIMBING THE COMPETITIVE INDUSTRIAL LATTER  
CIP (COMPETITIVE INDUSTRIAL PERFORMANCE) INDEX RANKING OF SELECTED COUNTRIES**

	CIP ranking in 2005	CIP ranking in 2010	CIP ranking in 2016
<b>Egypt</b>	74	70	73
<b>Malaysia</b>	21	22	22
<b>Oman</b>	82	68	66
<b>Saudi Arabia</b>	37	37	36
<b>United Arab Emirates</b>	46	54	41

**SOURCE |** ELABORATION BASED ON THE CIP 2018 DATABASE (UNIDO 2018C).  
**NOTES |** THE RANKING IS BASED ON THE PERFORMANCES OF 150 COUNTRIES.

**TABLE 3.18 | ....BUT PERFORMS WORSE WHEN ACCOUNTING FOR BROADER COMPETITIVENESS INDICATORS  
GCI (GLOBAL COMPETITIVENESS INDEX) RANKING OF SELECTED COUNTRIES**

	2005	2010-2011	2016-2017
<b>Egypt</b>	63	81	116
<b>Malaysia</b>	26	26	18
<b>Oman</b>	-	34	66
<b>Saudi Arabia</b>	-	21	25
<b>United Arab Emirates</b>	32	25	17

**SOURCE |** THE GLOBAL COMPETITIVENESS INDEX (SCHWAB 2016).  
**NOTE |** THE INDEX COVERED 125 COUNTRIES IN 2005, 139 COUNTRIES IN 2010-2011, AND 138 COUNTRIES IN 2016-2017.



# 04. SOCIAL INCLUSIVENESS IN OMAN'S MANUFACTURING SECTOR AND ITS ENVIRONMENTAL IMPACT

## Omanization

Omanization refers to the national policy enacted by the Omani government in 1988 aimed at increasing the ratio of trained Omani workers to expatriate workers in the labor market. The issue is particularly present in the private sector, even more so in the manufacturing industries for which the government has defined obligatory quotas for companies to meet domestic to foreign workers. However, the push for Omanization has put pressure on upgrading the skills and educational levels of the Omani workforce to secure that enough qualified labor is available for roles at the professional and managerial level. This imbalance between foreign and local workers is not unique to Oman but is a concern for the GCC region in general, noticeably Saudi Arabia and Kuwait (Arab News 2018). Overall, the region has the highest proportion of expat workers engaged in their private sector compared to any other group of countries in the world. Instead, nationals are mainly concentrated in oil-related activities in the public sector. As a result, the bulk of private non-oil related industries, especially the labor-intensive ones, are operated by foreign labor. It is vital for a country like Oman who seeks to develop its economy through industrialization that knowledge and know-how are nurtured among locals, hence the need for national policies such as Omanization. As part of its Vision 2020, Oman ambitiously targets a 95 percent Omanization rate in the public sector by 2020 and 75 percent in the private sector.

## Employment Trends and Challenges

The population of Oman has grown steadily since 2003 but has picked up in pace following an abrupt decline in 2010

(see Figure 4.1). As of 2017, the population had reached 4.6 million of which approximately 2.5 million are Omani (NCSI 2018b). It is the increasing influx of foreign workers that drives population growth in the country with the Omani to non-Omani ratio having diminished significantly in recent years.

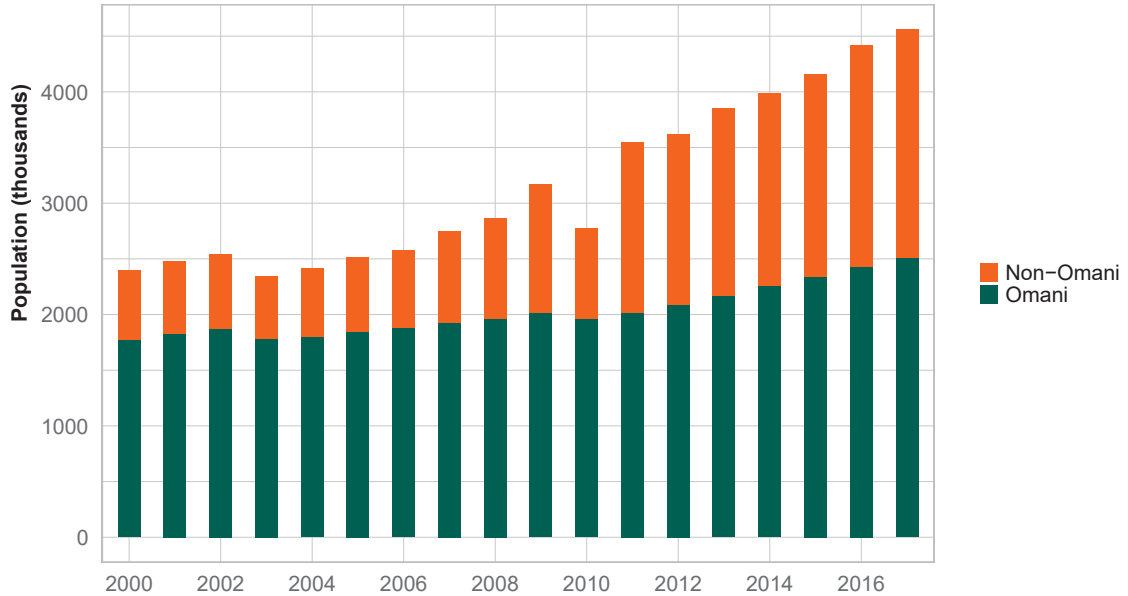
Overall, it is essential for the Omani government to keep pace with the rapid population growth and facilitate the creation of better and safer jobs, particularly for the country's growing youth. Failing to do so will impede socio-economic development and complicate the realization of the Vision 2020 objectives. According to the International Monetary Fund (2017), Oman exceeded other GCC countries, including Bahrain and Saudi Arabia, in the matter of job creation for nationals in the private sector

Two bottlenecks prevail in the Omani employment structure. First, there is an unbalanced distribution of employment opportunities in the private and public sectors among Omani nationals. Secondly, there are a large number of foreigners working across all skill groups in the manufacturing sector and a mismatch of skills between potential employees and employers. The 9th Five-Year Plan highlights the challenge linked to these bottlenecks. Since almost half of all Omani workers have employment in the government or in the wider public sector - 45.0 percent in 2017, down 49.2 percent in 2012 (NCIS 2018b)— it will be difficult to achieve the national objective without enhancing the quality of the private sector jobs and offering more benefits to the private sector in the manufacturing sector.

One of the main reasons behind this unbalance is that private sectors jobs in Oman, in general, are very labor intensive and offer lower salaries than the public sector. Hence, there are no incentives in place to encourage the country's large and growing youth to find employment outside the public sector, and in effect, the majority of new graduates only considers



**FIG. 4.1 | FOREIGN LABOR IS THE KEY DRIVER OF OMAN'S POPULATION GROWTH**  
**DISTRIBUTION OF POPULATION (THOUSANDS)**



**SOURCE |** ELABORATION BASED ON THE 2018 STATISTICAL YEAR BOOK (NCSI 2018B), TABLE 'POPULATION INDICATORS'.  
**NOTES |** SEE APPENDIX TABLE C.16 FOR DATA.

employment there. There is also a strong belief that the public sector offers more stable jobs in terms of security and benefit.

Nevertheless, the share of Omanis in the public sector has declined marginally from 85.1 percent in 2014 to 84.5 percent in 2015 (Central Bank of Oman 2017). Growth in private sector employment has been impressive due to the increased diversification of the economy and carefully designed incentives offered to private investment. Different policies have also been implemented. Firstly, the government has established the Public Authority for Small and Medium Enterprises Development (PASMED), an independent body working to encourage entrepreneurship among the youth and that provides technical and financial support, offers training, and help to marketing and management.

Table 4.1 shows the distribution of workers in the private manufacturing sector at a glance. In 2017 'Other non-metallic mineral products' is the premier employer (19.9 percent), followed by 'Fabricated metal products, except machinery' (16.9 percent) and 'Food products' (13.0 percent).

Between 2012 and 2017, the share of non-Omanis in the private manufacturing sector increased from 69.3 percent to 72.5 percent, while the share of Omani decreased correspondingly (Table 4.2).

At the industry-specific level, Omanis were primarily employed in 'Food products' and 'Other non-metallic mineral products' in 2017 (see Table 4.3), whereas non-Omanis were concentrated in 'Other non-metallic mineral products.' 'Coke and refined petroleum products' was the only industry (out of 23) with more Omanis engaged.

**TABLE 4.1 | LABOR IS INCREASINGLY ENGAGED IN METAL-RELATED INDUSTRIES, SHIFTING AWAY FROM FOOD AND MINERAL INDUSTRIES**  
NUMBER AND SHARE OF PERSONS ENGAGED IN SELECTED INDUSTRIES

Manufacturing industry (ISIC Rev. 4)	2005	2012	2017
10 Food products	6,396 (17.4%)	9,030 (12.9%)	12,583 (13.0%)
11 Beverages	1,738 (4.7%)	2,804 (4.0%)	3,409 (3.5%)
16 Wood products, excluding furniture	823 (2.2%)	2,524 (3.6%)	5,362 (5.5%)
18 Printing and reproduction of recorded media	1,568 (4.3%)	1,580 (2.3%)	1,517 (1.6%)
19 Coke and refined petroleum products	1,201 (3.3%)	1,906 (2.7%)	3,256 (3.4%)
20 Chemicals and chemical products	2,101 (5.7%)	4,833 (6.9%)	5,645 (5.8%)
22 Rubber and plastics products	2,018 (5.5%)	4,367 (6.3%)	5,044 (5.2%)
23 Other non-metallic mineral products	8,599 (23.4%)	14,527 (20.8%)	19,237 (19.9%)
24 Basic metals	1,505 (4.1%)	8,187 (11.7%)	8,408 (8.7%)
25 Fabricated metal products, except machinery	3,459 (9.4%)	8,457 (12.1%)	16,310 (16.9%)
27 Electrical equipment	1,155 (3.1%)	3,152 (4.5%)	4,008 (4.1%)
<b>Total manufacturing sector</b>	<b>36,674 (100.0%)</b>	<b>69,864 (100.0%)</b>	<b>96,702 (100.0%)</b>

SOURCE | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

NOTES | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE APPENDIX TABLE C.21 FOR DATA ON ALL MANUFACTURING INDUSTRIES.

**TABLE 4.2** | A DECREASING SHARE OF OMANIS ARE ENGAGED IN THE MANUFACTURING SECTOR, INCLUDING WOMEN / THE INCREASE IN MANUFACTURING ENGAGEMENT IS LED BY NON-OMANIS

NUMBER AND SHARE OF PERSONS ENGAGED BY ORIGIN AND GENDER

	Number of persons engaged	Omani	Non-Omani	Total
2012	Male	19,128 (28.1%)	48,910 (71.9%)	68,037 (100.0%)
	Female	2,805 (85.1%)	493 (14.9%)	3,298 (100.0%)
	Total	21,932 (30.7%)	49,404 (69.3%)	71,334 (100.0%)
2017	Male	22,721(24.7%)	69,267(75.3%)	91,987(100.0%)
	Female	4,095(73.9%)	1,448(26.1%)	5,540(100.0%)
	Total	26,815(27.5%)	70,712(72.5%)	97,527(100.0%)

**SOURCE** | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES** | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE APPENDIX TABLE C.18 FOR DATA ON ALL MANUFACTURING INDUSTRIES, WHILE GENDER-SPECIFIC DATA IS AVAILABLE IN MOCI (2018B), TABLES 2.8B AND 2.8C.

**TABLE 4.3** | THE RECENT HIKE IN MANUFACTURING ENGAGEMENT IS POWERED BY NON-OMANI WORKERS

NUMBER OF PERSONS ENGAGED IN SELECTED INDUSTRIES

	Manufacturing industry (ISIC Rev. 4)	Omani	Non-Omani	Total
2012	10 Food products	3,250 (14.8%)	5,869 (11.9%)	9,119 (12.8%)
	23 Other non-metallic mineral products	3,876 (17.7%)	11,456 (23.2%)	15,332 (21.5%)
	24 Basic metals	2,975 (13.6%)	5,256 (10.6%)	8,231 (11.5%)
	25 Fabricated metal products, except machinery	1,881 (8.6%)	6,676 (13.5%)	8,557 (12.0%)
	Total manufacturing sector	21,932 (100.0%)	49,404 (100.0%)	71,334 (100.0%)
2017	10 Food products	4,150(15.5%)	8,517(12.0%)	12,667(13.0%)
	23 Other non-metallic mineral products	3,970(14.8%)	15,526(22.0%)	19,496(20.0%)
	24 Basic metals	3,155(11.8%)	5,295(7.5%)	8,450(8.7%)
	25 Fabricated metal products, except machinery	3,127(11.7%)	13,282(18.8%)	16,409(16.8%)
	Total manufacturing	26,815(100.0%)	70,712(100.0%)	97,527(100.0%)

**SOURCE** | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES** | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE APPENDIX TABLE C.18 FOR DATA ON ALL MANUFACTURING INDUSTRIES.

A key challenge in Oman is employer's preference for hiring non-Omanis to specific jobs, mainly because their salaries are lower than that of nationals. Moreover, there is a current shortage of skilled and trained Omanis in the private sector, especially in the young population. Table 4.4 reveals that most Omanis are engaged in roles as either skilled operatives or unskilled operatives, in that order. It also shows that expatriates are working across all skill groups in the manufacturing sector, and thus not only in low-skilled jobs. The Omani government is continuously investing in training and capacity building initiatives to reduce the existing gap between skills required and competencies in various fields.

### **Status of female employment in the Omani manufacturing sector**

The current Five-Year Plan emphasizes the importance of increasing women and youth employment level and by doing so increasing the level of social inclusiveness. Overall, female employment is relatively low compared to that of male employment in the manufacturing sector. However, women in Oman are presented with more opportunities at the managerial and professional level than men. Unlike women, there are more male expatriates than Omanis in the manufacturing sector. In 2017, only 1,448 of the total 5,543 female employees in Oman's manufacturing sector (see Table 4.5) were expats. Due to growth within all roles, the number of non-Omani women almost doubled from the year before.

Close to half of Omani women employed in the manufacturing sector were concentrated at the managerial and professional level, and the skilled operative level (Table 4.6). 'Other non-metallic mineral products' employed the highest share Omani women at the managerial and professional level (344 people) in 2017. However, 'Food products' remain the single biggest employer of women; about 50 percent of female employees in this industry were engaged in low-skilled tasks.

**TABLE 4.4 | OMANI WORKERS ARE OCCUPYING MORE SKILLED JOBS THAN PREVIOUSLY**  
**NUMBER AND SHARE OF PERSONS ENGAGED BY PROFESSIONAL LEVEL AND ORIGIN**

	2012		2017	
	Omani	Non-Omani	Omani	Non-Omani
<b>Managerial and professional</b>	5,309 (24.2%)	7,589 (15.4%)	6,005(22.4%)	9,685(13.7%)
<b>Skilled operatives</b>	7,346 (33.5%)	26,457 (53.6%)	10,541(39.3%)	37,391(52.9%)
<b>Unskilled operatives</b>	6,394 (29.2%)	12,872 (26.1%)	7,785(29.0%)	19,687(27.8%)
<b>Other</b>	1,621 (7.4%)	2,277 (4.6%)	2,062(7.7%)	3,601(5.1%)
<b>Total manufacturing sector</b>	21,932 (100.0%)	49,404 (100.0%)	26,815(100.0%)	70,712(100.0%)

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE APPENDIX TABLE C.18 FOR DATA ON ALL MANUFACTURING INDUSTRIES IN 2017.

**TABLE 4.5 | FEMALE WORKERS IN THE MANUFACTURING SECTOR ARE BECOMING MORE COMMON - AND THEY REACH FOR HIGHLY SKILLED JOBS**  
**NUMBER OF FEMALES ENGAGED BY PROFESSIONAL LEVEL AND ORIGIN**

	Managerial and professional		Skilled operatives		Unskilled operatives		Other		Total	
	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani
<b>2012</b>	1,052	201	805	237	714	21	133	26	2,805	493
<b>2013</b>	998	180	893	201	543	63	191	26	2,667	480
<b>2014</b>	1,063	213	923	268	783	72	216	26	3,134	587
<b>2015</b>	1,317	217	1,226	245	726	57	164	17	3,479	545
<b>2016</b>	1,402	246	1,509	422	656	175	173	95	3,870	943
<b>2017</b>	1,567	257	1,539	1,076	706	75	247	30	4,095	1,448

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE APPENDIX TABLE C.19 FOR DATA ON ALL MANUFACTURING INDUSTRIES IN 2017.

### **Environmental aspect of Oman's manufacturing sector**

To achieve sustainable industrialization and reap the benefits thereof countries must invest in energy efficient technologies, systems and processes. This section considers indicators of the current environmental performance of Oman's manufacturing sector. As the country works to accelerate the development of its manufacturing sector, it must consistently diversify towards more energy efficient industries and explore the usage of cleaner technology.

Energy efficiency can be measured by calculating energy consumption per unit of manufactured value added (UNIDO 2011). This Report uses available data on energy purchases to calculate the value of energy purchased per unit of value added in the manufacturing sector. This is also called energy intensity, which is the energy usage for the production of one unit of economic activity and is directly negatively correlated with energy efficiency. Hence, an increase in energy intensity reflects a decrease in energy efficiency.

### **Energy efficiency and energy intensity in Oman.**

Between 2012 and 2017, the Omani manufacturing sector saw a substantial increase in the purchase of all energy forms by lubricants and the category other fuels (see Table 4.7). Overall, the energy purchase has increased almost three-fold in the period. A significant hike was registered in 2014, especially in the purchasing of electricity, which was mirrored in the energy intensity of the total manufacturing sector. It suggests that either electricity was particularly expensive that year or that the energy efficiency of the sector dropped.

Table 4.8 shows the value of total energy purchased in each of the selected manufacturing industries in Oman in 2017. 'Coke and refined petroleum products' purchased the most by far but also 'Chemicals and chemical products' and 'Basic metals' were big consumers. On the other hand, 'Computer, electronic and optical products,' purchased the least energy among the selected industries.

**TABLE 4.6 | ...IN THE SAME INDUSTRIES AS THEIR MALE COLLEAGUES**  
**NUMBER OF FEMALES ENGAGED IN SELECTED INDUSTRIES BY PROFESSIONAL LEVEL AND ORIGIN IN 2017**

Manufacturing industry (ISIC Rev. 4)	Working proprietors		Managerial and professionals		Skilled operatives		Unskilled operatives		Other		Total	
	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani
<b>10 Food products</b>	3	-	194	82	206	28	288	62	112	4	803	177
<b>20 Chemicals and chemical products</b>	2	-	92	14	147	9	40	-	17	8	297	32
<b>22 Rubber and plastics products</b>	2	-	154	8	129	1	30	-	24	1	338	10
<b>23 Other non-metallic mineral products</b>	10	-	344	25	85	4	82	-	8	1	529	30
<b>25 Fabricated metal products, except machinery</b>	4	4	236	11	112	8	4	-	14	10	370	34
<b>Total manufacturing</b>	<b>38</b>	<b>5</b>	<b>1,567</b>	<b>257</b>	<b>1,539</b>	<b>1,076</b>	<b>706</b>	<b>75</b>	<b>247</b>	<b>30</b>	<b>4,095</b>	<b>1,448</b>

**SOURCE** | ELABORATION BASED ON THE ANNUAL INDUSTRIAL SURVEY 2017 (MOCI 2018A, 2018B).

**NOTES** | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE APPENDIX TABLE C.19 FOR DATA ON ALL MANUFACTURING INDUSTRIES IN 2017.

**TABLE 4.7 | DIESEL AND GASOLINE ARE THE MAIN ENERGY SOURCES FOR OMAN'S MANUFACTURING SECTOR**  
**ENERGY PURCHASED BY THE TOTAL MANUFACTURING SECTOR (CURRENT OMANI RIAL)**

	Electricity	Gas	Diesel	Gasoline/ kerosene	Lubricants	Other fuels incl. LPG	Total energy consumed
<b>2012</b>	82,691,968	31,372,588	26,011,412	1,619,305	13,969,095	5,817,033	161,481,401
<b>2013</b>	78,115,908	93,047,034	21,445,398	1,601,673	6,402,927	17,256,923	217,869,863
<b>2014</b>	590,068,371	116,191,043	204,229,571	199,480,602	3,350,773	20,884,728	1,134,205,088
<b>2015</b>	79,552,905	140,332,828	186,309,432	124,161,541	4,965,382	24,074,146	559,396,234
<b>2016</b>	79,695,842	137,644,212	184,518,300	172,183,746	3,088,281	6,909,842	584,040,224
<b>2017</b>	101,126,167	227,876,260	224,945,028	37,190,793	2,868,309	10,028,205	604,034,763

**SOURCE** | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES** | DATA ON ALL MANUFACTURING INDUSTRIES IS AVAILABLE IN TABLE 4.2 IN MOCI (2018B).

Figure 4.2 captures the level of energy intensity in the same industries. 'Coke and refined petroleum products' again took the lead followed by other high energy-intensive industries such as 'Chemical and chemical products' and 'Basic metals.' The least -energy-intensive industry was 'Food products,' followed by 'Fabricated metal products, except machinery' and 'Electrical equipment.'

Even though 'Computer, electronic and optical products' purchased the least energy, it was moderately energy intensive. Moreover, the production of 'Fabricated metal products, except machinery' was not energy intensive despite the industry having a relatively high energy purchase.

### **Carbon emissions from energy consumption in the manufacturing sector**

Turning now to the carbon footprint of manufacturing production, CO<sub>2</sub> emissions per unit of value added is generally calculated by measuring the CO<sub>2</sub> emission from manufacturing industries (in kg) per unit of manufacturing value added (constant dollars). In other words, the indicator measures the pollution level relative to manufacturing production. Table 4.9 shows that CO<sub>2</sub> emissions have grown in parallel to the continuous progress in Oman's manufacturing value added.

Figure 4.3 illustrates the development of the manufacturing sector's carbon emissions. While it rose rapidly between 2009 and 2012, the growth later slowed down. It may suggest that Oman's manufacturing sector has managed to lower its CO<sub>2</sub> emission level and hence reduced its environmental footprint.



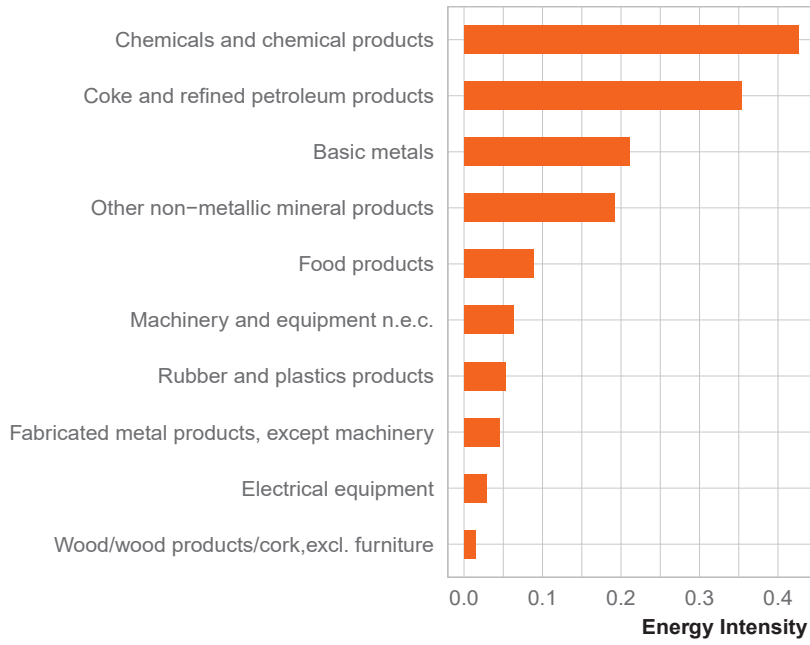
**TABLE 4.8 | THE OIL-RELATED INDUSTRIES CONSUME THE MOST ENERGY**  
**TYPE OF ENERGY PURCHASED BY SELECTED INDUSTRIES IN 2017 (IN OMANI RIAL)**

	Electricity	Gas	Diesel	Gasoline/ kerosene	Lubricants	Other fuels incl. LPG	Total energy consumed
<b>10 Food products</b>	10,066,700	1,207,793	4,256,505	994,916	33,716	2,522,094	19,081,724
<b>11 Beverages</b>	737,063	-	1,630,898	59,826	14,091	27,197	2,469,075
<b>16 Wood/wood products/cork,excl. furniture</b>	244,387	-	389,988	13,686	301	17,594	665,956
<b>19 Coke and refined petroleum products</b>	3,891,964	26,790,057	179,788,649	30,708,733	498	1,739	241,181,640
<b>20 Chemicals and chemical products</b>	6,889,817	142,710,786	3,052,788	449,162	49,984	659,177	153,811,714
<b>22 Rubber and plastics products</b>	4,105,242	55,803	760,913	212,973	25,332	250,565	5,410,828
<b>23 Other non- metallic mineral products</b>	18,798,796	20,490,380	26,477,638	1,779,029	1,781,463	1,296,966	70,624,271
<b>24 Basic metals</b>	43,373,576	32,844,570	953,355	607,803	767,493	3,195,843	81,742,640
<b>25 Fabricated metal products, except machinery</b>	4,355,459	1,829,087	6,062,830	1,764,263	75,922	801,707	14,889,267
<b>26 Computer, electronic and optical products</b>	1,413,020	1,665,727	5,662	10,494	-	786,174	3,881,077
<b>27 Electrical equipment</b>	3,050,804	63,308	142,091	73,003	10,384	179,288	3,518,878

**SOURCE** | ELABORATION BASED ON THE ANNUAL INDUSTRIAL SURVEY 2017 (MOCI 2018A, 2018B).

**NOTES** | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). DATA ON ALL MANUFACTURING INDUSTRIES IS AVAILABLE IN TABLE 4.2 IN MOCI (2018B).

**TABLE 4.2 | THE TOP-TEN MOST ENERGY INTENSIVE INDUSTRIES IN OMAN: OIL AND CHEMICAL PRODUCTS TAKING THE LEAD**  
**ENERGY PURCHASED PER UNIT OF VALUE ADDED IN SELECTED INDUSTRIES IN 2017 (CURRENT OMANI RIAL)**



**SOURCE |** ELABORATION BASED ON THE ANNUAL INDUSTRIAL SURVEY 2017 (MOCI 2018A, 2018B).

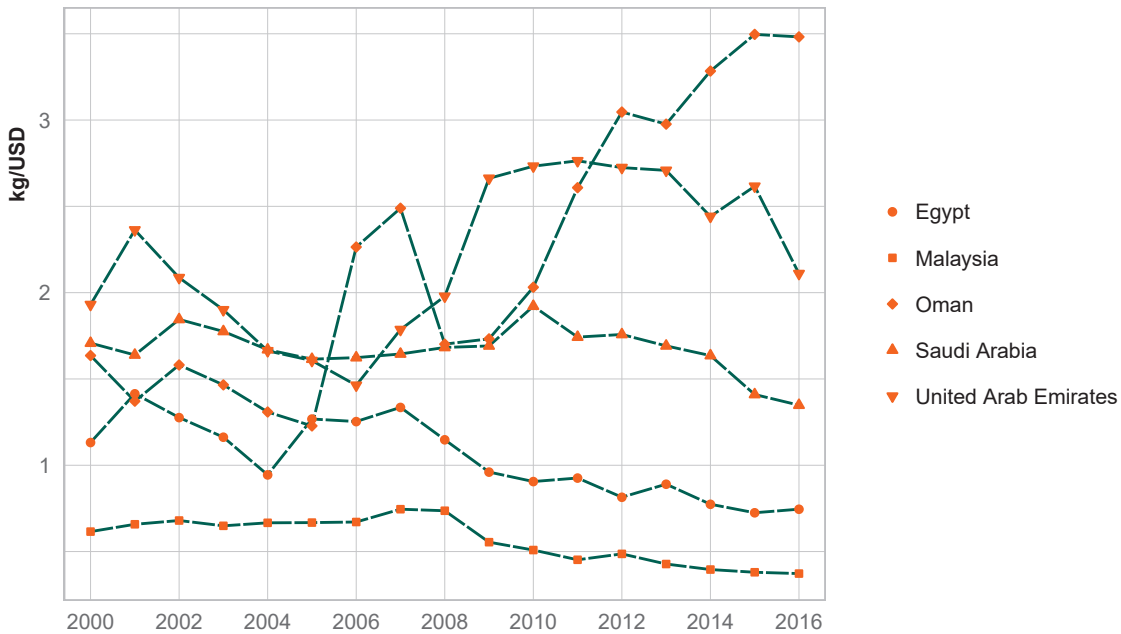
**NOTES |** ENERGY INTENSITY IS CALCULATED AS THE ENERGY PURCHASED PER UNIT OF VALUE ADDED. MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). DATA ON ALL MANUFACTURING INDUSTRIES IS AVAILABLE IN TABLE 4.2 IN THE 2017 ANNUAL INDUSTRIAL SURVEY (MOCI 2018B). SEE APPENDIX TABLE C.4 FOR MANUFACTURING VALUE ADDED AT CURRENT PRICES IN ALL INDUSTRIES.

**TABLE 4.9 | CO<sub>2</sub> EMISSIONS HAVE GROWN AT A SPEEDIER RATE THAN MANUFACTURING VALUE ADDED**  
**CO<sub>2</sub> EMISSIONS PER UNIT OF VALUE ADDED (KILOGRAM PER CONSTANT 2010 US DOLLAR)**

	CO2 emission from manufacturing Million tons	Manufacturing value added Constant 2010 US dollar	CO2 per manufacturing value added Kilogram per constant 2010 dollar
2005	4.7	3,828,165,951	1.23
2006	10.8	4,769,773,358	2.26
2007	12.2	4,900,822,151	2.49
2008	8.9	5,229,491,935	1.7
2009	10.1	5,830,611,821	1.73
2010	12.6	6,203,259,131	2.03
2011	16.4	6,287,911,007	2.61
2012	19.5	6,400,456,960	3.05
2013	20	6,719,346,198	2.98
2014	21.4	6,516,616,544	3.28
2015	23.5	6,721,050,203	3.5
2016	23.8	6,835,359,547	3.48

SOURCE | ELABORATION BASED ON CO2 EMISSIONS FROM FUEL COMBUSTION STATISTICS (IEA 2018) AND THE MVA 2018 DATABASE (UNIDO 2018).

**TABLE 4.3 | OMAN'S CARBON EMISSIONS HAS IN RECENT YEARS FAR EXCEEDED OTHER MENA COUNTRIES**  
**CO<sub>2</sub> EMISSIONS PER UNIT OF VALUE ADDED (KILO PER CONSTANT 2010 US DOLLAR)**



SOURCE | ELABORATION BASED ON CO2 EMISSIONS FROM FUEL COMBUSTION STATISTICS (IEA 2018) AND THE MVA 2018 DATABASE (UNIDO 2018).



# 05. INDUSTRIES WITH THE POTENTIAL TO ENHANCE ECONOMIC DIVERSIFICATION IN OMAN

As in other GCC countries, Oman's economic diversification thus far has depended on the government redirecting oil revenues into new industries within the service and manufacturing sectors (Ernest and Young 2015). However, with public budgets squeezed as a result of the currently high oil prices and pressing social circumstances, it is critical to define and set clear aims for a targeted diversification strategy that will enable new and existing industries/businesses to thrive and to implement the necessary facilitating framework. Moreover, a careful assessment of a country's economic sectors and structural challenges will allow for identification of the industries with the most potential. In the case of Oman, some of the key factors to consider, that reflect the objectives of the Five-Year Development Plan, are: Which manufacturing industries have the best prospects to stand on their own feet, fostering sound new establishments, particularly home-grown ones that are independent of financial government's support? Which industries have the greatest impact on other manufacturing industries, the sector as a whole, and the overall economy, directly and indirectly, by adding value and generating trade? And which ones can create jobs for women and youth, as well as non-public sector opportunities for Omani nationals?

Most of the manufacturing industries already given priority to by the Omani government are enjoying competitive advantages—at both the national and regional level—or have the potential of becoming critical enablers for diversifying Oman's production base. The TANFEEDH Handbook highlights the most promising industries as Chemicals and petrochemicals, Metals

and non-metals manufacturing, and Food and drinks, while the Supreme Council of Planning (SCP) identifies Chemicals, Building materials, and Food as the most interesting industry clusters.

This Report reviews these industries according to six criteria as seen in Table 5.1 and limits the selection to just key three industries of particular interest for Oman's continued manufacturing growth and economic diversification. To do so, it considers detailed 4-digit industrial data from the Annual Industrial Survey (MOCI 2017) and UNIDO's Industrial Demand-Supply Balance Database (edition 2018, Rev. 4). While the industry 'Coke and refined petroleum products' is included in Table 5.1 due to its dominant share in manufacturing value added, it is left out from the analysis to stay aligned with the Omani government's ambitions for non-oil industrial development. The highest-scoring industries within the different criteria are: 'Other non-metallic mineral products,' 'Food products and processing,' and 'Chemicals and chemical products.'

With a top rank in three out of six criteria, 'Other non-metallic minerals products' is the premier employer in Oman's manufacturing industry (of the total workforce) in the 2017 Annual Industrial Survey. It also has the largest number of establishments—almost a third of the survey base—and a significant national ownership rate compared to the rest of the sector. To meet the Five-Year Plan's objective, i.e. to increase private sector participation, it is sensible to select a focus industry that already has a strong presence in the manufacturing sector. The industry's products, however, claim a relatively small export share, and an assessment of its ability to compete internationally may benefit the within-industry priorities.

'Food products' is, in general, a labor-intensive industry (accounting for more than a tenth of the Omani workforce) and

offers many employment opportunities to women. Almost a fifth of female Omani workers in the Omani manufacturing sector is employed here, making it a critical industry for policymakers because of the strong emphasis on inclusive social development in the Five-Year Plan. Although the industry's value added share is quite low, there is good potential to hone its competitiveness by up-skilling the workforce through education and training.

The third industry highlighted in this Report is 'Chemicals and chemical products' due to its sizeable contribution to total manufacturing exports (11.8 percent in 2015). This is one of

TABLE 5.1 | SCORE MARKS USED TO SELECT THE PRIORITY INDUSTRIES

Manufacturing industry (ISIC Rev. 4)	1st order criterion	2nd order criterion	3rd order criterion	4th order criterion	5th order criterion	6th order criterion
	Number of establishments	Omani ownership	Number of female Omani workers	Employment share	Manufacturing value added	Share of total manufactured exports (2015)
10 Food products	89 (11.1%)	70 (11.5%)	829 (17.7%)	11.4%	7.5%	10.7%
19 Coke and refined petroleum products	13 (1.6%)	8 (1.3%)	264 (5.6%)	3.3%	20.4%	38.6%
20 Chemicals and chemical products	56 (7.0%)	43 (7.40%)	327 (7.0%)	5.8%	12.9%	11.8%
23 Other non-metallic mineral products	252 (31.3%)	202 (33.1%)	536 (11.5%)	19.8%	9.9%	4.7%
25 Fabricated metal products, except machinery	99 (12.3%)	69 (11.3%)	631 (13.5%)	18.2%	12.5%	0.8%
31 Furniture	22 (2.7%)	17 (2.8%)	141 (3.0%)	3.4%	0.7%	0.8%
<b>Total manufacturing sector</b>	804 (100.0%)	610 (100.0%)	4,677 (100.0%)	100.0%	100.0%	100.0%

SOURCE | ELABORATION BASED ON THE 2017 ANNUAL INDUSTRIAL SURVEY (MOCI 2018A, 2018B) AND UNIDO'S 2018 INDUSTRIAL DEMAND-SUPPLY BALANCE DATABASE, REV. 4 (UNIDO 2018D).

NOTES | ALL DATA ARE FROM 2016 UNLESS OTHERWISE INDICATED. INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC); THE FIVE MANUFACTURING INDUSTRIES INCLUDED FOR REVIEW IN THIS TABLE WERE CHOSEN AS THEY ARE CONSIDERED POTENTIAL PRIORITY INDUSTRIES BY TANFEEDH (2017) AND SCP (2017). MANUFACTURING VALUE ADDED IS IN CONSTANT 2007 OMANI RIAL AND EXPORTS ARE IN CURRENT PRICES.

the industries that have gained a bigger presence in Oman's trade profile as the export share of 'Coke and refined petroleum products' has declined.

Based on these observations, the industries 'Other non-metallic minerals products', 'Chemicals and chemical products' and 'Food products' are considered to have the highest potential for growth and for competing nationally and internationally in the long-term. Together they accounted for 27.2 percent of Oman's non-oil manufactured exports in 2015. While the industries have different structures and their performance level varies, there are certain cross-industry linkages and challenges:

- A relatively high energy intensity: 'Other non-metallic minerals products' and 'Chemicals and chemical products' are classified as high energy intensive industries, and 'Food Products' as moderately energy intensive;
- A high overall employment rate: Currently, only 34 establishments are employing more than 500 people in Oman. Thirteen of these establishments are from the three priority sectors. Together the industries employed 38.8 percent of all manufacturing employees in 2017 (including both Omani and non-Omani workforce);
- The highest share of expats in the manufacturing sector: In 2016, 67.2 percent of employees in the 'Food Products and Processing' industry were expats, 59.2 percent in 'Chemicals and Chemical Products' and a soaring 79.6 percent in 'Other Non-Metallic Minerals Products';
- A large number of Omani-owned establishments: 50.2 percent of all local establishments or 36.3 percent of all companies in Oman in 2017.

Each of the three industries is examined in more detail below in regard to productivity and structure. Such insights on the potentials of specific activities may help policymakers when defining and planning industry-specific policies and initiatives.



### **Priority Industry 1: Food Products and Processing**

As a major employer, the 'Food products' industry contributes to the development of Oman's non-oil sector and towards diversifying the country's export base. The industry has seen healthy growth rates, averaging six percent between 2009 and 2017, driven by a number of favorable factors. Oman's population is growing, and rising wages and revenue diversification are pushing up household spending. A growing tourist industry is also pushing up the demand for food (see further details in the 2017 GCC Food Industry Report; Alpen Capital 2017). Even though Oman enjoys a food self-sufficiency rate of 38.6 percent (2014), the highest in the GCC region, the rising demand both quantitatively and qualitatively for products such as processed food, red meat, and cereals, represents an opportunity for the country to diversify its food industry. The TANFEEHD Handbook identifies production possibilities for especially fruits, vegetables, canned food, cooking oils, poultry, meat, and fish.

The Omani government is implementing committed initiatives to enable the industry's continued development. Investments targeted at modernizing the industry's infrastructure, introducing new technologies and establishing new clusters already means that Oman's food exports are considered to be one of the safest in the region. Four mega-projects with a total value of 270 million Omani Rial, financed by state-owned Oman Food Investment Holding, is expected to boost self-sufficiency of certain meats and dairy. This is part of the key initiatives of the TANFEEDH program which seeks to support the sector through: a) investment in a plant to provide and process vegetables, b) seafood processing and canning, c) establishing an integrated dairy farm, d) enhance the poultry production business and e) development and innovation of date products.

According to the 2017 Annual Industrial Survey results (see Table 5.2), 'Vegetable and animal oils and fats' generated

**TABLE 5.2 | FOOD PRODUCTS: MANUFACTURING VALUE ADDED  
CONSTANT 2007 OMANI RIAL (IN THOUSANDS)**

Manufacturing industry (ISIC Rev. 4)	2007	2012	2013	2014	2015	2016	2017
<b>1010 Processing/preserving of meat</b>	5,899	13,073	11,734	15,149	18,976	20,188	12,336
<b>1020 Processing/preserving of fish, etc.</b>	7,908	14,911	15,489	11,537	12,205	13,349	12,866
<b>1030 Processing/preserving of fruit,vegetables</b>	5,556	8,265	10,473	7,580	10,655	11,483	12,776
<b>1040 Vegetable and animal oils and fats</b>	8,710	20,535	11,959	12,348	21,145	10,486	45,382
<b>1050 Dairy products</b>	17,187	2,036	5,153	4,014	17,398	8,042	14,620
<b>1061 Grain mill products</b>	8,600	21,917	4,544	15,360	17,055	59,755	23,530
<b>1062 Starches and starch products</b>	-	364	1,076	1,164	1,020	1,154	1,153
<b>1071 Bakery products</b>	19,181	12,903	16,953	22,189	27,248	33,663	36,805
<b>1072 Sugar</b>	-	-	-	-	-	-	-
<b>1073 Cocoa, chocolate and sugar confectionery</b>	1,957	2,804	-	2,418	3,520	2,945	2,332
<b>1074 Macaroni, noodles, couscous, etc.</b>	397	3,834	3,868	4,546	5,462	1,572	1,251
<b>1075 Prepared meals and dishes</b>	-	521	769	675	639	841	738
<b>1079 Other food products n.e.c.</b>	5,157	28,515	30,716	32,174	35,018	39,713	38,284
<b>1080 Prepared animal feeds</b>	1,482	4,888	788	2,855	80,966	6,886	10,275

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 10 'FOOD PRODUCTS.'

the largest volume of manufacturing value added (more than 45 million Omani Rial) in Oman's 'Food products' industry in 2017, up by a factor of 3.3 from the year before. The year before, a significant jump was seen in 'Grain mill products'; manufacturing value added expanded by a factor of 2.5 only to decline by more than 50 percent in 2017. When excluding sub-industries with large year-to-year fluctuations, those with the highest value added were, by 2017, 'Other food products n.e.c.', 'Bakery products' and 'Grain mill products'.

In the period 2012-2017, several sub-industries saw little change in their contribution to manufacturing value added, pointing to the lacking momentum in the industry overall.

TABLE 5.3 | FOOD PRODUCTS: NUMBER AND SHARE OF TOTAL ESTABLISHMENTS WITHIN EACH SUB-INDUSTRY

Manufacturing industry (ISIC Rev. 4)	2005	2012	2013	2014	2015	2016	2017
1010 Processing/preserving of meat	3(3.6%)	2(2.2%)	1(1.2%)	2(2.5%)	2(2.4%)	2(2.2%)	3(3.3%)
1020 Processing/preserving of fish, etc.	18(21.7%)	15(16.7%)	17(21.2%)	14(17.5%)	14(17.1%)	17(19.1%)	16(17.6%)
1030 Processing/preserving of fruit,vegetables	6(7.2%)	6(6.7%)	8(10.0%)	6(7.5%)	7(8.5%)	7(7.9%)	7(7.7%)
1040 Vegetable and animal oils and fats	2(2.4%)	2(2.2%)	1(1.2%)	2(2.5%)	2(2.4%)	3(3.4%)	5(5.5%)
1050 Dairy products	4(4.8%)	3(3.3%)	3(3.8%)	2(2.5%)	2(2.4%)	2(2.2%)	3(3.3%)
1061 Grain mill products	4(4.8%)	2(2.2%)	1(1.2%)	2(2.5%)	2(2.4%)	2(2.2%)	2(2.2%)
1062 Starches and starch products	-	1(1.1%)	2(2.5%)	2(2.5%)	2(2.4%)	2(2.2%)	2(2.2%)
1071 Bakery products	35(42.2%)	33(36.7%)	27(33.8%)	30(37.5%)	30(36.6%)	32(36.0%)	31(34.1%)
1072 Sugar	-	-	-	-	-	-	-
1073 Cocoa, chocolate and sugar confectionery	1(1.2%)	2(2.2%)	-	1(1.2%)	1(1.2%)	1(1.1%)	1(1.1%)
1074 Macaroni, noodles, couscous, etc.	1(1.2%)	1(1.1%)	1(1.2%)	1(1.2%)	1(1.2%)	1(1.1%)	1(1.1%)
1075 Prepared meals and dishes	-	1(1.1%)	1(1.2%)	1(1.2%)	1(1.2%)	1(1.1%)	1(1.1%)
1079 Other food products n.e.c.	5(6.0%)	18(20.0%)	17(21.2%)	14(17.5%)	15(18.3%)	16(18.0%)	16(17.6%)
1080 Prepared animal feeds	4(4.8%)	4(4.4%)	1(1.2%)	3(3.8%)	3(3.7%)	3(3.4%)	3(3.3%)

SOURCE | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

NOTES | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 10 'FOOD PRODUCTS.'

Concerning the size and presence of establishments (see Table 5.3), 'Bakery products' has had the largest number of establishments present in Oman since 2005 even though the sub-industry's total size dropped from 35 establishments in 2005 to 31 in 2017. It also has the biggest workforce in the industry overall (Table 5.4) and the highest female employment rate. However, the low-value added activities in 'Bakery products' together with its vast and increasing workforce keeps its manufacturing value added relatively low. On a general level, even though the food industry is doing well regionally, the industry as a whole has not seen any dramatic changes in its employment rate yet.

TABLE 5.4 | FOOD PRODUCTS: NUMBER AND SHARE OF EMPLOYEES WITHIN EACH SUB-INDUSTRY

Manufacturing industry (ISIC Rev. 4)	2005	2012	2013	2014	2015	2016	2017
<b>1010 Processing/preserving of meat</b>	437(6.8%)	812(9.0%)	655(7.7%)	1,078(10.4%)	1,082(10.5%)	1,108(10.7%)	1,326(10.5%)
<b>1020 Processing/preserving of fish, etc.</b>	875(13.7%)	827(9.2%)	1,011(12.0%)	920(8.9%)	939(9.1%)	858(8.3%)	883(7.0%)
<b>1030 Processing/preserving of fruit,vegetables</b>	435(6.8%)	743(8.2%)	800(9.5%)	836(8.1%)	915(8.8%)	953(9.2%)	961(7.6%)
<b>1040 Vegetable and animal oils and fats</b>	467(7.3%)	665(7.4%)	600(7.1%)	760(7.3%)	861(8.3%)	299(2.9%)	1,241(9.9%)
<b>1050 Dairy products</b>	909(14.2%)	435(4.8%)	912(10.8%)	726(7.0%)	780(7.5%)	169(1.6%)	910(7.2%)
<b>1061 Grain mill products</b>	287(4.5%)	418(4.6%)	240(2.8%)	506(4.9%)	590(5.7%)	582(5.6%)	766(6.1%)
<b>1062 Starches and starch products</b>	-	189(2.1%)	212(2.5%)	224(2.2%)	209(2.0%)	226(2.2%)	246(2.0%)
<b>1071 Bakery products</b>	2,322(36.3%)	2,525(28.0%)	2,390(28.3%)	3,183(30.7%)	2,927(28.3%)	3,333(32.2%)	2,908(23.1%)
<b>1072 Sugar</b>	-	-	-	-	-	-	-
<b>1073 Cocoa, chocolate and sugar confectionery</b>	96(1.5%)	278(3.1%)	-	349(3.4%)	337(3.3%)	388(3.8%)	413(3.3%)
<b>1074 Macaroni, noodles, couscous, etc.</b>	51(0.8%)	126(1.4%)	131(1.5%)	139(1.3%)	134(1.3%)	102(1.0%)	90(0.7%)
<b>1075 Prepared meals and dishes</b>	-	46(0.5%)	49(0.6%)	48(0.5%)	51(0.5%)	53(0.5%)	54(0.4%)
<b>1079 Other food products n.e.c.</b>	289(4.5%)	1,765(19.5%)	1,436(17.0%)	1,459(14.1%)	1,371(13.3%)	2,144(20.7%)	2,634(20.9%)
<b>1080 Prepared animal feeds</b>	228(3.6%)	201(2.2%)	22(0.3%)	143(1.4%)	143(1.4%)	129(1.2%)	151(1.2%)

SOURCE | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

NOTES | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 10 'FOOD PRODUCTS.'

While the number of establishments has remained relatively stable in the industry throughout the period, considerable changes were seen in employment figures across the sub-industries (Table 5.4). Especially, 'Other food products' and the sub-industries related to processing/preserving of meat, fruit and vegetables saw their employment share increase. Other sub-industries lost out, especially 'Dairy products.'

**TABLE 5.5 | FOOD PRODUCTS: NUMBER OF FEMALE EMPLOYEES AND THEIR SHARE OF TOTAL EMPLOYMENT WITHIN EACH SUB-INDUSTRY**

<b>Manufacturing industry (ISIC Rev. 4)</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
<b>1010 Processing/preserving of meat</b>	7(0.9%)	8(1.2%)	10(0.9%)	10(0.9%)	14(1.3%)	36(2.7%)
<b>1020 Processing/preserving of fish, etc.</b>	113(13.7%)	136(13.5%)	114(12.4%)	101(10.8%)	133(15.5%)	188(21.3%)
<b>1030 Processing/preserving of fruit,vegetables</b>	158(21.3%)	178(22.2%)	155(18.5%)	160(17.5%)	163(17.1%)	159(16.5%)
<b>1040 Vegetable and animal oils and fats</b>	15(2.3%)	11(1.8%)	27(3.6%)	31(3.6%)	18(6.0%)	47(3.8%)
<b>1050 Dairy products</b>	9(2.1%)	17(1.9%)	22(3.0%)	24(3.1%)	5(3.0%)	28(3.1%)
<b>1061 Grain mill products</b>	15(3.6%)	12(5.0%)	14(2.8%)	25(4.2%)	14(2.4%)	27(3.5%)
<b>1062 Starches and starch products</b>	20(10.6%)	19(9.0%)	17(7.6%)	16(7.7%)	17(7.5%)	17(6.9%)
<b>1071 Bakery products</b>	252(10.0%)	224(9.4%)	255(8.0%)	214(7.3%)	260(7.8%)	210(7.2%)
<b>1072 Sugar</b>	-	-	-	-	-	-
<b>1073 Cocoa, chocolate and sugar confectionery</b>	16(5.8%)	-	37(10.6%)	38(11.3%)	38(9.8%)	39(9.4%)
<b>1074 Macaroni, noodles, couscous, etc.</b>	13(10.3%)	14(10.7%)	15(10.8%)	13(9.7%)	9(8.8%)	8(8.9%)
<b>1075 Prepared meals and dishes</b>	11(23.9%)	12(24.5%)	10(20.8%)	12(23.5%)	14(26.4%)	15(27.8%)
<b>1079 Other food products n.e.c.</b>	109(6.2%)	114(7.9%)	120(8.2%)	115(8.4%)	140(6.5%)	196(7.4%)
<b>1080 Prepared animal feeds</b>	10(5.0%)	-	10(7.0%)	5(3.5%)	4(3.1%)	4(2.6%)

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 10 'FOOD PRODUCTS.'

Unlike 'Bakery products' some sub-industries employ hardly any female workers (see Table 5.5), specifically 'Prepared animal feeds' and 'Macaroni, noodles, couscous, etc.', which all have less than 10 female workers.

Finally, 'Prepared animal feeds' tops in manufacturing value added per employee (see Table 5.6); while the sub-industry has very few employees, it generated very high manufacturing added value in 2017. At the second and third position, 'Vegetable and animal oils and fats' and 'grain mill products' each have approximately half the size of per employee value

**TABLE 5.6 | FOOD PRODUCTS: MANUFACTURING VALUE ADDED PER EMPLOYEE**  
**CONSTANT 2007 OMANI RIAL (IN THOUSANDS)**

Manufacturing industry (ISIC Rev. 4)	Number of employees		Manufacturing value added		Manufacturing value added per employee	
	2007	2017	2007	2017	2007	2017
1010 Processing/preserving of meat	575	1,326	5,899	12,336	10	9
1020 Processing/preserving of fish, etc.	1,014	883	7,908	12,866	8	15
1030 Processing/preserving of fruit,vegetables	882	961	5,556	12,776	6	13
1040 Vegetable and animal oils and fats	514	1,241	8,710	45,382	17	37
1050 Dairy products	890	910	17,187	14,620	19	16
1061 Grain mill products	319	766	8,600	23,530	27	31
1062 Starches and starch products	-	246	-	1,153	-	5
1071 Bakery products	2,674	2,908	19,181	36,805	7	13
1072 Sugar	-	-	-	-	-	-
1073 Cocoa, chocolate and sugar confectionery	135	413	1,957	2,332	14	6
1074 Macaroni, noodles, couscous, etc.	20	90	397	1,251	20	14
1075 Prepared meals and dishes	-	54	-	738	-	14
1079 Other food products n.e.c.	420	2,634	5,157	38,284	12	15
1080 Prepared animal feeds	199	151	1,482	10,275	7	68

**SOURCE** | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES** | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 10 'FOOD PRODUCTS.'

added compared to the top sub-industry. On the other hand, 'Starches and starch products' has the lowest value, which, given its low manufacturing value added, makes the sub-industry relatively inefficient.

### **Priority Industry 2: Chemicals and Chemical Products**

Similar to other countries in the GCC region, the 'Chemicals and chemical products' industry is one of the oldest in Oman. It accounted for 11.5 percent of the country's total manufacturing value added in 2017, the highest national contribution reported in the GCC region in which the industry accumulated to almost

one-third of manufacturing value added. The importance of the industry is highlighted by the role it has had in bringing about a gradual increase in Oman's non-oil exports due to its influence and interrelation with other sub-industries including various consumer products. It has exhibited the highest growth rates in terms of manufactured exports over the last decade, and has, according to a 2016 report by the Gulf Petrochemicals and Chemicals Association (GPCA), the capacity and potential to become the primary contributor to Oman's total manufacturing value added and one of the country's main non-oil export commodities.

To date, the two main drivers behind the successful advancement of Oman's 'Chemicals and chemical products' industry have been 'Fertilizers and nitrogen compounds' and 'Basic chemicals', both of which are a key focus of the TANFEEDH Program through which the following initiatives seek to 1) enhance the production capacity for Polyethylene Terephthalate (PET) of OCTAL, the world's largest producer of PET products with its headquarter in Muscat, and build 2) a plant to produce PET, 3) an ammonium fertilizers plant, and 4) a bituminous waterproof membranes plant. Given the impact of the 'Chemicals and chemical products' industry on every country in the CGG region, the race for diversifying into low volume high-value advanced products, such as performance and specialty chemicals, is escalating. Oman's ambitions to diversify its chemicals portfolio is reflected in the TANFEEDH Program's key focus areas.

As seen in Table 5.7, the share of 'Basic chemicals' in the industry's total manufacturing value added has grown with a factor of 5 since 2007 (from 8.2 percent to 41.6 percent of the total in 2017). Of similar size is 'Fertilizers and nitrogen compounds.' However, the sub-industry has been in a more or less gradual decline since 2012 with its share of the industry's total manufacturing value added having dropped from 66.7 percent in 2007. Not accounting for a few single-year large

**TABLE 5.7 | CHEMICALS AND CHEMICAL PRODUCTS: MANUFACTURING VALUE ADDED  
CONSTANT 2007 OMANI RIAL (IN THOUSANDS)**

Manufacturing industry (ISIC Rev. 4)	2007	2012	2013	2014	2015	2016	2017
<b>2011 Basic chemicals</b>	12,069	721,745	106,730	101,762	111,627	132,865	127,096
<b>2012 Fertilizers and nitrogen compounds</b>	98,160	310,661	209,328	183,803	205,643	131,727	112,556
<b>2013 Plastics and synthetic rubber in primary forms</b>	20,045	6,346	6,394	5,683	10,635	11,721	8,482
<b>2021 Pesticides and other agrochemical products</b>	-	1,472	1,496	1,523	1,060	2,145	1,411
<b>2022 Paints, varnishes; printing ink and mastics</b>	8,282	12,296	7,015	8,943	18,809	27,429	33,169
<b>2023 Soap, cleaning and cosmetic preparations</b>	7,959	8,642	66,390	11,108	12,524	14,130	14,014
<b>2029 Other chemical products n.e.c.</b>	559	2,101	9,260	9,306	8,608	8,892	8,877
<b>2030 Man-made fibres</b>	-	-	-	-	-	-	-

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 20 'CHEMICALS AND CHEMICAL PRODUCTS.'

**TABLE 5.8 | CHEMICALS AND CHEMICAL PRODUCTS: NUMBER AND SHARE OF TOTAL ESTABLISHMENTS WITHIN EACH SUB-INDUSTRY**

Manufacturing industry (ISIC Rev. 4)	2005	2012	2013	2014	2015	2016	2017
<b>2011 Basic chemicals</b>	12(35.3%)	18(36.0%)	18(34.0%)	20(37.0%)	20(35.7%)	18(32.1%)	21(36.2%)
<b>2012 Fertilizers and nitrogen compounds</b>	3(8.8%)	6(12.0%)	7(13.2%)	6(11.1%)	6(10.7%)	5(8.9%)	5(8.6%)
<b>2013 Plastics and synthetic rubber in primary forms</b>	1(2.9%)	3(6.0%)	3(5.7%)	2(3.7%)	3(5.4%)	3(5.4%)	3(5.2%)
<b>2021 Pesticides and other agrochemical products</b>	-	2(4.0%)	2(3.8%)	2(3.7%)	2(3.6%)	2(3.6%)	2(3.4%)
<b>2022 Paints, varnishes; printing ink and mastics</b>	6(17.6%)	6(12.0%)	6(11.3%)	7(13.0%)	8(14.3%)	8(14.3%)	9(15.5%)
<b>2023 Soap, cleaning and cosmetic preparations</b>	11(32.4%)	11(22.0%)	11(20.8%)	11(20.4%)	11(19.6%)	14(25.0%)	12(20.7%)
<b>2029 Other chemical products n.e.c.</b>	1(2.9%)	4(8.0%)	6(11.3%)	6(11.1%)	6(10.7%)	6(10.7%)	6(10.3%)
<b>2030 Man-made fibres</b>	-	-	-	-	-	-	-

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 23 'OTHER NON-METALLIC MINERAL PRODUCTS.'



TABLE 5.9 | CHEMICALS AND CHEMICAL PRODUCTS: NUMBER AND SHARE OF EMPLOYEES WITHIN EACH SUB-INDUSTRY

Manufacturing industry (ISIC Rev. 4)	2005	2012	2013	2014	2015	2016	2017
2011 Basic chemicals	511(24.3%)	1,146(23.7%)	1,320(26.8%)	1,350(26.8%)	1,351(26.3%)	1,287(24.6%)	1,550(27.5%)
2012 Fertilizers and nitrogen compounds	483(23.0%)	1,122(23.2%)	1,251(25.4%)	1,209(24.0%)	1,199(23.3%)	1,171(22.4%)	1,156(20.5%)
2013 Plastics and synthetic rubber in primary forms	174(8.3%)	464(9.6%)	560(11.4%)	486(9.7%)	498(9.7%)	581(11.1%)	550(9.7%)
2021 Pesticides and other agrochemical products	-	94(1.9%)	92(1.9%)	105(2.1%)	104(2.0%)	110(2.1%)	117(2.1%)
2022 Paints, varnishes; printing ink and mastics	389(18.5%)	861(17.8%)	795(16.1%)	921(18.3%)	1,076(20.9%)	1,096(21.0%)	1,203(21.3%)
2023 Soap, cleaning and cosmetic preparations	532(25.3%)	1,048(21.7%)	637(12.9%)	693(13.8%)	630(12.3%)	694(13.3%)	712(12.6%)
2029 Other chemical products n.e.c.	12(0.6%)	98(2.0%)	269(5.5%)	266(5.3%)	281(5.5%)	286(5.5%)	357(6.3%)
2030 Man-made fibres	-	-	-	-	-	-	-

SOURCE | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

NOTES | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 20 'CHEMICALS AND CHEMICAL PRODUCTS.'

fluctuations, value added increased in all sub-industries but 'Plastics and synthetic rubber in primary forms.'

'Basic chemicals' not only has the highest number of establishments (Table 5.8) but also has the biggest workforce within the industry (Table 5.9). Interestingly, despite the significance of 'Fertilizers and nitrogen compounds' in terms of manufacturing value added and employment, the sub-industry has few establishments in Oman. The latter exceeded the former in terms of manufacturing value added per employee – with the two sub-industries leading the overall industry in this matter (Table 5.10).

Overall, the number of female employees in the 'Chemicals and chemical products' industry increased only slightly between

**TABLE 5.10 | CHEMICALS AND CHEMICAL PRODUCTS: NUMBER OF FEMALE EMPLOYEES AND THEIR SHARE OF TOTAL EMPLOYMENT WITHIN EACH SUB-INDUSTRY**

Manufacturing industry (ISIC Rev. 4)	2012	2013	2014	2015	2016	2017
<b>2011 Basic chemicals</b>	109(9.5%)	59(4.5%)	61(4.5%)	73(5.4%)	79(6.1%)	87(5.6%)
<b>2012 Fertilizers and nitrogen compounds</b>	64(5.7%)	68(5.4%)	65(5.4%)	54(4.5%)	60(5.1%)	62(5.4%)
<b>2013 Plastics and synthetic rubber in primary forms</b>	39(8.4%)	33(5.9%)	30(6.2%)	32(6.4%)	36(6.2%)	36(6.5%)
<b>2021 Pesticides and other agrochemical products</b>	6(6.4%)	5(5.4%)	5(4.8%)	5(4.8%)	5(4.5%)	8(6.8%)
<b>2022 Paints, varnishes; printing ink and mastics</b>	26(3.0%)	21(2.6%)	30(3.3%)	55(5.1%)	55(5.0%)	50(4.2%)
<b>2023 Soap, cleaning and cosmetic preparations</b>	31(3.0%)	53(8.3%)	67(9.7%)	73(11.6%)	80(11.5%)	70(9.8%)
<b>2029 Other chemical products n.e.c.</b>	9(9.2%)	15(5.6%)	9(3.4%)	10(3.6%)	12(4.2%)	14(3.9%)
<b>2030 Man-made fibres</b>	-	-	-	-	-	-

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 20 'CHEMICALS AND CHEMICAL PRODUCTS.'

**TABLE 5.11 | CHEMICALS AND CHEMICAL PRODUCTS: MANUFACTURING VALUE ADDED PER EMPLOYEE  
CONSTANT 2007 OMANI RIAL (IN THOUSANDS)**

Manufacturing industry (ISIC Rev. 4)	Number of employees		Manufacturing value added		Manufacturing value added per employee	
	2007	2017	2007	2017	2007	2017
<b>2011 Basic chemicals</b>	520	1,550	12,069	127,096	23	82
<b>2012 Fertilizers and nitrogen compounds</b>	475	1,156	98,160	112,556	207	97
<b>2013 Plastics and synthetic rubber in primary forms</b>	428	550	20,045	8,482	47	15
<b>2021 Pesticides and other agrochemical products</b>	-	117	-	1,411	-	12
<b>2022 Paints, varnishes; printing ink and mastics</b>	363	1,203	8,282	33,169	23	28
<b>2023 Soap, cleaning and cosmetic preparations</b>	487	712	7,959	14,014	16	20
<b>2029 Other chemical products n.e.c.</b>	62	357	559	8,877	9	25
<b>2030 Man-made fibres</b>	-	-	-	-	-	-

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 20 'CHEMICALS AND CHEMICAL PRODUCTS.'

2012 and 2017 (Table 5.10). Only three sub-industries saw an increase in this period; 'Paints, varnishes; printing ink and mastics,' 'Soap, cleaning and cosmetic preparations,' and 'Other chemical products n.e.c.' In these sub-industries, the ratio of female to male employees also improved. In contrast, this share as well as the absolute number declined in the two primary sub-industries.

Given their significant contribution to manufacturing value added, 'Fertilizers and nitrogen compounds' and 'Basic chemicals' have the absolutely largest value added per employee. The value for the former has almost halved since 2007 due to the speedy employment growth in the sub-industry. Interestingly, all other sub-industries have close to identical value added per employee.

### **Priority Industry 3: Other Non-Metallic Mineral Products**

This sub-industry can be referred to as the 'cornerstone' or 'foundation' of a growing country as it supplies essential and very diverse products for most sectors of the economy, as well as these products' application. Among such products are lime, ceramics, building materials, and marble. As the economic activity regains momentum both nationally and internationally, the demand for the sub-industry's products will most certainly rise. For Oman, a country that is abundantly endowed with natural resources and a keen drive to push for the design and development of innovative new products and production techniques, this represents a plethora of opportunities.

The 'Other non-metallic mineral products' industry is particularly important in Oman due to its high employment rate: 19.8 percent, or 18,287 persons, of the manufacturing sector workforce in 2016 (Table 5.1) which grew to 20% and 19,496 persons engaged in 2017. The female worker share was 13.2 percent in 2016 and dropped to 10.1 percent in 2017. Moreover, according to the Annual Industrial Survey 2017 (MOCI 2018a, 2018b), the industry operated the most establishments (246

**TABLE 5.12 | OTHER NON-METALLIC MINERAL PRODUCTS: MANUFACTURING VALUE ADDED**  
CONSTANT 2007 OMANI RIAL (IN THOUSANDS)

Manufacturing industry (ISIC Rev. 4)	2007	2012	2013	2014	2015	2016	2017
<b>2310 Glass and glass products</b>	11,843	35,350	7,156	7,171	8,289	8,468	10,284
<b>2391 Refractory products</b>	5,266	-	-	-	-	-	-
<b>2392 Clay building materials</b>	-	1,441	682	1,276	1,904	2,657	3,294
<b>2393 Other porcelain and ceramic products</b>	1,733	3,219	22,065	25,156	18,997	12,821	15,053
<b>2394 Cement, lime and plaster</b>	90,329	81,174	86,376	80,451	95,827	82,456	77,603
<b>2395 Articles of concrete, cement and plaster</b>	12,369	55,453	45,669	43,830	65,193	71,208	103,837
<b>2396 Cutting, shaping and finishing of stone</b>	28,393	82,925	89,878	82,176	108,932	56,366	72,083
<b>2399 Other non-metallic mineral products n.e.c.</b>	28,932	28,109	38,279	38,999	22,665	31,648	47,349

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 23 'OTHER NON-METALLIC MINERAL PRODUCTS.'

**TABLE 5.13 | OTHER NON-METALLIC MINERAL PRODUCTS: NUMBER AND SHARE OF TOTAL ESTABLISHMENTS WITHIN THE OVERALL INDUSTRY**

Manufacturing industry (ISIC Rev. 4)	2005	2012	2013	2014	2015	2016	2017
<b>2310 Glass and glass products</b>	11(9.2%)	9(4.4%)	11(5.5%)	13(6.5%)	14(6.2%)	16(6.3%)	17(6.9%)
<b>2391 Refractory products</b>	2(1.7%)	3(1.5%)	-	-	-	-	-
<b>2392 Clay building materials</b>	-	4(2.0%)	3(1.5%)	4(2.0%)	5(2.2%)	4(1.6%)	5(2.0%)
<b>2393 Other porcelain and ceramic products</b>	1(0.8%)	2(1.0%)	4(2.0%)	4(2.0%)	4(1.8%)	4(1.6%)	4(1.6%)
<b>2394 Cement, lime and plaster</b>	7(5.8%)	9(4.4%)	8(4.0%)	8(4.0%)	8(3.6%)	11(4.4%)	14(5.7%)
<b>2395 Articles of concrete, cement and plaster</b>	40(33.3%)	80(39.2%)	93(46.3%)	91(45.5%)	102(45.5%)	118(46.8%)	119(48.4%)
<b>2396 Cutting, shaping and finishing of stone</b>	14(11.7%)	67(32.8%)	57(28.4%)	57(28.5%)	65(29.0%)	71(28.2%)	67(27.2%)
<b>2399 Other non-metallic mineral products n.e.c.</b>	45(37.5%)	30(14.7%)	25(12.4%)	23(11.5%)	26(11.6%)	28(11.1%)	20(8.1%)

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 23 'OTHER NON-METALLIC MINERAL PRODUCTS.'

TABLE 5.14 | OTHER NON-METALLIC MINERAL PRODUCTS: NUMBER AND SHARE OF EMPLOYEES WITHIN THE OVERALL INDUSTRY

Manufacturing industry (ISIC Rev. 4)	2005	2012	2013	2014	2015	2016	2017
<b>2310 Glass and glass products</b>	968(11.3%)	723(5.0%)	817(5.6%)	936(5.9%)	964(5.6%)	1,056(5.9%)	1,170(6.1%)
<b>2391 Refractory products</b>	248(2.9%)	-	-	-	-	-	-
<b>2392 Clay building materials</b>	-	223(1.5%)	82(0.6%)	154(1.0%)	176(1.0%)	165(0.9%)	272(1.4%)
<b>2393 Other porcelain and ceramic products</b>	182(2.1%)	307(2.1%)	768(5.3%)	777(4.9%)	762(4.4%)	667(3.7%)	676(3.5%)
<b>2394 Cement, lime and plaster</b>	878(10.2%)	1,214(8.4%)	1,219(8.4%)	1,321(8.3%)	1,326(7.7%)	1,435(8.0%)	1,605(8.3%)
<b>2395 Articles of concrete, cement and plaster</b>	1,740(20.2%)	3,898(26.8%)	4,446(30.7%)	4,701(29.4%)	5,340(30.9%)	5,688(31.7%)	6,197(32.2%)
<b>2396 Cutting, shaping and finishing of stone</b>	2,683(31.2%)	6,540(45.0%)	6,053(41.8%)	6,560(41.0%)	5,960(34.5%)	6,171(34.4%)	7,177(37.3%)
<b>2399 Other non-metallic mineral products n.e.c.</b>	1,900(22.1%)	1,622(11.2%)	1,088(7.5%)	1,544(9.7%)	2,751(15.9%)	2,740(15.3%)	2,170(11.3%)

SOURCE | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

NOTES | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 23 'OTHER NON-METALLIC MINERAL PRODUCTS.'

establishments or 30.0 percent) of which 185 (75.2 percent) were Omani-owned.

Within the industry, the biggest contributors to manufacturing value added were 'Articles of concrete, cement and plaster' (31.5 percent), 'Cement, lime and plaster' (23.6 percent), and 'Cutting, shaping and finishing of stone' (21.9 percent); see Table 5.12. Overall, year-to-year changes in value added have fluctuated across the industry between 2007 and 2017. Most noticeable was 'Cutting, shaping and finishing of stone', for which value added grew with a factor of three from to 2007

**TABLE 5.15 | OTHER NON-METALLIC MINERAL PRODUCTS: NUMBER OF FEMALE EMPLOYEES AND THEIR SHARE OF TOTAL EMPLOYMENT WITHIN EACH SUB-INDUSTRY**

Manufacturing industry (ISIC Rev. 4)	2012	2013	2014	2015	2016	2017
<b>2310 Glass and glass products</b>	41(5.7%)	17(2.1%)	44(4.7%)	59(6.1%)	55(5.2%)	67(5.7%)
<b>2391 Refractory products</b>	-	-	-	-	-	-
<b>2392 Clay building materials</b>	18(8.1%)	3(3.7%)	15(9.7%)	18(10.2%)	13(7.9%)	14(5.1%)
<b>2393 Other porcelain and ceramic products</b>	9(2.9%)	11(1.4%)	12(1.5%)	16(2.1%)	16(2.4%)	14(2.1%)
<b>2394 Cement, lime and plaster</b>	14(1.2%)	13(1.1%)	19(1.4%)	7(0.5%)	17(1.2%)	30(1.9%)
<b>2395 Articles of concrete, cement and plaster</b>	72(1.8%)	121(2.7%)	100(2.1%)	157(2.9%)	209(3.7%)	176(2.8%)
<b>2396 Cutting, shaping and finishing of stone</b>	112(1.7%)	148(2.4%)	154(2.3%)	149(2.5%)	150(2.4%)	165(2.3%)
<b>2399 Other non-metallic mineral products n.e.c.</b>	41(2.5%)	40(3.7%)	52(3.4%)	75(2.7%)	76(2.8%)	83(3.8%)

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 23 'OTHER NON-METALLIC MINERAL PRODUCTS.'

**TABLE 5.16 | OTHER NON-METALLIC MINERAL PRODUCTS: MANUFACTURING VALUE ADDED PER EMPLOYEE  
CONSTANT 2007 OMANI RIAL (IN THOUSANDS)**

Manufacturing industry (ISIC Rev. 4)	Number of employees		Manufacturing value added		Manufacturing value added per employee	
	2007	2017	2007	2017	2007	2017
<b>2310 Glass and glass products</b>	649	1,170	11,843	10,284	18	9
<b>2391 Refractory products</b>	192	-	5,266	-	27	-
<b>2392 Clay building materials</b>	-	272	-	3,294	-	12
<b>2393 Other porcelain and ceramic products</b>	216	676	1,733	15,053	8	22
<b>2394 Cement, lime and plaster</b>	935	1,605	90,329	77,603	97	48
<b>2395 Articles of concrete, cement and plaster</b>	1,760	6,197	12,369	103,837	7	17
<b>2396 Cutting, shaping and finishing of stone</b>	3,745	7,177	28,393	72,083	8	10
<b>2399 Other non-metallic mineral products n.e.c.</b>	2,104	2,170	28,932	47,349	14	22

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTES |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). THE LISTED SUB-INDUSTRIES BELONG TO ISIC 23 'OTHER NON-METALLIC MINERAL PRODUCTS.'

to 2015 only to be cut in half in the subsequent year. 'Glass and glass products' as well as the second largest sub-industry, 'Cement, lime and plaster,' saw a decline over the full length of the period.

In 2017, 'Articles of concrete, cement and plaster' had the most establishments (119) in Oman, having expanded from 40 in 2005, comprising almost half of all establishments in the entire industry (Table 5.13). Second in size was 'Cutting, shaping and finishing of stone', which grew a rapid 15.5 percentage points over the period to 27.2 percent in 2017. Three-quarters of establishments belonged to these two sub-industries. Their social economic importance will become clear in the following tables.

As often is the case, one of the sub-industries with the largest number of establishments, 'Cutting, shaping and finishing of stone' also employed the most people in 2017 (Table 5.14). Also in the preceding years, the premier employer was 'Cutting, shaping and finishing of stone,' which in the period 2005-2015 had the biggest manufacturing value added value. Together, the two sub-industries accounted for 69.5 percent of all employees in the 'Other non-metallic mineral products' industry in 2017.

Female employment increased most dramatically in 'Articles of concrete cement and plaster' from 72 in 2012 to 209 in 2016 and then dropped to 176 in 2017. In general, female employment increased in all sub-industries but 'Clay building materials' as depicted in Table 5.15. When considering the share of women in total employment within each sub-industry, the reported progress is less impressive. Only in 'Clay building materials' did the female share increased with more than 2 percentage points, and it was the only sub-industry, together with 'Glass and glass products', in which this share exceeded five percent as of 2017. In three sub-industries the share either declined or remained unchanged in the period.

Finally, 'Cement, lime and plaster' had the highest manufacturing value added per employee in 2017 (approximately 48,000 Omani Rial) and with this had the most productive workforce (Table 5.16). The gap to the next best-performing sub-industry is significant with workers in 'Other porcelain and ceramic products' earning only a third hereof. However, since 2007 labor productivity within the former sub-industry has dropped dramatically with 70 percent, mirroring a decline in value added. While 'Glass and glass products' has seen a similar development, the value added growth has outperformed the employment expansion in 'Other porcelain and ceramic products' and 'Articles of concrete, cement and plaster', causing a hike in labor productivity in both sub-industries.







# 06. CONCLUSION

This Report provided an economic analysis and performance assessment of the industrial sector in Oman with the aim to give insights into the current economic situation of Oman and to ease the formulation of future goals and policy alignments of the next long-term vision “Oman Vision 2040”.

Economic diversification is one of the main focus areas of the government of Oman over nearly half a century. The promotion of non-oil industrial sector development was continuously emphasized to decrease the dependence on the oil commodity. By implementing the recent government plans, the ninth Five-Year Development Plan (2016-2020) and the Oman Vision 2020, the Sultanate has come closer to its main targets of structural transformation, increased industrialization, economic diversification and international competitiveness, accompanied by a skilled Omani workforce and a strong private sector.

## **Oman's diversifying manufacturing sector**

Despite the challenges Oman has to confront, as global oil prices fluctuate, the public deficit surges, and the pool of high skilled Omani workers remain persistently low, an industrial transformation and economic diversification is underway.

Oman's real GDP has increased by 42 billion US dollars between 1990 and 2015, accompanied by increasing non-oil GDP over the past 15 years. Moreover, a decrease in the oil and gas sector was noticed, as the sector accounted for 42.4 percent of the nominal GDP in 2014 and only for 40.9 percent in 2017. Although the biggest driver for Oman's increase in

total non-petroleum activities over the last decade was mainly due to services activities, Oman's manufacturing sector more than doubled in terms of value added between 2007 and 2017. The manufacturing sector share in GDP increased slightly from 8.6 percent to 9.5 percent between 2005 and 2017 and manufacturing exports' share in total exports grew from only 8 percent in 2005 to 27 percent in 2016.

To enhance the country's competitiveness, the government has invested heavily in industrial infrastructure by creating special economic zones and free zones – in 2017 these industrial estates accounted already for 44.4 percent of the manufacturing establishments and for almost half of the total manufacturing workforce of Oman.

Given Oman's current challenges and that the primary driver of Oman's economic diversification for long was earnings from oil revenues, the switch in the government role from a financier to a facilitator is critical. This Report identifies key industries with significant potential to work independent of financial government support; these industries show fruitful direct and indirect linkages with other manufacturing industries and the overall economy, and have the potential to create employment, including youth, female and non-public sector jobs for Omanis. The Report identified three industries by applying a criteria catalogue, demonstrating high potential for growth and competitiveness on national and international level: 'Other non-metallic mineral products,' 'Food products and processing,' and 'Chemicals and chemical products.' Together these industries accounted for 30.1 percent of Oman's non-oil manufactured exports in 2017.

Moreover, these three industries offer particular strengths to Oman's manufacturing sector. For instance, 'Other non-metallic mineral products' industry is the main manufacturing employer of Oman's total workforce and has the largest number of establishments and with a significant national ownership rate compared to the rest of the sector. However, the exports

share of this industry is relatively small and an international competitiveness assessment would be recommended. The 'Food products' industry is labor-intensive and employs more than a tenth of the Omani workforce, offering especially employment opportunities to women. Almost a fifth of all female manufacturing workforce of Oman is employed within this industry and therefore offers considerable potential to contribute to Oman's target of achieving a more inclusive economy. The downside of this industry is that the value added share is quite low and therefore skill and educational training need to be introduced as complementary measures. Moreover, 'Chemicals and chemical products' was identified as a key industry due to its sizable contribution to the total manufacturing exports with 11.5 percent in 2017.

### **The more social and greener industrial Oman**

Social inclusiveness and sustainability are crucial factors in industrial development and economic diversification and are among the goals of Oman's government strategic planning. While Oman's government emphasizes the importance of increasing female and youth employment, the overall employment level is still fairly low compared to the male employment in the manufacturing sector. However, the key sector 'Other non-metallic mineral products' showed the highest share of female Omani at the managerial and professional level with 369 women in 2017 and the food products sector remains the single best employer of women with about half of the workforce being female (although they are mostly engaged in low-skilled tasks).

Looking at the environmental aspect of Oman's manufacturing sector, the country faced a substantial increase in purchases of all energy forms by lubricants and the category other fuels between 2012 and 2017. However, observing the CO<sub>2</sub> emissions in the manufacturing sector, there was a steady growth until 2012 and then a slowdown which may suggest an improvement in greening Oman's manufacturing sector.

### **Challenges of Oman's industrialization**

Although crucial steps are made towards making Oman's industrial sector more inclusive, sustainable and diversified, there are still significant bottlenecks to overcome.

Oman's industry not only needs to be more diversified sector-wise, but also needs to move to higher value added activities and to a more diversified exports base. Another challenge Oman has to confront is the unbalanced distribution of employment opportunities in the private and public sector for Omani nationals on the one hand, and on the other hand the improvement of skills and trainings within the national labor force. As one solution, the Omani government is continuously investing in training and capacity building initiatives to reduce this shortage.

The identified three potential strategic industries of Oman indicate further challenges on industry-level to be overcome: 'Other non-metallic minerals products' and 'Chemicals and chemical products' are classified as high energy intensive industries, and 'Food Products' as moderately energy intensive. Moreover, these sectors record a high share of expats in the manufacturing sector: more than half of the employees of the 'Food product and processing', 'Chemicals and chemical products' and 'Other non-metallic mineral products' were expats.

### **Oman Vision 2020 – a success?**

Oman's Vision 2020 is based on four strategic pillars: economic balance and financial sustainability; human resource development; economic diversification; and private sector development. As discussed above, Oman's economy is paving the way towards reaching these goals in different pace. There is an economic diversification away from oil underway, with a strong government effort to provide skill and technical training to the Omani workforce and to enhance public-private partnerships, particularly through the creation

of special economic zones and free zones as well as special investment in strategic key industries. However, as the bottlenecks mentioned above indicate, there is still work to be done, especially in diversifying into higher value added activities, taking into account an environmental sustainable and inclusive approach.

### **Beyond Vision 2020: Oman Vision 2040**

These main findings of this Report aim to support the government in the assessment of Oman's economic and industrial performance and in the formulation of the goals for the next long-term strategic plan, called "Oman Vision 2040". The government of Oman has been preparing the new plan since March 2017 and announced its launch for the first quarter of 2019. Three themes for Oman Vision 2040 were already adopted and build on the former Vision 2020 goals: People and society; economy and development and as a third governance and institutional performance. While the theme 'People and society' will aim at enhancing family and community health and well-being, upholding the Omani identity and heritage, as well as developing the national technical and entrepreneurial capabilities, the theme 'Economy and Development' aims at achieving the following four pillars: Creating wealth through economic diversification and private sector partnership; ensuring balanced governorates development; preserving environmental sustainability and building a world-class infrastructure and livable cities. Within the third theme 'Governance and institutional performance', Oman Vision 2040 aims at improving governance effectiveness and the rule of law. (Source: <https://2040.om/en/>)





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# APPENDIX A

## THE ANNUAL INDUSTRIAL SURVEY

### About

The Annual Industrial Survey (AIS) is an annual survey of manufacturing establishments in Oman with the primary objective of producing basic statistics for the country's manufacturing sector. It was introduced in 1993 by the Directorate General of Industry at the Center of Industrial Statistics, which was founded at the Ministry of Commerce and Industry (henceforth, the "Ministry") in the same year in cooperation with the Japanese Agency for International Cooperation (JICA). In the same year, Oman also conducted its first census, the "General Census of Population, Housing and Establishments" whose coverage include all industrial establishments thatlike the AISwere registered and operated across the regions and provinces of Oman. In 2003, the AIS' scope was modified to include only manufacturing establishments with ten and more employees. Establishments with fewer employees were covered in a separate survey every third year between 2003 and 2010.

Since its introduction, the AIS has provided important data on the type of manufacturing production taking place in the country, and the nature and structure of existing manufacturing industries in terms of the quality and size of the workforce, its geographical distribution and the compensation it receives, along with the volume of industrial investment, and the industries' consumed energy and materials in their production processes.

The AIS is the most extensive business survey conducted by the Ministry and is a key resource for understanding the

composition, structure and performance of businesses across the Sultanate. It is used to: (i) Collect statistics on the operating characteristics, and structure of manufacturing establishments operating in Oman; (ii) Assess the contribution of the manufacturing sector to the overall economy; (iii) Produce statistics to monitor the performance of the manufacturing sector while taking into account current national policy plans and strategies, and to create benchmark data for the computation of national accounts estimates and the construction of input-output tables – both conducted by the National Centre for Statistical Information (NCSI).

A large number of variables are available from the AIS as each survey is composed of approximately 70 different questions. From the responses collected further variables are derived. Some of the most frequently used variables for analytical purposes include: turnover (the total value of businesses' sales); purchases (the total value of goods and services purchased during the year and consumed by businesses in order to generate turnover); and approximate gross value added (a measure of the amount individual businesses contribute to the economy).

By 2012 it had become clear that the Ministry's statistical system needed revision to operate in accordance with best international practices. Upon request by the government of Oman, a UNIDO-MOCI was initiated to: (i) Improve the Ministry's statistical methodology to comply with the International Recommendations for Industrial Statistics 2008 (UN DESA 2008) considering the requirements of the Ministry and the NCSI. This included a revision of the questionnaire used for the AIS, which was also optimized to reflect the country's long-term policy objectives; (ii) Update the statistical database system, the software for data entry, the data processing, and reporting methods, and revise plans for data dissemination; (iii) Develop indicators for monitoring and measuring the performance of the manufacturing sector as a

whole and the performance of its divisions; (iv) Review if the internal processes and current staff of the Ministry's Industrial Information Department were appropriate for achieving the goals (i)-(iii), and present recommendations for the changes needed to ensure the effective implementation of the AIS. Since the completion of the project, the Ministry has been able to conduct regular AIS', specifically, with reference years 2013, 2014, 2015, 2016 and 2017, introducing minor updates to the survey methodology and processing system each year.

### **The AIS 2017: Methodology and implementation**

The most recent Annual Industrial Surveys took place in 2017 and 2018. The data processing of the 2017 survey was finalized in January 2018 with its results presented at a seminar organized by the Ministry at the Sheraton Oman Hotel under the patronage of the Ministry's Under-Secretary, Ahmed Bin Hassan Al Dheeb. More than 100 people representing government agencies, the private sector and the universities of Oman attended the seminar; all of whom responded to the AIS with great interest and appreciation. The seminar aimed to identify the importance of industrial information and its use for developing indicators to monitor the industrial performance of the country. The data processing of the 2018 survey was finalized in January 2019 and its results are the main input to this report.

The 2018 survey comprised the approximately 900 large establishments, which at the time of execution were licensed and validated by the Ministry and listed in the national statistical business register. Establishments that are not licensed by the Ministry are excluded from the survey. To achieve a more accurate picture of Oman's manufacturing sector, the Ministry is advised to increase the survey's future coverage by including small businesses as well as businesses located in the free zone. Nevertheless, the data collected for the 2018 survey meet the needs of national accounts.

A UNIDO consultant with expertise in industrial statistics drafted the 2012 survey questionnaire (in English), which was finalized after consultation with and approval by the Ministry. It was later translated into Arabic by the Ministry, and the bilingual version was used in the field. A copy of the questionnaire in English, as well as guidelines for filling it, can be found in the statistical report (MOCI 2018). Data collection was undertaken by a trained team of enumerators and supervisors recruited by the Ministry. While the questionnaire was sent to some businesses by mail, field staff delivered it directly to the majority of establishments (via their business offices) and provided information and guidance on how to fill it in. The data collecting process took place in the period April-June 2018; respondents were asked to provide data from their accounting records for the year 2017. Completed questionnaires were edited and translated into the relevant classification codes of the International Standard Industrial Classification (ISIC) Revision 4 or the Central Product Classification (CPC 2.0) by staff from the Ministry, and subsequently entered into the statistical system (designed within the context of the 2012 UNIDO-MOCI) upon having been checked for accuracy and consistency using broad parameters. This included technical/operation ratios in the field of industrial statistics such as value added/gross output, value added/number of employees, wages per employee, etc. A control table comprising these parameters was also sent to UNIDO's statistical consultant in MS-Excel format, who subsequently submitted comments to be used for final editing of the survey data.

The response rate for the survey was nearly 95 percent in terms of employment data. Estimates were made for the remaining establishments based on their primary economic activity and employment size. Therefore, the results presented in this Report refer to both responding and non-responding establishments (details about the procedures for treatment of 'non-response' can be found in MOCI (2018b)). Finally, statistical tables were generated based on the clean dataset



according to a UNIDO-MOCI agreed upon tabulation plan comprising a comprehensive set of basic statistics for the manufacturing sector.

When using the data, the following limitations should be considered: (i) As far as possible, data inconsistencies have been corrected at the editing stage; (ii) A number of establishments are engaged in several equally important but dissimilar activities and figures relating to a particular ISIC group might, therefore, include data for other secondary activities as well; (iii) Many establishments could not provide detailed information for specific items, mainly related to the intermediate consumption, while others did not provide information on the level of stocks and assets; (iv) It was not possible to produce reliable tables by detailed product group for sales and purchases by the establishments and these data are presented at a broad section level of the CPC 2.0.

However, the above limitations have little effect on the overall quality and reliability of the major indicators at the broad ISIC level. Statistics used in this Report reflect the current status and structure of Oman's manufacturing sector by 2-digit industry groups. The government, business community and other users can make good use of these results, which constitute the only available set of information of this kind in Oman based on the

## Concepts and definitions

According to the ISIC Revision 4 (UN 2008a), MANUFACTURING is defined as “the physical or chemical transformation of materials or components into new products, whether the work is performed by power-driven machines or by hand, whether it is done in a factory or in the worker’s home, and whether the products are sold at wholesale or retail. The assembly of the component parts of manufactured products is also considered as manufacturing activities.”

An ESTABLISHMENT is defined as an economic unit, engaged in one or predominantly one kind of economic activity at a single physical location under sole ownership or control. In the AIS of MOCI, industrial enterprises, which had more than one related production activity in one location or one activity in several locations, were treated as one unit of enumeration whenever no separate records were available. In certain cases, where separate data on an establishment basis were unavailable for firms, ‘enterprise’ was used as the unit of enquiry.

Indicators used in the AIS (MOCI 2018b, pp. 8-9):

“GROSS OUTPUT of industries covers the value in the market of goods and services produced including work in progress and products for own use. Value of goods sold is adjusted by the change in stocks of finished goods and work in progress.”

“INTERMEDIATE CONSUMPTION of industries covers non-durable goods and services used up in production, including repairs and maintenance of the capital stock, research and direct outlays on financing of capital

formation such as transfer costs involved in purchases of land and intangible assets.”

The VALUE OF STOCKS comprises “all materials and supplies, fuels, finished and semi-finished products and goods for resale, held by, or under the control of, the establishment (at the establishment itself or in ancillary or other warehouses).”

The VALUE ADDED is equal to gross output less the value of the intermediate consumption. The sum of the value added of all domestic producers gives the gross domestic product. Value added may be at factor cost, basic prices or at producers’ prices depending on the treatment of taxes on production and subsidies.”

“COMPENSATION OF EMPLOYEES comprises all payments by producers of wages and salaries to their employees, in kind as well as in cash and of contributions to social security and to private pension, casualty insurance and similar schemes.”

“WAGES AND SALARIES in cash include all payments which employees receive in respect of their work before deductions of employees’ contributions to social security schemes. They include commissions, overtime payments, bonuses, cost of living allowance, housing allowance, etc. Wages and salaries in kind are goods and services provided to employees free of charge or at a markedly reduced cost which are clearly of direct benefit to the employees as consumers.”

latest international recommendations for industrial statistics (UN DESA 2008). When using the survey results in certain statistical/economic analyses, users should, nevertheless, keep the above limitations in mind.

### **Recommendations for future surveys**

Based on UNIDO's experiences from the organization and implementation of the AIS 2018 and its predecessors, the Ministry is advised to consider the following recommendations for future surveys:

- **Coverage**

Increase the coverage of the survey to include all manufacturing establishments; not only large businesses licensed by the Ministry. To achieve a better picture of the manufacturing sector as a whole, the coverage should be extended to non-licensed establishments as well as small ones (less than ten employees). Moreover, to avoid that any important businesses are excluded from the survey, the full list of establishments to be included in it, should be prepared by relevant stakeholders well before its launch.

The Ministry has already agreed to the inclusion of small establishments in the survey and has requested assistance from UNIDO in designing a shorter questionnaire (intended for a separate survey as to increase the data coverage by including small establishments with less than 10 employees) and integrating the processing of it into the data entry and processing system. The consulting UNIDO expert designed the questionnaire for this survey, which was then approved by the Ministry. The statistical system is developed, deployed at the premises of the Ministry and introduced to the staff of the Statistics department.

- **Data quality**

Improve the quality of the survey data through better editing of questionnaires and training the staff on the data editing

procedures. Some questionnaires were not adequately edited when the AIS 2018 data was processed. Particular emphasis should be put on this exercise during future surveys by requiring that questionnaires be edited in the field by both enumerators and supervisors and off-field by staff in the office before data entry. It is also advised to make use of the computer editing facilities available in the new system in which application additional validation rules can be applied. The quality of the data can be further improved by: (i) undergoing in-depth training in the computation of estimates for non-responding establishments; (ii) Ministry staff offering training to enumerators and supervisors; and (iii) hosting seminars for manufacturing industries and employers' associations to sensitize participants on the importance of statistical data for policy decision making, thereby strengthening the support of these parties prior to a survey. One such seminar was conducted in January 2018.

- **Sustainability**

Future surveys should be based on the lessons learned from the technical assistance program carried out by UNIDO to ensure the sustainability of the AIS. While the UNIDO-Ministry Project has been fruitful in building the appropriate capacity for the collection, processing, and dissemination of industrial statistics in Oman in line with internationally agreed principles and recommendations, all recipients of technical training should be intensively involved in future activities of the Project.

- **Development of new data products**

The AIS has provided a wealth of information on Oman's manufacturing sector. This information can now be used as a benchmark for the production of other short-term industrial indicators such as a Producer Price Index (PPI) and an Index of Industrial Production (IIP). The PPI is already produced by the NCSI but needs to be rebased using the detailed data from the survey. Computation of the accompanying IIP should also be considered. This can be done through collaboration between the Ministry and the NCSI.



# APPENDIX B

## INDUSTRIAL ESTATES

Unless otherwise specified, all information in Appendix B is sourced from the website of the Public Establishment for Industrial Estates (PEIE) at [www.peie.om/ESTATES/Rusayl/Vital-Statistics](http://www.peie.om/ESTATES/Rusayl/Vital-Statistics), which contains information from 2014 on nine of the estates governed by PEIE. For each estate, the Appendix presents tables detailing key information on size, amenities, and infrastructure. These tables are sourced directly from PEIE, while the accompanying summary is updated according to available news records. Some mismatches may therefore occur between the information in the tables (dating back to 2014) and the summaries.

## **B.1 Rusayl Industrial Estate**

Rusayl Industrial Estate was established in 1983 and was Oman's first industrial estate. Its convenient location just 10 kilometers from Muscat International Airport quickly made it attractive to businesses. By 2014, a little more than 60 percent of all available space in the estate had been leased by businesses producing a diverse pool of products, including chemicals, batteries, electrical components, fiber optic cables, building materials, paint, garments, stationery, etc. As occupancy quickly moved towards 100 percent, the estate underwent a rapid expansion phase. By 2017 its total area touched 9,964,310 square meters. Consultancy tenders have been announced for the preparation of a master plan for the estate's future development and expansion, and for the modernization of its infrastructure. (Oman Daily Observer 2018)

Among the incentives offered by the authorities are cheap annual land rent of 0.5 Omani Rial per square meter as well as first-year concessions and exemption from equipment import duties.



TABLE B-1 | KEY INFORMATION ON RUSAYL INDUSTRIAL ESTATE

Location	Rusayl
<b>Governorate</b>	Muscat
<b>Total estate area</b>	7,894,841 square meters
<b>Rent</b>	0.5 Omani Rial per square meters annually; common area maintenance service is provided
<b>Lease</b>	Annual lease renewable
<b>Insurance</b>	Liability coverage is required for each tenant
<b>Space rented</b>	3,373,500 square meters
<b>Expansion plans</b>	Under consideration
<b>Space available for investment/lease</b>	5,298,500 square meters
<b>Number of existing businesses</b>	259
<b>Topography</b>	Hills
<b>Flood plan</b>	Yes
<b>Curb</b>	Yes
<b>Paved street</b>	Yes
<b>Gutter</b>	Yes
<b>Streetlight</b>	Yes
<b>Parking</b>	Yes

TRANSPORT

<b>Nearest major highway(s)</b>	Rusayl - Nizwa
<b>Lanes</b>	2
<b>Nearest airport</b>	Muscat International Airport
<b>Distance to airport</b>	10 kilometres
<b>Nearest port facility</b>	Sohar Port
<b>Distance to port</b>	223 kilometres

UTILITIES

<b>Electricity supplier</b>	Muscat Electricity Company
<b>3-phase electric available</b>	Yes
<b>Gas supplier</b>	Oman Gas Company
<b>Municipal water</b>	Yes
<b>Water main size</b>	300 millimetre diameter asbestos-cement pipes
<b>Water source</b>	Public Authority for Electricity & Water
<b>Water later size</b>	200-150 millimetre diameter pipes
<b>Sanitary sewer main size</b>	400-300 millimetre diameter pipes
<b>Sanitary sewer later size</b>	200-150 millimetre diameter pipes
<b>Storm sewer</b>	Yes
<b>Digital switching</b>	Yes

## **B.2 Sohar Industrial Estate**

Established in 1992, Sohar Industrial Estates is second in size among Oman's nine industrial estates but with the largest developed area. It is located halfway between Muscat (200 kilometers) and Dubai (180 kilometers), and between major local and Gulf ports. The port of Sohar is just 6 kilometers away – a trait that has given the estate a distinguished position and attracted a mixture of local and foreign investors. Residing businesses are ensured a high degree of flexibility in terms of transportation options to and from the domestic and foreign markets. Production activities on the estate includes many consumables such as beverages, ice cream, toothpaste, detergents and food products, as well as aluminum, marble, paper recycling, leather, furniture, resins, glass, steel bars and engine oil.

Moreover, Sohar is Oman's most developed industrial region and is set to become the country's dominant industrial hub. In addition to the newly established Sohar Free Zone, a line of new infrastructure projects has been completed in recent years including internal roads, extension of water networks, drainage, irrigation and rainwater protection works. Sohar Industrial Estate has seen its area expand to as much as 30 million square kilometres in recent years. (Oxford Business Group 2015, Times of Oman 2018a).

TABLE B-2 | KEY INFORMATION ON SOHAR INDUSTRIAL ESTATE

Location	Sohar
<b>Governorate</b>	Batinah North
<b>Total estate area</b>	21,237,225 square meters
<b>Rent</b>	0.5 Omani Rial per square meters annually; common area maintenance service is provided
<b>Lease</b>	Annual lease renewable
<b>Insurance</b>	Liability coverage is required for each tenant
<b>Space rented</b>	10,695,204 square meters
<b>Expansion plans</b>	No
<b>Space available for investment/ lease</b>	16,745,571 square meters
<b>Number of existing businesses</b>	319
<b>Topography</b>	Plain area
<b>Flood plan</b>	Yes
<b>Curb</b>	Yes
<b>Paved street</b>	Yes
<b>Gutter</b>	Yes
<b>Streetlight</b>	Yes
<b>Parking</b>	Yes

TRANSPORT

<b>Nearest major highway(s)</b>	Al Batinah
<b>Lanes</b>	2
<b>Nearest airport</b>	Sohar International Airport
<b>Distance to airport</b>	10 kilometres
<b>Nearest port facility</b>	Sohar Port
<b>Distance to port</b>	10 kilometres

UTILITIES

<b>Electricity supplier</b>	Majan Electricity Company
<b>3-phase electric available</b>	Yes
<b>Gas supplier</b>	Oman Gas Company
<b>Municipal water</b>	No
<b>Water main size</b>	300 millimetre diameter pipes
<b>Water source</b>	Ground wells
<b>Water later size</b>	200–100 millimetre diameter pipes
<b>Sanitary sewer main size</b>	200–250 millimetre diameter pipes
<b>Sanitary sewer later size</b>	150 millimetre diameter pipes
<b>Storm sewer</b>	Yes
<b>Digital switching</b>	Yes

### **B.3 Rasyut Industrial Estate**

Established in 1992, Raysut Industrial Estate is among Oman's smallest industrial estates but has the highest lease intensity. In 2014, 92 percent of all available space was rented, and by 2018 it had reached full capacity (Times of Oman 2018b). The developed area, which includes warehouse facilities, is serviced and industrial plots range from 1,350 to 11,000 square meters. The businesses residing in Raysut produce a wide range of products, such as school stationery, ice, processed fish and meat, PVC pipes, steel fabrication, medical supplies, solar heaters, flour, fertilizer and vegetable oil. Expansion plans for the estate are under development due to the rising investment volume resulting from the development of new production lines and capacity by residing businesses (Times of Oman 2018b).

Rasyut is located just 4 kilometers from Port Salalah, which is the only port that connects Europe and Singapore and accommodates the world's largest class of container vessels. Via this port, the estate's residing businesses have easy access to the Gulf, the Red Sea, the Indian Ocean and the east coast of Africa and hence to ships carrying cargo between the east coast of the United States, Europe and the Far East. There are great future prospects for the port of Salalah. The government has plans of establishing an adjacent free zone with the ambition to make the port a major air-sea cargo hub, capable of handling next generation container ships carrying very large containers.

TABLE B-3 | KEY INFORMATION ON RAYSUT INDUSTRIAL ESTATE 2014

Location	Raysut
<b>Governorate</b>	Dhofar
<b>Total estate area</b>	3,810,479 square meters
<b>Rent</b>	0.25 Omani Rial per square meters annually; common area maintenance service is provided
<b>Lease</b>	Depends on cost of construction and size of the units
<b>Insurance</b>	Liability coverage is required for each tenant
<b>Space rented</b>	3,741,070 square meters
<b>Expansion plans</b>	Yes
<b>Space available for investment / lease</b>	2,945,518 square meters
<b>Number of existing businesses</b>	194
<b>Topography</b>	Mostly flat with some hills and wadis
<b>Flood Plan</b>	Yes
<b>Curb</b>	Yes
<b>Paved street</b>	Yes
<b>Gutter</b>	Yes
<b>Streetlight</b>	Yes
<b>Parking</b>	Yes

TRANSPORT

<b>Nearest major highway(s)</b>	Salalah - Raysut
<b>Lanes</b>	2
<b>Nearest commercial airport</b>	Salalah Airport
<b>Distance to airport</b>	20 kilometres
<b>Nearest port facility</b>	Port Salalah
<b>Distance to port</b>	4 kilometres

UTILITIES

<b>Electricity supplier</b>	Dhofar Power Company
<b>3-phase electric available</b>	Yes
<b>Gas supplier</b>	Oman Gas Company
<b>Municipal water</b>	Yes
<b>Water main size</b>	1500 cubic metres per day
<b>Water source</b>	Ground wells Office of the Minister of State and Governor of Dhofar
<b>Water later size</b>	1200 cubic metres per day
<b>Sanitary sewer main size</b>	150 millimetre diameter pipes
<b>Sanitary sewer later size</b>	200 millimetre diameter pipes
<b>Storm sewer</b>	150 millimetre diameter pipes
<b>Digital switching</b>	Open ditch drains Yes

#### **B.4 Sur Industrial Estate**

With an area of more than 3.6 million square meters, Sur Industrial Estate, established in 1999, has grown to be Oman's largest industrial estate. It is located 300 kilometers from Muscat and 200 kilometers from the nearest airport and port. However, Sur has its own deep water harbor and the estate has called for a feasibility study to establish a port (Oman Daily Observer 2018). The estate is home to major companies including Oman LNG, the National Gas Company and Oman India Fertiliser Company. Given the nature of these tenants, Sur has focused on the development of expertise and competitive advantage in the area of natural gas and gas-related industries and services. In 2018, a masterplan was completed for the future development of the estate, and investments are expected mainly from heavy industries (Times of Oman 2018c).

TABLE B-4 | KEY INFORMATION ON SUR INDUSTRIAL ESTATE 2014

Location	Sur
<b>Governorate</b>	Al Sharqiya
<b>Total estate area</b>	36,100,000 square meters
<b>Rent</b>	0.25 Omani Rial per square meter annually. Common Area Maintenance
<b>service is provided</b>	
<b>Lease</b>	Annual lease renewable
<b>Insurance</b>	Liability coverage is required for each tenant
<b>Space rented</b>	6,417,193 square meters
<b>Expansion plans</b>	Sufficient area for future expansion.
<b>Space available for investment/ lease</b>	17,215,490 square meters
<b>Number of existing businesses</b>	64
<b>Topography</b>	Naturally levelled area close to the sea large plots
<b>Flood Plan</b>	Yes
<b>Curb</b>	Yes
<b>Paved street</b>	Yes
<b>Gutter</b>	Yes
<b>Streetlight</b>	Yes
<b>Parking</b>	Yes

TRANSPORT

<b>Nearest major highway(s)</b>	Sur - Muscat
<b>Lanes</b>	2
<b>Nearest airport</b>	Muscat International Airport (new airport at Sur under construction)
<b>Distance to airport</b>	200 kilometres (distance to the new Sur Airport will be 60 kilometres)
<b>Nearest port facility</b>	Sohar Port
<b>Distance to port</b>	448 kilometres

UTILITIES

<b>Electricity supplier</b>	Mazoon Electricity Company
<b>3-phase electric available</b>	Yes
<b>Gas supplier</b>	Ministry of Oil & Gas through Oman Gas Company
<b>Municipal water</b>	Yes
<b>Water main size</b>	250-200 millimetre diameter pipes
<b>Water source</b>	Public Authority for Electricity & Water
<b>Sanitary sewer main size</b>	200-400 millimetre diameter pipes
<b>Sanitary sewer later size</b>	100 millimetre diameter pipes
<b>Storm sewer</b>	Yes
<b>Digital switching</b>	Yes
<b>Sanitary sewer later size</b>	150 millimetre diameter pipes
<b>Storm sewer</b>	Open ditch drains
<b>Digital switching</b>	Yes

### **B.5 Nizwa Industrial Estate**

Nizwa Industrial Estate, established in 1994, is Oman's second smallest industrial estate. As of 2014, the estate had a very high land and lease intensity with 86 percent of the total estate area already developed, and hereof 73 percent leased. Industrial plots on the estate range from 1,200 to 8,000 square meters. The businesses residing produce a diverse range of products, including ceramics, plastics, medical products, plywood, tea packaging, mineral water, water tanks, ferrous casting, oil services and food products. An ongoing expansion effort since 2014 will ultimately add 900,000 square meters to the estate's total area (Oxford Business Group 2015).



TABLE B-5 | KEY INFORMATION ON NIZWA INDUSTRIAL ESTATE 2014

Location	Sur
Location	Nizwa
Governorate	Dakhliya
Total estate area	3,079,935 square meters
Rent	0.25 Omani Rial per square meter annually
Lease	Annual lease renewable.
Insurance	Liability coverage is required for each tenant
Space rented	1,912,931
Expansion plans	185 hectares
Space available for investment/ lease	2,639,639 square meters
Number of existing businesses	96
Topography	Flat area
Flood Plan	Partial provision
Curb	Yes
Paved street	Yes
Gutter	Road drain
Streetlight	Yes
Parking	Yes

TRANSPORT

Nearest major highway(s)	Nizwa - Salalah
Lanes	Single
Nearest commercial airport	Muscat International Airport
Distance to airport	140 kilometres
Nearest port facility	Sohar Port
Distance to port	350 kilometres

UTILITIES

Electricity supplier	Mazoon Electricity Company
3-phase electric available	Yes
Gas supplier	Oman Gas Company
Water main size	200 millimetre diameter glass fibre reinforced plastics pipes
Water source	Well water from Izz
Water later size	150-100 millimetre diameter asbestos-cement pipes
Sanitary sewer main size	200 millimetre diameter glass fibre reinforced plastics pipes
Sanitary sewer later size	100 millimetre diameter unplasticized PVC pipes, 150 millimetre diameter glass fibre reinforced plastics pipes
Storm sewer	Culverts available
Digital switching	Yes; ATM telephony is likely to be installed in the future
Digital switching	Yes

## **B.6 Buraimi Industrial Estate**

Established in 1998, Buraimi Industrial Estate, bordering the United Arab Emirates, has a strategic business location. Tenants not only benefit from the close proximity to air and seaports in both Oman and the United Arab Emirates, but they can also easily take advantage of domestic and emerging business-to-commercial and business-to-business market opportunities - particularly in the Gulf region and Central Asia. Buraimi is divided into two, almost equally big, parts: one part is dedicated to light industries, and a second part focused on industrial activities. The plots on the estate range from 500 to 33,000 square meters. To accommodate the increasing activity of the estate – 45 lease agreements for new projects were signed in 2017 alone – investments have been channeled towards improvements to drainage systems, electronic monitoring, and a modern sewage network and treatment plant (Oman Observer 2018).

TABLE B-6 | KEY INFORMATION ON BURAIMI INDUSTRIAL ESTATE 2014

Location	Buraimi
<b>Governorate</b>	Al Buraimi
<b>Total estate area</b>	5,561,156 kilometres
<b>Rent</b>	0.25 Omani Rial per kilometres annually; common area maintenance
<b>service is provided</b>	0.25 Omani Rial per square meter annually
<b>Lease</b>	Annual lease renewable.
<b>Insurance</b>	Liability coverage is required for each tenant
<b>Space rented</b>	2,180,236 kilometres
<b>Expansion plans</b>	Rawda Industrial Area 2,639,639 square meters
<b>Space available for investment/ lease</b>	3,380,920 kilometres
<b>Number of existing businesses</b>	337
<b>Topography</b>	Mountainous
<b>Flood Plan</b>	Yes
<b>Curb</b>	Yes
<b>Paved street</b>	Yes
<b>Gutter</b>	Yes
<b>Streetlight</b>	Yes
<b>Parking</b>	Yes

TRANSPORT

<b>Nearest major highway(s)</b>	Buraimi - Mandah
<b>Lanes</b>	2
<b>Nearest commercial airport</b>	Al-Ain International Airport
<b>Distance to airport</b>	25 kilometres
<b>Nearest port facility</b>	Sohar Port
<b>Distance to port</b>	110 kilometres

UTILITIES

<b>Electricity supplier</b>	Majan Electricity Company
<b>3-phase electric available</b>	Yes
<b>Gas supplier</b>	In process
<b>Municipal water</b>	Yes
<b>Water main size</b>	350 millimetre diameter pipes
<b>Water service</b>	Public Authority for Electricity & Water
<b>Water later size</b>	Not available
<b>Sanitary sewer main size</b>	Not available
<b>Sanitary sewer later size</b>	Not available
<b>Storm sewer</b>	4 canals
<b>Digital switching</b>	69

## **B.7 Smail Industrial Estate**

The development plans of Smail Industrial Estate were first announced in 2010, making it the 'youngest' industrial estate in Oman. Residing businesses benefit from its proximity to Muscat International Airport and to the Mina Sultan Qaboos port. In recent years, the estate has seen significant development of its infrastructure including the construction of a 3-laned highway to provide tenants easy access to different ports. By 2017, 70 percent of the infrastructure work was completed and completion is expected in 2018 (Times of Oman 2018b). Key industries in the Omani economy is represented at the estate including steel, building materials and chemicals industries.

TABLE B-7 | KEY INFORMATION ON SMAIL INDUSTRIAL ESTATE 2014

Location	Small industrial estate
<b>Governorate</b>	Al Dhakliya
<b>Total estate area</b>	7,315,775 square meters
<b>Rent</b>	0.5 Omani Rial per square meters annually; common area maintenance
<b>service is provided</b>	0.25 Omani Rial per square meter annually
<b>Lease</b>	Annual lease renewal for 25 year
<b>Insurance</b>	Liability coverage is required for each tenant
<b>Space rented</b>	3,092,345 square meters
<b>Expansion plans</b>	Under consideration
<b>Space available for investment/lease</b>	4,484,403 square meters
<b>Number of existing businesses</b>	194
<b>Topography</b>	Flat
<b>Flood plan</b>	Yes
<b>Curb</b>	(According to the project's infrastructure)
<b>Paved street</b>	(According to the project's infrastructure)
<b>Gutter</b>	(According to the project's infrastructure)
<b>Streetlight</b>	(According to the project's infrastructure)
<b>Parking</b>	(According to the project's infrastructure)

TRANSPORT

<b>Nearest major highway(s)</b>	(Muscat - Nizwa ) + (Muscat - Sur)
<b>Lanes</b>	3 lanes under construction
<b>Nearest airport</b>	Muscat International Airport
<b>Distance to airport</b>	50 kilometres
<b>Nearest port facility</b>	Sohar Port
<b>Distance to port</b>	80 kilometres

UTILITIES

<b>Electricity supplier</b>	Mazoon Electricity Company
<b>3-phase electric available</b>	Yes
<b>Gas supplier</b>	No gas
<b>Municipal water</b>	Yes
<b>Water main size</b>	300 millimetre diameter asbestos-cement pipes
<b>Water source</b>	Public Authority for Electricity & Water
<b>Water later size</b>	200-150 millimetre diameter pipes
<b>Sanitary sewer main size</b>	400-300 millimetre diameter pipes
<b>Sanitary sewer later size</b>	200-150 millimetre diameter pipes
<b>Storm sewer</b>	(According to the project's infrastructure)
<b>Digital switching</b>	(According to the project's infrastructure)

## B.8 Al Mazunah Free Zone

Located close to the border of Yemen, the Al Mazunah Free Zone, which began operations in 1999, caters especially to businesses wishing to trade through Oman into Yemen. To that end, the zone offers incentives promoting trade between the two countries. Besides being geographically situated outside the lit of Oman’s tax boundaries, the zone also allows for businesses entry without visa or completing border procedures between Oman and Yemen.

The Al Mazunah Free Zone covers an area of 4.5 million square meters divided into 100 industrial plots ranging from 2,000 to 16,000 square meters. Rapid growth has meant that the number of businesses in the zone has increased from 21 in 2014 to 160 as of 2018 (Times of Oman 2018d). The zone’s key purpose is to facilitate trade and storage of goods, and accommodates businesses engaged in industries such as light plastic, garment and textile production, wood and, in general, all types of light manufacturing. An ambitious line of infrastructure and service projects, either ongoing or currently subject to tender, are intended to ensure further growth of the zone.

The incentives offered by Al Mazunah Free Zone are:

<ul style="list-style-type: none"><li>• Waiving all economical and business revenues for 30 years from income tax and income statements submissions;</li><li>• Free money transactions;</li><li>• No agencies representation system implemented in the free zone;</li><li>• Imported or exported commodities within the free zone are waived from custom duties;</li><li>• No restricts to invested capitals, minimum or maximum;</li></ul>	<ul style="list-style-type: none"><li>• All commodities from - to the free zone are free of official import-export licenses. Except materials prohibited to be exchanged;</li><li>• 100 percent owned capital of investment to non-Omani investors;</li><li>• Nationalization (Omanization) is only 10 percent of staffing;</li><li>• Exemption from all official fees (municipality, real estate, lands, etc.) except fees due to the One System Station.</li></ul>
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TABLE B-8 | KEY INFORMATION ON AL MAZUNAH FREE ZONE 2014

Location	Small industrial estate
<b>Location</b>	Mazunah
<b>Region</b>	Dhofar
<b>Total estate area</b>	4,500,000 square meters
<b>Rent</b>	Type Square meter of the land space: 1,000 Omani Rial Square meter of ready concrete building: 37,000 Omani Rial Square meter of mineral deposits: 8,000 Omani Rial Square meter of exhibition vehicles and equipment: 2,000 Omani Rial
<b>Lease</b>	Two types of leasing are available: commercial shops and land
<b>Insurance</b>	Liability coverage is required for each tenant
<b>Number of sqm rented</b>	3,081,350 square meters
<b>Expansion plans</b>	Yes
<b>Space available for investment/ lease</b>	4,000,000 square meters
<b>Number of existing businesses</b>	36
<b>Topography</b>	Flat
<b>Streetlight</b>	(According to the project's infrastructure)
<b>Parking</b>	(According to the project's infrastructure)

TRANSPORT

<b>Nearest major highway(s)</b>	Al Mazyona (Oman) - Shipping (Republic of Yemen)
<b>Lanes</b>	2
<b>Nearest commercial airport</b>	Salalah Airport
<b>Distance to airport</b>	260 kilometres
<b>Nearest port facility</b>	Salalah Port
<b>Distance to port</b>	275 kilometres

UTILITIES

<b>Electricity supplier</b>	Ministry of Housing, Electricity & Water
<b>3-phase electric available</b>	Yes
<b>Municipal water</b>	Yes
<b>Water main size</b>	150 millimetre diameter pipes
<b>Water source</b>	Office of the Minister of State and Governor of Dhofar
<b>Water later size</b>	100 millimetre diameter pipes
<b>Digital switching</b>	Yes

## **B.9 Duqm Special Economic Zone**

Duqm Special Economic Zone - stretching over 2,000 square kilometres with 60 kilometre coast line - is the largest economic zone in the MENA region and one of the largest in the world. As of 2013, 45 percent of the areas had been developed. It offers, among other things, an industrial zone favouring export processing industries based on petrochemicals, mineral resources and fisheries, a sea port, a fishing harbour, a central business district, a residential zone, a tourism and recreational zone, a logistics hub and an education and training zone. A multimodal transport system connects Duqm with the surrounding regions. In 2018, a new international airport began commercial operation, underpinning the zone's important and growing position as a logistics and maritime hub for both regional and international trade and investment (Moon-Hee 2018).

The Special Economic Zone Authority at Duqm (SEZAD) is responsible for the administration, regulation and development of the zone, and is a financially and administratively independent government entity established in 2011.

The incentives offered by Duqm Special Economic Zone are:

- 100 percent foreign ownership;
- Free repatriation of profits and capital;
- No currency restrictions;
- No minimum capital requirement;
- Exemption from import and export duties;
- Zero personal income tax;
- Pre-built offices, warehouses and light industry;
- One-stop shop;
- Quality customer service at international standards;
- Company registration in less than one week;
- No duties on sales to domestic and GCC markets;
- Simplified and flexible customs procedures;
- Long term land lease (up to 50 years) at competitive prices;



- Access to first class infrastructure;
- Online portal to provide 24/7 access to Duqm's services;
- Low annual land lease rates: 1 Omani Rial per square meter for light industry, 0.85 Omani Rial per square meter for medium industry, and 0.5 Omani Rial per square meter for light industry.



# APPENDIX C

## STATISTICAL TABLES

**TABLE C-1 | GDP BY ECONOMIC ACTIVITY AT CONSTANT 2010 PRICES, 2003-2017**  
MILLIONS, OMANI RIAL

Economic activity	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>1 Total petroleum activities</b>	9,577	9,255	9,228	8,940	8,588	9,197	9,852	10,388	10,597	11,004	11,213	11,098	11,588	12,001	11,642
<b>1.1 Crude petroleum</b>	9,035	8,698	8,622	8,176	7,805	8,427	9,043	9,527	9,717	10,104	10,296	10,231	10,701	11,079	10,707
<b>1.2 Natural gas</b>	542	557	605	764	783	770	810	862	881	901	917	867	887	921	935
<b>2 Total non-petroleum activities</b>	6,952	7,483	8,172	9,291	10,310	11,428	12,064	12,634	13,400	14,331	16,028	16,769	17,710	18,583	18,755
<b>2.1 Agriculture and fishing</b>	253	263	256	249	259	271	285	312	310	339	365	371	492	533	581
<b>2.2 Industry activities</b>	1,785	1,837	2,145	2,646	2,942	3,383	3,819	4,062	4,195	4,440	4,775	4,928	5,258	5,623	5,538
<b>C Mining and quarrying</b>	28	33	36	35	50	69	85	92	86	86	89	100	111	120	134
<b>D Manufacturing</b>	1,312	1,322	1,472	1,834	1,884	2,011	2,242	2,385	2,422	2,572	2,584	2,501	2,603	2,679	2,701
- Manufacturing of refined petroleum products	53	51	56	55	45	71	67	55	73	72	77	77	81	76	87
- Manufacturing of chemicals and chemical products	806	805	884	1,179	1,117	1,091	1,202	1,285	1,302	1,383	1,300	1,196	1,254	1,308	1,319
- Other manufacturing	453	466	532	600	722	849	973	1,045	1,047	1,118	1,208	1,229	1,268	1,295	1,295
<b>E Electricity and water supply</b>	139	157	154	186	196	220	245	271	309	352	423	478	533	561	591
<b>F Building and construction</b>	306	324	484	592	812	1,083	1,247	1,314	1,378	1,430	1,679	1,849	2,012	2,263	2,112
<b>2.3 Services activities</b>	4,913	5,383	5,770	6,397	7,110	7,775	7,961	8,261	8,894	9,552	10,889	11,470	11,960	12,428	12,636
Financial intermediation services indirectly measured	(220)	(222)	(250)	(265)	(309)	(374)	(422)	(468)	(526)	(536)	(577)	(805)	(721)	(710)	(670)
<b>GDP at basic prices</b>	16,308	16,516	17,150	17,966	18,590	20,251	21,494	22,554	23,471	24,799	26,664	27,218	28,578	29,874	29,727
<b>Plus: Taxes less subsidies on products</b>	91	95	(125)	(26)	149	24	20	(6)	(726)	(743)	(1,219)	(209)	(1,193)	(1,126)	(1,245)
<b>GDP at market prices</b>	16,400	16,611	17,025	17,940	18,739	20,275	21,514	22,548	22,745	24,056	25,445	26,145	27,385	28,749	28,482

**SOURCE |** 2018 STATISTICAL YEAR BOOK (NCSI 2018B), TABLE 5-13.

**NOTE |** GDP IS GROSS DOMESTIC PRODUCT.

**TABLE C.2 | COMPOSITION OF GDP, BY ECONOMIC ACTIVITY, 1998-2017**  
PERCENT

Economic activity	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>1- Total Petroleum Activities</b>	66.3	66.8	67	64.8	62.1	58.7	56	53.8	49.8	46.2	45.4	45.8	46.1	45.3	43.6	42.1	40.8	40.5	40.2	39.2
<b>1.1 Crude Petroleum</b>	65.9	66.4	65.5	62.1	59.1	55.4	52.7	50.3	45.5	42	41.6	42.1	42.2	41.5	40.1	38.6	37.6	37.4	37.1	36
<b>1.2 Natural Gas</b>	0.4	0.4	1.5	2.7	3	3.3	3.4	3.5	4.3	4.2	3.8	3.8	3.8	3.8	3.5	3.4	3.2	3.1	3.1	3.1
<b>2- Total Non Petroleum Activities</b>	34.9	34.6	34.2	36.4	39.2	42.6	45.3	47.7	51.7	55.5	56.4	56.1	56	56.9	58.6	60.1	61.6	62	62.2	63.1
<b>2.1 Agriculture &amp; Fishing</b>	1.5	1.6	1.5	1.5	1.5	1.6	1.6	1.5	1.4	1.4	1.3	1.3	1.4	1.3	1.3	1.4	1.4	1.7	1.8	2
<b>2.2 Industry Activities</b>	5.6	5.2	6.4	8.6	9.9	10.9	11.1	12.5	14.7	15.8	16.7	17.8	18	17.9	18.4	17.9	18.1	18.4	18.8	18.6
<b>C - Mining and Quarrying</b>	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4
<b>D - Manufacturing</b>	2.2	2.4	4.4	6.4	7.4	8	8	8.6	10.2	10.1	9.9	10.4	10.6	10.3	9.8	9.7	9.2	9.1	9	9.1
- Manufacturing of Refined Petroleum	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
- Manufacturing of Chemicals and	0.1	0.1	2	3.9	4.4	4.9	4.9	5.2	6.6	6	5.4	5.6	5.7	5.6	5	4.9	4.4	4.4	4.4	4.4
- Other Manufacturing	1.8	2	2.1	2.2	2.6	2.8	2.8	3.1	3.3	3.9	4.2	4.5	4.6	4.4	4.5	4.5	4.5	4.4	4.3	4.4
<b>E - Electricity and Water Supply</b>	0.7	0.7	0.7	0.7	0.8	0.9	1	0.9	1	1.1	1.1	1.1	1.2	1.3	1.4	1.6	1.8	1.9	1.9	2
<b>F - Building and Construction</b>	2.4	1.8	1	1.2	1.5	1.9	2	2.8	3.3	4.4	5.3	5.8	5.8	5.9	6.8	6.3	6.8	7	7.6	7.1
<b>2.3 Services Activities</b>	27.8	27.8	26.3	26.4	27.8	30.1	32.6	33.6	35.6	38.2	38.4	37	36.6	37.7	39	40.8	42.1	41.9	41.6	42.5
<b>Financial Intermediation Services Indirectly Measured</b>	-1.2	-1.3	-1.2	-1.2	-1.3	-1.3	-1.3	-1.5	-1.5	-1.7	-1.8	-2	-2.1	-2.2	-2.2	-2.2	-3	-2.5	-2.4	-2.3
<b>GDP at Basic Prices</b>	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
<b>Plus : Taxes less Subsidies on prouduts</b>	0.6	0.7	0.4	0.5	0.5	0.6	0.6	-0.7	-0.1	0.8	0.1	0.1	0	-5	-4.8	-4.8	-0.8	-4.4	-3.9	-4.4
<b>GDP at Market Prices</b>	100.6	100.7	100.4	100.5	100.5	100.6	100.6	99.3	99.9	100.8	100.1	100.1	100	95	95.2	95.2	99.2	95.6	96.1	95.6

**SOURCE** | 2017 STATISTICAL YEAR BOOK (NCSI 2017), TABLE 6-13.

**NOTES** | PERCENTAGES BASED ON VALUES IN 2010 CONSTANT OMANI RIAL; SEE APPENDIX TABLE C.1. GDP IS GROSS DOMESTIC PRODUCT.

**TABLE C.3 | GDP ANNUAL GROWTH RATES, BY ECONOMIC ACTIVITY, 2005-2017**  
PERCENT

Economic activity	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>1 Total petroleum activities</b>	-0.3	-3.1	-3.9	7.1	7.1	5.4	2.0	3.8	1.9	2.3	4.4	3.6	-3.0
<b>1.1 Crude petroleum</b>	-0.9	-5.2	-4.5	8.0	7.3	5.4	2.0	4.0	1.7	2.3	4.6	3.5	-3.4
<b>1.2 Natural gas</b>	8.7	26.3	2.4	-1.6	5.1	6.4	2.2	2.2	3.4	2.1	2.3	3.8	1.5
<b>2 Total non-petroleum activities</b>	9.2	13.7	11.0	10.8	5.6	4.7	6.1	6.9	6.8	1.8	5.6	4.9	0.9
<b>2.1 Agriculture and fishing</b>	-2.7	-2.8	4.0	4.5	5.2	9.5	-0.5	9.2	14.6	7.8	32.6	8.3	9.0
<b>2.2 Industry activities</b>	16.8	23.3	11.2	15.0	12.9	6.3	3.3	5.8	3.8	5.1	6.7	6.9	-1.5
<b>C Mining and quarrying</b>	7.5	-2.2	41.8	39.8	23.0	7.8	-6.0	0.1	1.5	2.2	10.4	8.9	11.0
<b>D Manufacturing</b>	11.3	24.6	2.7	6.7	11.5	6.4	1.6	6.2	5.0	0.2	4.0	2.9	0.8
- Manufacturing of refined petroleum products	10.2	-1.4	-18.6	56.7	-4.8	-17.4	31.4	-1.4	7.5	-2.9	5.6	-5.5	14.6
- Manufacturing of chemicals and chemical products	9.8	33.3	-5.2	-2.4	10.2	6.9	1.3	6.2	2.9	0.2	4.8	4.3	0.9
- Other manufacturing	14.0	12.9	20.3	17.6	14.5	7.4	0.2	6.7	7.1	0.4	3.2	2.1	0.0
<b>E Electricity and water supply</b>	-2.0	20.5	5.4	12.5	11.4	10.6	13.8	14.1	21.8	9.5	11.4	5.2	5.5
<b>F Building and construction</b>	49.1	22.3	37.3	33.3	15.2	5.3	4.9	3.7	-1.4	10.4	8.9	12.5	-6.7
<b>2.3 Services activities</b>	7.2	10.9	11.2	9.4	2.4	3.8	7.7	7.4	7.9	0.2	4.3	3.9	1.7
Financial intermediation services indirectly measured	12.6	6.3	16.4	21.0	12.9	10.9	12.3	1.9	3.6	11.7	11.1	-1.5	-5.6
<b>GDP at basic prices</b>	3.8	4.8	3.5	8.9	6.1	4.9	4.1	5.7	4.7	1.8	5.0	4.5	-0.5

SOURCE | 2018 STATISTICAL YEAR BOOK (NCSI 2018B), TABLE 7-13.

NOTES | PERCENTAGES BASED ON VALUES IN 2010 CONSTANT OMANI RIAL; SEE APPENDIX TABLE C.1. GDP IS GROSS DOMESTIC PRODUCT.

**TABLE C.4 | MANUFACTURING VALUE ADDED AT CURRENT PRICES, BY INDUSTRY, 2005-2017**  
THOUSANDS, OMANI RIAL

Manufacturing industry (ISIC Rev. 4)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
10 Food products	62,744	61,325	81,940	108,990	156,751	126,355	148,360	157,426	126,315	148,199	290,809	234,367	229,881
11 Beverages	14,492	15,457	24,499	21,516	24,942	27,516	42,675	42,476	24,508	27,468	36,615	70,673	34,029
13 Textiles	3,617	1,962	1,076	2,244	1,503	8,379	9,280	7,990	3,760	6,035	6,340	6,036	6,244
14 Wearing apparel	3,402	3,190	1,557	2,069	2,003	2,091	2,015	2,243	1,287	3,254	2,277	1,704	21,232
15 Leather and related products	596	855	1,026	1,641	1,220	321	1,015	1,109	782	915	1,446	4,350	1,404
16 Wood products, excluding furniture	7,146	10,670	7,719	10,757	13,026	17,031	26,387	14,997	23,581	37,673	65,544	47,621	50,849
17 Paper and paper products	5,182	5,612	7,063	10,150	9,534	19,113	9,224	7,814	6,460	11,056	10,327	12,055	18,646
18 Printing and reproduction of recorded media	9,678	7,872	13,246	18,028	15,682	13,244	31,393	39,473	21,257	21,344	36,495	20,916	25,632
19 Coke and refined petroleum products	589,372	675,680	639,423	1,122,912	680,158	940,161	555,993	653,256	791,325	1,336,454	1,028,751	578,221	700,310
20 Chemicals and chemical products	134,743	121,643	147,056	197,347	494,999	385,417	897,546	1,377,664	519,297	403,253	412,460	357,643	371,570
21 Pharmaceuticals, medicinal chemicals, etc.	3,836	5,184	14,305	13,163	10,133	7,867	14,012	15,954	11,831	4,944	2,889	14,944	16,003
22 Rubber and plastics products	15,365	16,748	27,797	36,045	44,098	50,563	34,873	40,367	44,293	53,729	95,843	73,246	107,439
23 Other non-metallic mineral products	127,564	153,746	178,707	242,414	278,576	277,756	273,537	329,076	331,214	325,146	383,606	315,350	391,450
24 Basic metals	20,827	32,644	57,217	67,207	218,619	292,476	306,456	377,085	457,190	382,044	363,482	376,599	398,774
25 Fabricated metal products, except machinery	17,435	28,320	48,865	54,018	76,712	169,108	70,221	105,010	168,560	221,516	665,119	269,280	347,338
26 Computer, electronic and optical products	3,126	3,459	5,604	6,677	8,674	12,218	16,725	15,909	16,888	10,743	8,165	8,399	11,252
27 Electrical equipment	16,917	14,912	45,167	47,637	34,710	56,535	160,929	170,183	152,363	149,516	177,387	104,931	128,445
28 Machinery and equipment n.e.c.	7,289	9,263	13,716	21,197	9,276	10,421	22,391	24,043	34,010	44,341	49,662	40,323	34,487
29 Motor vehicles, trailers and semi-trailers	2,387	515	442	192	362	1,435	10,697	3,034	2,577	2,546	3,032	5,791	6,358
30 Other transport equipment	699	257	-	1,087	4,785	1,003	1,961	921	-	14,725	12,206	12,715	14,337
31 Furniture	15,933	15,489	25,430	31,045	11,577	28,158	29,139	24,879	24,221	18,779	23,377	22,800	26,220
32 Other manufacturing	2,576	3,297	4,848	3,354	2,363	2,717	2,629	2,597	181	4,613	6,579	6,127	7,236
33 Repair and installation of machinery/equipment							24,802	75,240	50,554	26,020	35,685	28,348	33,148
<b>Total manufacturing</b>	<b>1,064,925</b>	<b>1,188,099</b>	<b>1,346,682</b>	<b>2,019,691</b>	<b>2,099,700</b>	<b>2,449,886</b>	<b>2,692,259</b>	<b>3,488,745</b>	<b>2,805,637</b>	<b>3,254,316</b>	<b>3,718,092</b>	<b>2,612,440</b>	<b>2,982,283</b>

SOURCE | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

NOTE | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). TOBACCO PRODUCTS (ISIC 12) ARE EXCLUDED FROM THE TABLE AS THERE IS NO REGISTERED PRODUCTION AMONG THE SURVEYED ESTABLISHMENTS.

**TABLE C.5 | INDUSTRY SHARE IN TOTAL MANUFACTURING VALUE ADDED, BY INDUSTRY, 2005-2017**  
PERCENT

Manufacturing industry (ISIC Rev. 4)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>10 Food products</b>	5.9	5.2	6.1	5.4	7.5	5.2	5.5	4.5	4.5	4.6	7.8	9.0	7.7
<b>11 Beverages</b>	1.4	1.3	1.8	1.1	1.2	1.1	1.6	1.2	0.9	0.8	1.0	2.7	1.1
<b>13 Textiles</b>	0.3	0.2	0.1	0.1	0.1	0.3	0.3	0.2	0.1	0.2	0.2	0.2	0.2
<b>14 Wearing apparel</b>	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.7
<b>15 Leather and related products</b>	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
<b>16 Wood products, excluding furniture</b>	0.7	0.9	0.6	0.5	0.6	0.7	1.0	0.4	0.8	1.2	1.8	1.8	1.7
<b>17 Paper and paper products</b>	0.5	0.5	0.5	0.5	0.5	0.8	0.3	0.2	0.2	0.3	0.3	0.5	0.6
<b>18 Printing and reproduction of recorded media</b>	0.9	0.7	1.0	0.9	0.7	0.5	1.2	1.1	0.8	0.7	1.0	0.8	0.9
<b>19 Coke and refined petroleum products</b>	55.3	56.9	47.5	55.6	32.4	38.4	20.7	18.7	28.2	41.1	27.7	22.1	23.5
<b>20 Chemicals and chemical products</b>	12.7	10.2	10.9	9.8	23.6	15.7	33.3	39.5	18.5	12.4	11.1	13.7	12.5
<b>21 Pharmaceuticals, medicinal chemicals, etc.</b>	0.4	0.4	1.1	0.7	0.5	0.3	0.5	0.5	0.4	0.2	0.1	0.6	0.5
<b>22 Rubber and plastics products</b>	1.4	1.4	2.1	1.8	2.1	2.1	1.3	1.2	1.6	1.7	2.6	2.8	3.6
<b>23 Other non-metallic mineral products</b>	12.0	12.9	13.3	12.0	13.3	11.3	10.2	9.4	11.8	10.0	10.3	12.1	13.1
<b>24 Basic metals</b>	2.0	2.7	4.2	3.3	10.4	11.9	11.4	10.8	16.3	11.7	9.8	14.4	13.4
<b>25 Fabricated metal products, except machinery</b>	1.6	2.4	3.6	2.7	3.7	6.9	2.6	3.0	6.0	6.8	17.9	10.3	11.6
<b>26 Computer, electronic and optical products</b>	0.3	0.3	0.4	0.3	0.4	0.5	0.6	0.5	0.6	0.3	0.2	0.3	0.4
<b>27 Electrical equipment</b>	1.6	1.3	3.4	2.4	1.7	2.3	6.0	4.9	5.4	4.6	4.8	4.0	4.3
<b>28 Machinery and equipment n.e.c.</b>	0.7	0.8	1.0	1.0	0.4	0.4	0.8	0.7	1.2	1.4	1.3	1.5	1.2
<b>29 Motor vehicles, trailers and semi-trailers</b>	0.2	0.0	0.0	0.0	0.0	0.1	0.4	0.1	0.1	0.1	0.1	0.2	0.2
<b>30 Other transport equipment</b>	0.1	0.0	0.0	0.1	0.2	0.0	0.1	0.0	0.0	0.5	0.3	0.5	0.5
<b>31 Furniture</b>	1.5	1.3	1.9	1.5	0.6	1.1	1.1	0.7	0.9	0.6	0.6	0.9	0.9
<b>32 Other manufacturing</b>	0.2	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.2
<b>33 Repair and installation of machinery/ equipment</b>							0.9	2.2	1.8	0.8	1.0	1.1	1.1

**SOURCE** | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTE** | PERCENTAGES BASED ON VALUES IN CURRENT OMANI RIAL; SEE APPENDIX TABLE C.4. MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

**TABLE C.6 | MANUFACTURING VALUE ADDED TO OUTPUT RATIO, BY INDUSTRY, 2005-2017**  
PERCENT

Manufacturing industry (ISIC Rev. 4)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
10 Food products	28.6	26.1	26.5	22.3	37.2	28.9	30.9	30.9	29.3	26.2	40.6	44.6	33.5
11 Beverages	35.1	38.9	47.7	37.2	41.8	42.7	42.4	42.4	31.1	29.8	40.5	61.1	41.2
13 Textiles	48.4	43.9	29.7	46.3	40.1	64	38.4	38.4	36.7	37.8	34.4	39.6	40.2
14 Wearing apparel	44.2	47.1	60.8	59.5	64.9	51.3	42.5	42.5	56.2	65.3	53.3	45.8	80.1
15 Leather and related products	36.6	44.4	41.5	42.8	42.2	17.2	46.8	46.8	30.5	31	43.9	65.5	38.3
16 Wood products, excluding furniture	58.7	63	57.4	56.4	56.7	72.9	44.2	44.2	31.4	34.2	74.3	35	36.7
17 Paper and paper products	31.6	30.8	33.4	32.8	36.1	57.7	24.8	24.8	29.3	33.3	33.5	36.3	36.7
18 Printing and reproduction of recorded media	51.8	38.6	60.1	61.9	58.1	50.9	65.2	65.2	47.6	48	62.4	51.4	61.5
19 Coke and refined petroleum products	41.6	39.5	28.8	27.1	25.8	28.7	29.4	29.4	19.1	23	35.3	21	25.3
20 Chemicals and chemical products	72.3	67.2	59.3	52.4	73	65.6	58.8	58.8	65.4	60.7	61.7	57	54
21 Pharmaceuticals, medicinal chemicals, etc.	18.9	27.4	47	43.1	33.1	32.3	49	49	49.2	44	37.5	53.9	38.4
22 Rubber and plastics products	32.4	27	32	31.6	41.8	41.9	29.3	29.3	28.3	29.8	44.8	41.4	48.6
23 Other non-metallic mineral products	63.5	64.5	64.1	61.1	65.2	67.5	45.7	45.7	57.4	54.6	55.4	50	56.1
24 Basic metals	15.7	20.4	27	21.1	45.9	46.5	35	35	45.9	40.4	38.8	37.8	34.9
25 Fabricated metal products, except machinery	40.7	42.6	47	49.5	53.3	74.4	45	45	46.4	46.2	40.6	47.8	54
26 Computer, electronic and optical products	52.9	45.2	47	47.9	46.4	74.3	35.5	35.5	36.7	23.8	23.6	22.5	19.8
27 Electrical equipment	19.3	10.3	16.9	12.6	16.7	20.1	36.1	36.1	34.3	34.3	32.6	24.2	28.1
28 Machinery and equipment n.e.c.	50.8	59.6	56.3	68.3	44.8	57.5	58.9	58.9	59.7	63.4	81.9	73.6	56.6
29 Motor vehicles, trailers and semi-trailers	88.9	64	67.1	41.1	64.1	40.4	37.9	37.9	38.9	38.5	40.8	79.4	84.8
30 Other transport equipment	62.5	38.6	0	72.5	91.4	72	38.3	38.3	0	48.2	70.7	41	41.4
31 Furniture	55.1	55.5	54.3	51.8	31.6	47.8	46.6	46.6	50.4	49.9	51.4	59	45.2
32 Other manufacturing	43.7	49.2	63.3	59.4	36.9	33.4	22.1	22.1	45.4	31.1	34.1	35.2	74.5
33 Repair and installation of machinery/equipment							90.4	90.4	90.2	89.1	91	74.1	75.2
<b>Total manufacturing</b>	<b>42.3</b>	<b>39.8</b>	<b>33.9</b>	<b>30.5</b>	<b>39.2</b>	<b>39.1</b>	<b>40.7</b>	<b>42.3</b>	<b>33.5</b>	<b>31.8</b>	<b>42</b>	<b>35.8</b>	<b>37.4</b>

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTE |** PERCENTAGES BASED ON VALUES IN CURRENT OMANI RIAL; SEE APPENDIX TABLE C.4. MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.



**TABLE C.7 | MANUFACTURING VALUE ADDED AT CONSTANT 2007 PRICES, BY INDUSTRY, 2007-2017**  
THOUSANDS, OMANI RIAL

Manufacturing industry (ISIC Rev. 4)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
10 Food products	81,940	89,520	141,640	114,321	122,309	128,010	105,120	123,499	255,974	209,759	204,070
11 Beverages	24,499	17,672	22,537	24,895	35,181	34,539	20,396	22,890	32,229	63,253	30,208
13 Textiles	1,076	2,100	1,470	7,688	7,431	7,047	3,204	5,209	5,444	5,349	5,715
14 Wearing apparel	1,557	2,011	1,942	1,846	1,533	1,671	964	2,433	1,645	1,193	14,710
15 Leather and related products	1,026	1,591	1,148	315	1,004	1,087	754	878	1,396	4,192	1,353
16 Wood products, excluding furniture	7,719	10,172	12,698	15,729	23,976	13,256	20,030	31,504	53,810	38,554	40,658
17 Paper and paper products	7,063	9,296	9,330	17,938	7,604	6,170	4,965	8,424	7,936	9,324	14,480
18 Printing and reproduction of recorded media	13,246	15,894	14,352	10,614	24,048	29,306	15,994	16,120	27,922	15,567	19,713
19 Coke and refined petroleum products	639,423	874,509	737,530	844,977	410,176	453,451	571,773	972,083	857,778	566,981	583,196
20 Chemicals and chemical products	147,056	184,182	548,145	370,311	772,308	1,184,776	414,090	321,967	386,190	358,732	343,117
21 Pharmaceuticals, medicinal chemicals, etc.	14,305	12,285	11,221	7,559	12,057	13,720	9,434	3,948	2,705	14,989	14,777
22 Rubber and plastics products	27,797	30,333	41,207	48,813	32,743	38,434	42,533	51,512	94,176	76,561	113,415
23 Other non-metallic mineral products	178,707	217,535	238,441	239,886	242,887	294,970	295,244	286,407	335,197	275,266	347,542
24 Basic metals	57,217	51,343	262,014	294,303	266,510	349,685	451,878	391,456	445,296	524,246	496,152
25 Fabricated metal products, except machinery	48,865	45,762	82,283	176,729	68,174	101,105	161,000	220,977	747,371	347,472	433,267
26 Computer, electronic and optical products	5,604	6,109	10,880	12,732	15,235	15,410	16,513	10,848	8,427	11,743	16,279
27 Electrical equipment	45,167	43,587	43,540	58,915	146,589	164,838	148,977	150,972	183,093	146,717	185,835
28 Machinery and equipment n.e.c.	13,716	20,506	8,712	9,806	20,253	21,854	31,319	40,988	46,397	37,369	31,978
29 Motor vehicles, trailers and semi-trailers	442	156	384	1,319	8,410	2,303	2,004	1,994	2,664	5,793	5,679
30 Other transport equipment	-	883	5,070	921	1,542	699	-	11,531	10,724	12,720	12,806
31 Furniture	25,430	27,938	10,698	26,066	25,939	21,662	21,056	16,204	19,956	19,693	22,321
32 Other manufacturing	4,848	3,018	2,183	2,515	2,340	2,261	158	3,981	5,616	5,292	6,160
33 Repair and installation of machinery/equipment					19,499	57,102	39,303	20,377	31,352	28,359	29,610
<b>Total manufacturing</b>	<b>1,346,702</b>	<b>1,666,406</b>	<b>2,207,424</b>	<b>2,288,198</b>	<b>2,267,748</b>	<b>2,943,357</b>	<b>2,376,708</b>	<b>2,716,203</b>	<b>3,563,296</b>	<b>2,779,122</b>	<b>2,973,041</b>

SOURCE | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

NOTE | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

**TABLE C.8 | MANUFACTURING VALUE ADDED ANNUAL GROWTH RATE, BY INDUSTRY, 2007-2017**  
PERCENT

Manufacturing industry (ISIC Rev. 4)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	CAGR
10 Food products	9.3	58.2	-19.3	7.0	4.7	-17.9	17.5	107.3	-18.1	-2.7	9.6
11 Beverages	-27.9	27.5	10.5	41.3	-1.8	-40.9	12.2	40.8	96.3	-52.2	2.1
13 Textiles	95.1	-30.0	423.1	-3.3	-5.2	-54.5	62.6	4.5	-1.8	6.9	18.2
14 Wearing apparel	29.2	-3.4	-4.9	-16.9	9.0	-42.3	152.3	-32.4	-27.5		
15 Leather and related products	55.1	-27.9	-72.6	219.0	8.2	-30.6	16.4	59.0	200.3	-67.7	2.8
16 Wood products, excluding furniture	31.8	24.8	23.9	52.4	-44.7	51.1	57.3	70.8	-28.4	5.5	18.1
17 Paper and paper products	31.6	0.4	92.3	-57.6	-18.9	-19.5	69.7	-5.8	17.5	55.3	7.4
18 Printing and reproduction of recorded media	20.0	-9.7	-26.0	126.6	21.9	-45.4	0.8	73.2	-44.2	26.6	4.1
19 Coke and refined petroleum products	36.8	-15.7	14.6	-51.5	10.6	26.1	70.0	-11.8	-33.9	2.9	-0.9
20 Chemicals and chemical products	25.2	197.6	-32.4	108.6	53.4	-65.0	-22.2	19.9	-7.1	-4.4	8.8
21 Pharmaceuticals, medicinal chemicals, etc.	-14.1	-8.7	-32.6	59.5	13.8	-31.2	-58.2	-31.5	454.2	-1.4	0.3
22 Rubber and plastics products	9.1	35.8	18.5	-32.9	17.4	10.7	21.1	82.8	-18.7	48.1	15.1
23 Other non-metallic mineral products	21.7	9.6	0.6	1.3	21.4	0.1	-3.0	17.0	-17.9	26.3	6.9
24 Basic metals	-10.3	410.3	12.3	-9.4	31.2	29.2	-13.4	13.8	17.7	-5.4	24.1
25 Fabricated metal products, except machinery	-6.4	79.8	114.8	-61.4	48.3	59.2	37.3	238.2	-53.5	24.7	24.4
26 Computer, electronic and optical products	9.0	78.1	17.0	19.7	1.1	7.2	-34.3	-22.3	39.3	38.6	11.3
27 Electrical equipment	-3.5	-0.1	35.3	148.8	12.4	-9.6	1.3	21.3	-19.9	26.7	15.2
28 Machinery and equipment n.e.c.	49.5	-57.5	12.5	106.5	7.9	43.3	30.9	13.2	-19.5	-14.4	8.8
29 Motor vehicles, trailers and semi-trailers	-64.6	145.6	243.7	537.8	-72.6	-13.0	-0.5	33.6	117.5	-2.0	29.1
30 Other transport equipment		474.2	-81.8	67.3	-54.7	-100.0		-7.0	18.6	0.7	
31 Furniture	9.9	-61.7	143.7	-0.5	-16.5	-2.8	-23.0	23.1	-1.3	13.3	-1.3
32 Other manufacturing	-37.7	-27.7	15.2	-7.0	-3.4	-93.0	2423.6	41.1	-5.8	16.4	2.4
33 Repair and installation of machinery/equipment					192.8	-31.2	-48.2	53.9	-9.5	4.4	
<b>Total manufacturing</b>	<b>23.7</b>	<b>32.5</b>	<b>3.7</b>	<b>-0.9</b>	<b>29.8</b>	<b>-19.3</b>	<b>14.3</b>	<b>31.2</b>	<b>-22.0</b>	<b>7.0</b>	<b>8.2</b>

**SOURCE** | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTE** | PERCENTAGES BASED ON VALUES IN CONSTANT 2007 OMANI RIAL; SEE APPENDIX TABLE C.7. MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). CAGR IS THE COMPOUND ANNUAL GROWTH RATE. SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

**TABLE C.9 | TABLE C.9: PER CAPITA MANUFACTURING VALUE ADDED AT CONSTANT 2007 PRICES, BY INDUSTRY, 2007-2017**  
OMANI RIAL

Manufacturing industry (ISIC Rev. 4)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>10 Food products</b>	29.9	31.2	44.6	41.2	37.1	35.3	27.3	30.9	61.5	47.5	44.8
<b>11 Beverages</b>	8.9	6.2	7.1	9.0	10.7	9.5	5.3	5.7	7.7	14.3	6.6
<b>13 Textiles</b>	0.4	0.7	0.5	2.8	2.3	1.9	0.8	1.3	1.3	1.2	1.3
<b>14 Wearing apparel</b>	0.6	0.7	0.6	0.7	0.5	0.5	0.3	0.6	0.4	0.3	3.2
<b>15 Leather and related products</b>	0.4	0.6	0.4	0.1	0.3	0.3	0.2	0.2	0.3	0.9	0.3
<b>16 Wood products, excluding furniture</b>	2.8	3.5	4.0	5.7	7.3	3.7	5.2	7.9	12.9	8.7	8.9
<b>17 Paper and paper products</b>	2.6	3.2	2.9	6.5	2.3	1.7	1.3	2.1	1.9	2.1	3.2
<b>18 Printing and reproduction of recorded media</b>	4.8	5.5	4.5	3.8	7.3	8.1	4.1	4.0	6.7	3.5	4.3
<b>19 Coke and refined petroleum products</b>	233.1	305.0	232.4	304.7	124.5	125.2	148.3	243.4	206.2	128.5	127.9
<b>20 Chemicals and chemical products</b>	53.6	64.2	172.7	133.5	234.4	327.0	107.4	80.6	92.9	81.3	75.2
<b>21 Pharmaceuticals, medicinal chemicals, etc.</b>	5.2	4.3	3.5	2.7	3.7	3.8	2.4	1.0	0.7	3.4	3.2
<b>22 Rubber and plastics products</b>	10.1	10.6	13.0	17.6	9.9	10.6	11.0	12.9	22.6	17.3	24.9
<b>23 Other non-metallic mineral products</b>	65.2	75.9	75.1	86.5	73.7	81.4	76.6	71.7	80.6	62.4	76.2
<b>24 Basic metals</b>	20.9	17.9	82.6	106.1	80.9	96.5	117.2	98.0	107.1	118.8	108.8
<b>25 Fabricated metal products, except machinery</b>	17.8	16.0	25.9	63.7	20.7	27.9	41.8	55.3	179.7	78.7	95.0
<b>26 Computer, electronic and optical products</b>	2.0	2.1	3.4	4.6	4.6	4.3	4.3	2.7	2.0	2.7	3.6
<b>27 Electrical equipment</b>	16.5	15.2	13.7	21.2	44.5	45.5	38.6	37.8	44.0	33.2	40.8
<b>28 Machinery and equipment n.e.c.</b>	5.0	7.2	2.7	3.5	6.1	6.0	8.1	10.3	11.2	8.5	7.0
<b>29 Motor vehicles, trailers and semi-trailers</b>	0.2	0.1	0.1	0.5	2.6	0.6	0.5	0.5	0.6	1.3	1.2
<b>30 Other transport equipment</b>	0.0	0.3	1.6	0.3	0.5	0.2	0.0	2.9	2.6	2.9	2.8
<b>31 Furniture</b>	9.3	9.7	3.4	9.4	7.9	6.0	5.5	4.1	4.8	4.5	4.9
<b>32 Other manufacturing</b>	1.8	1.1	0.7	0.9	0.7	0.6	0.0	1.0	1.4	1.2	1.4
<b>33 Repair and installation of machinery/equipment</b>					5.9	15.8	10.2	5.1	7.5	6.4	6.5
<b>Total manufacturing</b>	<b>491.0</b>	<b>581.2</b>	<b>695.5</b>	<b>825.2</b>	<b>688.2</b>	<b>812.4</b>	<b>616.5</b>	<b>680.2</b>	<b>856.8</b>	<b>629.6</b>	<b>652.0</b>

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTE |** CALCULATED BASED ON MANUFACTURING VALUE ADDED IN CONSTANT 2007 OMANI RIAL (SEE APPENDIX TABLE C.7) AND POPULATION (SEE APPENDIX TABLE C.16). MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

**TABLE C.10 | ANNUAL GROWTH IN PER CAPITA MANUFACTURING VALUE ADDED, BY INDUSTRY, 2007-2017**  
PERCENT

Manufacturing industry (ISIC Rev. 4)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	CAGR
10 Food products	4.5	42.9	-7.6	-10.0	-4.8	-22.8	13.4	99.0	-22.8	-5.8	4.1
11 Beverages	-31.0	15.2	26.4	18.9	-10.7	-44.5	8.3	35.2	84.9	-53.8	-2.9
13 Textiles	86.7	-36.8	498.7	-18.7	-13.8	-57.3	56.9	0.3	-7.4	3.4	12.3
14 Wearing apparel	23.6	-12.8	8.8	-30.1	-0.9	-45.8	143.6	-35.1	-31.7	1093.9	19.0
15 Leather and related products	48.4	-34.9	-68.6	168.4	-1.6	-34.7	12.4	52.6	182.9	-68.8	-2.3
16 Wood products, excluding furniture	26.1	12.8	41.8	28.3	-49.7	42.0	51.8	64.0	-32.5	2.1	12.2
17 Paper and paper products	25.9	-9.3	120.1	-64.3	-26.2	-24.4	63.8	-9.6	10.7	50.3	2.1
18 Printing and reproduction of recorded media	14.8	-18.4	-15.3	90.7	10.8	-48.7	-2.7	66.3	-47.5	22.6	-1.1
19 Coke and refined petroleum products	30.9	-23.8	31.1	-59.1	0.5	18.5	64.1	-15.3	-37.7	-0.4	-5.8
20 Chemicals and chemical products	19.8	168.8	-22.7	75.5	39.5	-67.2	-24.9	15.2	-12.5	-7.4	3.4
21 Pharmaceuticals, medicinal chemicals, etc.	-17.8	-17.5	-22.9	34.2	3.5	-35.4	-59.6	-34.2	422.2	-4.6	-4.6
22 Rubber and plastics products	4.4	22.7	35.6	-43.5	6.8	4.0	16.9	75.5	-23.4	43.4	9.4
23 Other non-metallic mineral products	16.5		15.2	-14.8	10.4	-5.9	-6.3	12.4	-22.6	22.2	1.6
24 Basic metals	-14.1	361.0	28.6	-23.8	19.3	21.4	-16.4	9.2	10.9	-8.4	18.0
25 Fabricated metal products, except machinery	-10.4	62.4	145.8	-67.5	34.9	49.7	32.5	224.7	-56.2	20.7	18.2
26 Computer, electronic and optical products	4.3	60.9	33.9	0.7	-8.0	0.7	-36.6	-25.4	31.3	34.2	5.7
27 Electrical equipment	-7.7	-9.8	54.9	109.4	2.3	-15.1	-2.2	16.4	-24.5	22.6	9.5
28 Machinery and equipment n.e.c.	43.0	-61.6	28.8	73.8	-1.9	34.7	26.3	8.7	-24.1	-17.2	3.4
29 Motor vehicles, trailers and semi-trailers	-66.1	121.8	293.4	436.7	-75.1	-18.2	-3.9	28.3	104.9	-5.1	22.7
30 Other transport equipment		418.7	-79.2	40.8	-58.8	-100.0		-10.7	11.8	-2.5	
31 Furniture	5.1	-65.4	178.9	-16.3	-24.0	-8.6	-25.7	18.2	-7.0	9.7	-6.2
32 Other manufacturing	-40.4	-34.7	31.9	-21.7	-12.1	-93.4	2336.4	35.4	-11.2	12.7	-2.7
33 Repair and installation of machinery/equipment					166.3	-35.3	-49.9	47.7	-14.8	1.1	
<b>Total manufacturing</b>	<b>18.4</b>	<b>19.7</b>	<b>18.6</b>	<b>-16.6</b>	<b>18.0</b>	<b>-24.1</b>	<b>10.3</b>	<b>26.0</b>	<b>-26.5</b>	<b>3.6</b>	<b>2.9</b>

**SOURCE** | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTE** | PERCENTAGES BASED ON VALUES IN CONSTANT 2007 OMANI RIAL; SEE APPENDIX TABLE C.9. MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). CAGR IS THE COMPOUND ANNUAL GROWTH RATE. SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

**TABLE C.11 | MANUFACTURING VALUE ADDED PER ESTABLISHMENT AT CONSTANT 2007 PRICES, BY INDUSTRY, 2007-2017**  
THOUSANDS, OMANI RIAL

Manufacturing industry (ISIC Rev. 4)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>10 Food products</b>	1,051	1,066	1,628	1,329	1,359	1,422	1,314	1,544	3,160	2,357	2,243
<b>11 Beverages</b>	1,289	884	980	858	1,135	1,234	703	954	1,194	2,040	974
<b>13 Textiles</b>	269	525	490	2,563	1,858	705	534	579	544	594	572
<b>14 Wearing apparel</b>	519	503	486	615	511	418	321	811	548	398	3,678
<b>15 Leather and related products</b>	513	530	383	157	502	543	377	439	465	1,048	338
<b>16 Wood products, excluding furniture</b>	772	1,130	1,058	1,430	2,180	780	1,113	1,750	2,989	1,836	1,694
<b>17 Paper and paper products</b>	543	775	666	1,495	634	686	709	766	721	777	1,114
<b>18 Printing and reproduction of recorded media</b>	473	530	448	354	802	792	485	488	776	445	580
<b>19 Coke and refined petroleum products</b>	49,186	51,442	46,096	49,705	22,788	50,383	81,682	108,009	65,983	43,614	41,657
<b>20 Chemicals and chemical products</b>	4,202	4,723	13,051	7,879	14,572	23,696	7,813	5,962	6,896	6,406	5,916
<b>21 Pharmaceuticals, medicinal chemicals, etc.</b>	3,576	3,071	2,805	2,520	4,019	4,573	3,145	3,948	2,705	2,998	2,955
<b>22 Rubber and plastics products</b>	618	674	858	976	595	663	733	859	1,544	1,215	1,644
<b>23 Other non-metallic mineral products</b>	1,625	1,611	1,548	1,454	1,285	1,446	1,469	1,432	1,496	1,092	1,413
<b>24 Basic metals</b>	5,202	3,667	17,468	19,620	12,691	10,285	16,138	14,498	12,035	14,562	14,176
<b>25 Fabricated metal products, except machinery</b>	922	880	1,553	3,156	1,065	1,296	1,963	2,600	7,951	3,510	4,087
<b>26 Computer, electronic and optical products</b>	1,401	1,527	2,720	3,183	7,617	3,852	5,504	2,712	2,107	2,936	5,426
<b>27 Electrical equipment</b>	3,226	2,724	2,419	2,946	6,373	6,594	6,207	6,039	7,629	5,869	6,883
<b>28 Machinery and equipment n.e.c.</b>	1,715	2,051	871	981	2,025	2,185	2,610	4,099	5,800	3,397	3,198
<b>29 Motor vehicles, trailers and semi-trailers</b>	147	52	96	440	2,102	768	1,002	997	1,332	2,897	2,839
<b>30 Other transport equipment</b>	-	441	2,535	307	385	349	-	3,844	2,145	2,544	2,561
<b>31 Furniture</b>	1,589	1,643	563	1,372	1,038	1,274	1,316	953	998	895	1,063
<b>32 Other manufacturing</b>	693	431	364	419	390	1,131	158	796	1,123	1,323	1,540
<b>33 Repair and installation of machinery/equipment</b>					6,500	11,420	9,826	6,792	10,451	9,453	9,870
<b>Total manufacturing</b>	<b>2,800</b>	<b>3,138</b>	<b>3,852</b>	<b>3,852</b>	<b>3,420</b>	<b>4,199</b>	<b>3,526</b>	<b>3,965</b>	<b>4,777</b>	<b>3,457</b>	<b>3,630</b>

**SOURCE** | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTE** | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

**TABLE C.12 | MANUFACTURING VALUE ADDED PER EMPLOYEE AT CONSTANT 2007 PRICES, BY INDUSTRY, 2007-2017**  
OMANI RIAL

Manufacturing industry (ISIC Rev. 4)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>10 Food products</b>	10,722	10,473	15,527	12,453	14,025	14,176	12,428	11,908	24,833	20,278	16,218
<b>11 Beverages</b>	13,535	8,297	10,324	9,484	12,293	12,318	9,073	9,005	12,185	20,814	8,861
<b>13 Textiles</b>	4,015	8,139	5,927	31,001	9,589	10,677	7,912	8,242	8,401	9,127	8,039
<b>14 Wearing apparel</b>	2,293	3,178	2,462	2,680	2,407	2,384	3,709	5,443	2,724	2,056	5,910
<b>15 Leather and related products</b>	8,921	8,991	6,340	2,499	7,384	7,443	6,504	8,283	12,690	24,950	8,351
<b>16 Wood products, excluding furniture</b>	4,202	5,262	6,827	5,851	5,033	5,252	5,205	7,888	10,203	6,861	7,583
<b>17 Paper and paper products</b>	9,185	12,168	11,576	27,683	12,425	12,800	12,538	14,206	12,863	13,114	15,620
<b>18 Printing and reproduction of recorded media</b>	9,697	10,976	8,881	6,576	18,385	18,548	8,886	8,436	14,319	8,673	12,995
<b>19 Coke and refined petroleum products</b>	287,510	412,504	347,564	348,300	245,614	237,907	322,853	445,501	313,745	188,116	179,114
<b>20 Chemicals and chemical products</b>	62,979	71,778	176,878	114,577	233,750	245,143	84,096	64,009	75,149	68,657	60,782
<b>21 Pharmaceuticals, medicinal chemicals, etc.</b>	29,740	14,608	12,344	11,349	20,162	20,509	15,290	14,676	10,129	21,568	21,080
<b>22 Rubber and plastics products</b>	9,066	10,028	12,438	12,237	8,676	8,801	10,631	10,628	19,398	16,054	22,485
<b>23 Other non-metallic mineral products</b>	18,613	20,238	18,398	18,735	19,254	20,305	20,400	17,908	19,399	15,359	18,066
<b>24 Basic metals</b>	31,647	14,203	55,914	55,845	41,884	42,712	59,309	58,002	47,111	62,100	59,010
<b>25 Fabricated metal products, except machinery</b>	7,416	7,568	11,766	23,551	12,525	11,955	13,284	17,876	50,264	21,074	26,564
<b>26 Computer, electronic and optical products</b>	29,969	27,896	41,846	49,931	43,158	43,902	49,588	31,535	27,011	33,940	49,330
<b>27 Electrical equipment</b>	25,898	21,588	20,018	24,922	51,507	52,296	46,951	44,799	55,282	40,586	46,366
<b>28 Machinery and equipment n.e.c.</b>	33,618	37,834	16,408	15,589	32,614	31,445	43,926	62,292	73,296	33,818	42,866
<b>29 Motor vehicles, trailers and semi-trailers</b>	3,247	1,202	2,740	3,140	18,856	17,315	19,839	17,963	20,180	43,235	39,437
<b>30 Other transport equipment</b>	-	8,490	50,703	9,908	1,606	1,721	-	7,340	7,563	8,025	8,116
<b>31 Furniture</b>	9,278	9,597	3,526	7,825	7,420	7,457	8,781	6,743	7,466	6,495	7,829
<b>32 Other manufacturing</b>	14,052	7,435	5,791	5,743	25,437	25,989	5,842	21,871	30,856	34,813	45,627
<b>33 Repair and installation of machinery/equipment</b>					44,620	45,247	33,506	26,429	30,617	25,163	25,770
<b>Total manufacturing</b>	<b>29,132</b>	<b>32,557</b>	<b>38,387</b>	<b>37,365</b>	<b>36,092</b>	<b>42,130</b>	<b>32,869</b>	<b>35,076</b>	<b>41,224</b>	<b>30,711</b>	<b>30,744</b>

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTE |** MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

**TABLE C.13 | INDEX OF MANUFACTURING VALUE ADDED PER EMPLOYEE, BY INDUSTRY, 2007-2017**  
2007=100

Manufacturing industry (ISIC Rev. 4)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
10 Food products	100	98	145	116	131	132	116	111	232	189	151
11 Beverages	100	61	76	70	91	91	67	67	90	154	65
13 Textiles	100	203	148	772	239	266	197	205	209	227	200
14 Wearing apparel	100	139	107	117	105	104	162	237	119	90	258
15 Leather and related products	100	101	71	28	83	83	73	93	142	280	94
16 Wood products, excluding furniture	100	125	162	139	120	125	124	188	243	163	180
17 Paper and paper products	100	132	126	301	135	139	137	155	140	143	170
18 Printing and reproduction of recorded media	100	113	92	68	190	191	92	87	148	89	134
19 Coke and refined petroleum products	100	143	121	121	85	83	112	155	109	65	62
20 Chemicals and chemical products	100	114	281	182	371	389	134	102	119	109	97
21 Pharmaceuticals, medicinal chemicals, etc.	100	49	42	38	68	69	51	49	34	73	71
22 Rubber and plastics products	100	111	137	135	96	97	117	117	214	177	248
23 Other non-metallic mineral products	100	109	99	101	103	109	110	96	104	83	97
24 Basic metals	100	45	177	176	132	135	187	183	149	196	186
25 Fabricated metal products, except machinery	100	102	159	318	169	161	179	241	678	284	358
26 Computer, electronic and optical products	100	93	140	167	144	146	165	105	90	113	165
27 Electrical equipment	100	83	77	96	199	202	181	173	213	157	179
28 Machinery and equipment n.e.c.	100	113	49	46	97	94	131	185	218	101	128
29 Motor vehicles, trailers and semi-trailers	100	37	84	97	581	533	611	553	622	1332	1215
30 Other transport equipment		100	597	117	19	20	0	86	89	95	96
31 Furniture	100	103	38	84	80	80	95	73	80	70	84
32 Other manufacturing	100	53	41	41	181	185	42	156	220	248	325
33 Repair and installation of machinery/equipment					100	101	75	59	69	56	58
<b>Total manufacturing</b>	100	112	132	128	124	145	113	120	142	105	106

**SOURCE |** ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTE |** INDEX BASED ON VALUES IN CONSTANT 2007 OMANI RIAL; SEE APPENDIX TABLE C.12. MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

TABLE C.14 | MANUFACTURING VALUE ADDED PER UNIT OF CAPITAL, BY INDUSTRY, 2005-2017

Manufacturing industry (ISIC Rev. 4)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
10A Food and beverages	0.48	0.54	0.78	0.83	1.14	0.85	0.95	0.90	0.82	0.79	0.94	1.41	0.88
13 Textiles	0.60	0.31	0.18	0.44	0.13	1.75	1.27	1.05	0.69	0.80	0.32	1.72	0.41
14 Wearing apparel	1.08	3.97	2.94	1.20	1.17	2.34	0.96	1.24	13.41	7.11	1.50	0.97	3.38
15 Leather and related products	0.61	1.02	0.83	1.77	1.97	0.33	1.11	1.20	0.88	1.10	1.80	52.49	0.77
16 Wood products, excluding furniture	2.31	6.20	3.08	2.08	2.49	3.73	11.58	2.79	0.21	0.15	13.17	4.28	4.97
17 Paper and paper products	0.44	0.60	0.63	0.85	0.56	1.94	0.95	0.70	0.79	0.85	1.13	0.78	0.83
18 Printing and reproduction of recorded media	0.47	0.50	0.53	1.06	0.52	0.04	2.13	2.32	0.99	1.14	1.60	0.71	1.26
19 Coke and refined petroleum products	1.17	0.57	0.50	1.11	0.61	0.74	1.02	1.20	82.92	130.91	0.61	0.24	0.23
20A Chemicals and chemical products, pharmaceuticals	0.32	0.32	0.36	0.46	0.59	0.62	2.33	3.37	0.79	0.68	0.74	0.88	0.24
22 Rubber and plastics products	0.58	0.62	0.68	0.73	0.87	0.43	0.47	0.49	0.52	0.22	0.77	0.55	0.84
23 Other non-metallic mineral products	0.57	0.78	0.82	0.84	0.78	0.58	0.71	0.75	0.69	0.64	0.70	0.57	1.23
24 Basic metals	0.24	0.50	0.93	0.93	0.23	0.34	0.23	0.26	0.30	0.26	0.21	0.29	0.28
25 Fabricated metal products, except machinery	0.93	1.61	1.66	1.71	2.13	4.90	1.23	1.33	1.53	1.53	3.42	1.32	1.96
26 Computer, electronic and optical products	1.06	1.41	1.74	2.45	3.07	3.35	0.75	0.74	0.81	0.48	0.48	1.74	0.77
27 Electrical equipment	0.55	0.57	1.87	1.76	1.16	1.23	2.42	2.33	2.11	2.14	0.89	1.61	1.40
28A Machinery and equipment n.e.c., repair and installation	0.99	1.21	1.59	1.53	0.57	0.98	1.80	3.68	6.36	6.79	7.31	1.76	1.32
29 Motor vehicles, trailers and semi-trailers	192.85	5.09	1.91	0.73	0.53	0.28	9.07	2.33	3.80	4.91	6.55	12.87	16.03
30 Other transport equipment				7.90	15.57	3.25			0.00	0.36	0.64	0.31	0.34
31A Furniture, other manufacturing	1.41	1.72	2.79	4.09	1.78	2.00	3.68	2.22	1.95	1.69	2.15	1.29	1.40
<b>Total manufacturing</b>	<b>0.69</b>	<b>0.56</b>	<b>0.58</b>	<b>0.93</b>	<b>0.58</b>	<b>0.61</b>	<b>0.86</b>	<b>1.03</b>	<b>0.83</b>	<b>0.89</b>	<b>0.68</b>	<b>0.47</b>	<b>0.41</b>

SOURCE | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

NOTE | SEE APPENDIX TABLE C.12. MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.



TABLE C.15 | NUMBER OF MANUFACTURING ESTABLISHMENTS, BY LOCATION OF OPERATION, ORIGIN OF OWNERSHIP AND INDUSTRY, 2017

Manufacturing industry (ISIC Rev. 4)	Location of operation		Origin of ownership			Total
	Within industrial estate	Outside	Omani	Foreign	Mixed	
10 Food products	34 (9.3%)	57 (12.5%)	69 (11.7%)	2 (6.3%)	20 (10.3%)	91 (11.1%)
11 Beverages	6 (1.6%)	25 (5.5%)	29 (4.9%)	1 (3.1%)	1 (0.5%)	31 (3.8%)
13 Textiles	7 (1.9%)	3 (0.7%)	8 (1.4%)	-	2 (1.0%)	10 (1.2%)
14 Wearing apparel	-	4 (0.9%)	3 (0.5%)	1 (3.1%)	-	4 (0.5%)
15 Leather and related products	3 (0.8%)	1 (0.2%)	4 (0.7%)	-	-	4 (0.5%)
16 Wood products, excluding furniture	4 (1.1%)	20 (4.4%)	19 (3.2%)	-	5 (2.6%)	24 (2.9%)
17 Paper and paper products	9 (2.5%)	4 (0.9%)	9 (1.5%)	-	4 (2.1%)	13 (1.6%)
18 Printing and reproduction of recorded media	6 (1.6%)	28 (6.2%)	28 (4.7%)	2 (6.3%)	4 (2.1%)	34 (4.2%)
19 Coke and refined petroleum products	8 (2.2%)	6 (1.3%)	8 (1.4%)	2 (6.3%)	4 (2.1%)	14 (1.7%)
20 Chemicals and chemical products	35 (9.6%)	23 (5.1%)	43 (7.3%)	3 (9.4%)	12 (6.2%)	58 (7.1%)
21 Pharmaceuticals, medicinal chemicals, etc.	3 (0.8%)	2 (0.4%)	5 (0.8%)	-	-	5 (0.6%)
22 Rubber and plastics products	42 (11.5%)	27 (5.9%)	51 (8.6%)	3 (9.4%)	15 (7.7%)	69 (8.4%)
23 Other non-metallic mineral products	81 (22.3%)	165 (36.3%)	185 (31.3%)	5 (15.6%)	56 (28.7%)	246 (30.0%)
24 Basic metals	23 (6.3%)	12 (2.6%)	13 (2.2%)	2 (6.3%)	20 (10.3%)	35 (4.3%)
25 Fabricated metal products, except machinery	63 (17.3%)	43 (9.5%)	68 (11.5%)	6 (18.8%)	32 (16.4%)	106 (12.9%)
26 Computer, electronic and optical products	1 (0.3%)	2 (0.4%)	2 (0.3%)	-	1 (0.5%)	3 (0.4%)
27 Electrical equipment	18 (4.9%)	9 (2.0%)	17 (2.9%)	2 (6.3%)	8 (4.1%)	27 (3.3%)
28 Machinery and equipment n.e.c.	8 (2.2%)	2 (0.4%)	5 (0.8%)	2 (6.3%)	3 (1.5%)	10 (1.2%)
29 Motor vehicles, trailers and semi-trailers	1 (0.3%)	1 (0.2%)	-	-	2 (1.0%)	2 (0.2%)
30 Other transport equipment	2 (0.5%)	3 (0.7%)	5 (0.8%)	-	-	5 (0.6%)
31 Furniture	7 (1.9%)	14 (3.1%)	15 (2.5%)	1 (3.1%)	5 (2.6%)	21 (2.6%)
32 Other manufacturing	-	4 (0.9%)	3 (0.5%)	-	1 (0.5%)	4 (0.5%)
33 Repair and installation of machinery/equipment	3 (0.8%)	-	3 (0.5%)	-	-	3 (0.4%)
<b>Total manufacturing</b>	<b>364 (100.0%)</b>	<b>455 (100.0%)</b>	<b>592 (100.0%)</b>	<b>32 (100.0%)</b>	<b>195 (100.0%)</b>	<b>819 (100.0%)</b>

SOURCE | ELABORATION BASED ON THE ANNUAL INDUSTRIAL SURVEY 2017 (MOCI 2018A, 2018B).

NOTE | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

**TABLE C.16 | POPULATION**  
**THOUSANDS**

<b>Year</b>	<b>Population</b>
1998	2,287
1999	2,325
2000	2,402
2001	2,478
2002	2,538
2003	2,341
2004	2,416
2005	2,509
2006	2,577
2007	2,743
2008	2,867
2009	3,174
2010	2,773
2011	3,295
2012	3,623
2013	3,855
2014	3,993
2015	4,159
2016	4,414
2017	4,560

**SOURCE |** 2018 STATISTICAL YEAR BOOK (NCSI 2018B), TABLE 'POPULATION INDICATORS':

TABLE C.17 | PERSONS ENGAGED IN THE MANUFACTURING SECTOR, BY LOCATION OF OPERATION, ORIGIN OF OWNERSHIP AND INDUSTRY, 2017

Manufacturing industry (ISIC Rev. 4)	Location of operation			Origin of ownership			
	Within industrial estate	Outside	Total	Omani	Foreign	Mixed	Total
10 Food products	6,130 (11.9%)	6,537 (14.2%)	12,667 (13.0%)	8,472 (14.3%)	65 (1.1%)	4,130 (12.8%)	12,667 (13.0%)
11 Beverages	1,147 (2.2%)	2,292 (5.0%)	3,439 (3.5%)	2,348 (4.0%)	131 (2.3%)	960 (3.0%)	3,439 (3.5%)
13 Textiles	422 (0.8%)	298 (0.6%)	720 (0.7%)	620 (1.0%)	-	100 (0.3%)	720 (0.7%)
14 Wearing apparel	-	2,489 (5.4%)	2,489 (2.6%)	612 (1.0%)	1,877 (32.4%)	-	2,489 (2.6%)
15 Leather and related products	155 (0.3%)	10 (0.0%)	165 (0.2%)	165 (0.3%)	-	-	165 (0.2%)
16 Wood products, excluding furniture	228 (0.4%)	5,155 (11.2%)	5,383 (5.5%)	5,258 (8.9%)	-	125 (0.4%)	5,383 (5.5%)
17 Paper and paper products	628 (1.2%)	303 (0.7%)	931 (1.0%)	633 (1.1%)	-	298 (0.9%)	931 (1.0%)
18 Printing and reproduction of recorded media	277 (0.5%)	1,345 (2.9%)	1,622 (1.7%)	1,379 (2.3%)	105 (1.8%)	138 (0.4%)	1,622 (1.7%)
19 Coke and refined petroleum products	3,020 (5.9%)	245 (0.5%)	3,265 (3.3%)	3,019 (5.1%)	84 (1.4%)	162 (0.5%)	3,265 (3.3%)
20 Chemicals and chemical products	3,943 (7.6%)	1,720 (3.7%)	5,663 (5.8%)	3,788 (6.4%)	102 (1.8%)	1,773 (5.5%)	5,663 (5.8%)
21 Pharmaceuticals, medicinal chemicals, etc.	601 (1.2%)	104 (0.2%)	705 (0.7%)	705 (1.2%)	-	-	705 (0.7%)
22 Rubber and plastics products	2,954 (5.7%)	2,128 (4.6%)	5,082 (5.2%)	3,334 (5.6%)	428 (7.4%)	1,320 (4.1%)	5,082 (5.2%)
23 Other non-metallic mineral products	6,923 (13.4%)	12,573 (27.4%)	19,496 (20.0%)	13,211 (22.3%)	529 (9.1%)	5,756 (17.8%)	19,496 (20.0%)
24 Basic metals	7,483 (14.5%)	967 (2.1%)	8,450 (8.7%)	1,574 (2.7%)	823 (14.2%)	6,053 (18.7%)	8,450 (8.7%)
25 Fabricated metal products, except machinery	11,173 (21.7%)	5,236 (11.4%)	16,409 (16.8%)	6,720 (11.3%)	1,016 (17.5%)	8,673 (26.8%)	16,409 (16.8%)
26 Computer, electronic and optical products	226 (0.4%)	105 (0.2%)	331 (0.3%)	105 (0.2%)	-	226 (0.7%)	331 (0.3%)
27 Electrical equipment	3,380 (6.6%)	702 (1.5%)	4,082 (4.2%)	2,548 (4.3%)	369 (6.4%)	1,165 (3.6%)	4,082 (4.2%)
28 Machinery and equipment n.e.c.	514 (1.0%)	233 (0.5%)	747 (0.8%)	208 (0.4%)	228 (3.9%)	311 (1.0%)	747 (0.8%)
29 Motor vehicles, trailers and semi-trailers	80 (0.2%)	65 (0.1%)	145 (0.1%)	-	-	145 (0.4%)	145 (0.1%)
30 Other transport equipment	26 (0.1%)	1,555 (3.4%)	1,581 (1.6%)	1,581 (2.7%)	-	-	1,581 (1.6%)
31 Furniture	1,124 (2.2%)	1,741 (3.8%)	2,865 (2.9%)	1,863 (3.1%)	39 (0.7%)	963 (3.0%)	2,865 (2.9%)
32 Other manufacturing	-	140 (0.3%)	140 (0.1%)	69 (0.1%)	-	71 (0.2%)	140 (0.1%)
33 Repair and installation of machinery/equipment	1,150 (2.2%)	-	1,150 (1.2%)	1,150 (1.9%)	-	-	1,150 (1.2%)
<b>Total manufacturing</b>	<b>51,584 (100.0%)</b>	<b>45,943 (100.0%)</b>	<b>97,527 (100.0%)</b>	<b>59,362 (100.0%)</b>	<b>5,796 (100.0%)</b>	<b>32,369 (100.0%)</b>	<b>97,527 (100.0%)</b>

SOURCE | ELABORATION BASED ON THE ANNUAL INDUSTRIAL SURVEY 2017 (MOCI 2018A, 2018B).

NOTE | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

TABLE C.18 | PERSONS ENGAGED IN THE MANUFACTURING SECTOR, BY NATIONALITY AND INDUSTRY, 2017

Manufacturing industry (ISIC Rev. 4)	Working proprietors		Managerial and professional		Skilled operatives		Unskilled operatives		Others		Total		Total number of people engaged in the manufacturing sector
	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani	
10 Food products	26	57	1126	1207	1349	2992	1273	3253	376	1008	4,150 (15.5%)	8,517 (12.0%)	12,667
11 Beverages	19	2	115	223	252	546	690	1094	150	348	1,225 (4.6%)	2,214 (3.1%)	3,439
13 Textiles	5	5	79	118	94	256	14	145	-	3	192 (0.7%)	528 (0.7%)	720
14 Wearing apparel	-	-	25	38	108	2225	46	-	27	20	206 (0.8%)	2,283 (3.2%)	2,489
15 Leather and related products	3	-	12	21	46	78	2	-	3	-	66 (0.2%)	99 (0.1%)	165
16 Wood products, excluding furniture	13	7	84	204	326	3769	104	717	46	114	572 (2.1%)	4,811 (6.8%)	5,383
17 Paper and paper products	4	-	73	148	90	251	94	262	8	-	270 (1.0%)	661 (0.9%)	931
18 Printing and reproduction of recorded media	35	71	147	258	209	744	39	92	11	15	441 (1.6%)	1,181 (1.7%)	1,622
19 Coke and refined petroleum products	4	4	97	94	1267	665	865	87	175	7	2,408 (9.0%)	857 (1.2%)	3,265
20 Chemicals and chemical products	15	3	430	758	694	1395	986	1046	186	151	2,311 (8.6%)	3,352 (4.7%)	5,663
21 Pharmaceuticals, medicinal chemicals, etc.	4	-	68	177	140	228	29	59	-	-	241 (0.9%)	464 (0.7%)	705
22 Rubber and plastics products	30	8	391	635	574	2171	245	672	165	190	1,406 (5.2%)	3,676 (5.2%)	5,082
23 Other non-metallic mineral products	147	81	1225	2022	1514	6376	893	6571	191	476	3,970 (14.8%)	15,526 (22.0%)	19,496
24 Basic metals	19	23	439	874	1359	3409	1183	769	154	220	3,155 (11.8%)	5,295 (7.5%)	8,450
25 Fabricated metal products, except machinery	60	39	743	1482	1130	7857	753	3074	441	830	3,127 (11.7%)	13,282 (18.8%)	16,409
26 Computer, electronic and optical products	1	-	37	39	12	103	49	80	4	6	103 (0.4%)	228 (0.3%)	331
27 Electrical equipment	15	42	465	709	651	1230	344	377	63	184	1,540 (5.7%)	2,542 (3.6%)	4,082
28 Machinery and equipment n.e.c.	1	-	79	115	204	288	23	28	9	1	316 (1.2%)	431 (0.6%)	747
29 Motor vehicles, trailers and semi-trailers	1	-	8	11	19	67	2	20	3	14	33 (0.1%)	112 (0.2%)	145
30 Other transport equipment	3	-	191	152	212	511	2	510	-	-	409 (1.5%)	1,172 (1.7%)	1,581
31 Furniture	10	4	113	263	208	1340	85	781	48	13	464 (1.7%)	2,401 (3.4%)	2,865
32 Other manufacturing	2	3	7	13	6	97	-	12	-	-	15 (0.1%)	125 (0.2%)	140
33 Repair and installation of machinery/equipment	1	-	51	124	77	793	64	38	2	1	195 (0.7%)	955 (1.4%)	1,150
<b>Total manufacturing</b>	<b>418</b>	<b>349</b>	<b>6005</b>	<b>9685</b>	<b>10541</b>	<b>37391</b>	<b>7785</b>	<b>19687</b>	<b>2062</b>	<b>3601</b>	<b>26,815 (100.0%)</b>	<b>70,712 (100.0%)</b>	<b>97527</b>

SOURCE | ELABORATION BASED ON THE ANNUAL INDUSTRIAL SURVEY 2017 (MOCI 2018A, 2018B).

NOTE | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

TABLE C.19 | WOMEN ENGAGED IN THE MANUFACTURING SECTOR, BY INDUSTRY AND NATIONALITY, 2017

Manufacturing industry (ISIC Rev. 4)	Working proprietors		Managerial and professional		Skilled operatives		Unskilled operatives		Other professions		Total		Total number of women engaged in the manufacturing sector
	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani	Omani	Non-Omani	
10 Food products	3	-	194	82	206	28	288	62	112	4	803 (19.6%)	177 (12.2%)	980
11 Beverages	-	-	20	6	34	9	43	3	-	-	97 (2.4%)	19 (1.3%)	115
13 Textiles	1	-	30	3	44	-	1	-	-	-	76 (1.9%)	3 (0.2%)	79
14 Wearing apparel	-	-	20	3	62	938	46	-	-	1	128 (3.1%)	942 (65.1%)	1,070
15 Leather and related products	-	-	4	1	42	-	2	-	2	-	50 (1.2%)	1 (0.1%)	51
16 Wood products, excluding furniture	-	-	26	2	74	17	5	-	-	-	105 (2.6%)	19 (1.3%)	124
17 Paper and paper products	1	-	22	-	24	1	36	-	8	-	92 (2.2%)	1 (0.1%)	93
18 Printing and reproduction of recorded media	7	-	41	20	74	18	9	-	2	-	132 (3.2%)	37 (2.6%)	170
19 Coke and refined petroleum products	-	-	17	3	207	7	42	2	17	1	282 (6.9%)	14 (1.0%)	295
20 Chemicals and chemical products	2	-	92	14	147	9	40	-	17	8	297 (7.3%)	32 (2.2%)	329
21 Pharmaceuticals, medicinal chemicals, etc.	-	-	37	24	96	4	29	4	-	-	162 (4.0%)	31 (2.1%)	193
22 Rubber and plastics products	2	-	154	8	129	1	30	-	24	1	338 (8.3%)	10 (0.7%)	349
23 Other non-metallic mineral products	10	-	344	25	85	4	82	-	8	1	529 (12.9%)	30 (2.1%)	559
24 Basic metals	5	1	103	21	98	5	1	-	14	2	222 (5.4%)	29 (2.0%)	251
25 Fabricated metal products, except machinery	4	4	236	11	112	8	4	-	14	10	370 (9.0%)	34 (2.3%)	403
26 Computer, electronic and optical products	-	-	10	2	-	-	3	-	-	1	13 (0.3%)	3 (0.2%)	16
27 Electrical equipment	1	-	104	13	31	1	13	-	-	-	149 (3.6%)	15 (1.0%)	163
28 Machinery and equipment n.e.c.	-	-	19	4	9	-	-	1	4	-	32 (0.8%)	5 (0.3%)	36
29 Motor vehicles, trailers and semi-trailers	-	-	6	-	15	-	1	-	-	-	22 (0.5%)	(0.0%)	22
30 Other transport equipment	-	-	24	4	5	11	-	-	-	-	29 (0.7%)	15 (1.0%)	44
31 Furniture	1	-	51	3	39	-	24	-	25	-	140 (3.4%)	3 (0.2%)	143
32 Other manufacturing	1	-	4	1	2	1	-	-	-	-	7 (0.2%)	2 (0.1%)	9
33 Repair and installation of machinery/equipment	-	-	9	7	4	14	7	3	-	1	20 (0.5%)	26 (1.8%)	46
<b>Total manufacturing</b>	<b>38</b>	<b>5</b>	<b>1,567</b>	<b>257</b>	<b>1,539</b>	<b>1,076</b>	<b>706</b>	<b>75</b>	<b>247</b>	<b>30</b>	<b>4,095 (100.0%)</b>	<b>1,448 (100.0%)</b>	<b>5,540</b>

SOURCE | ELABORATION BASED ON THE ANNUAL INDUSTRIAL SURVEY 2017 (MOCI 2018A, 2018B).

NOTE | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

**TABLE C.20 | INDEX OF MANUFACTURING EMPLOYMENT, BY INDUSTRY, 2005-2017**  
2005=100

Manufacturing industry (ISIC Rev. 4)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Number of people employed in 2016
10 Food products	100	105	119	134	143	144	136	141	132	162	161	162	197	12,583 (13.0%)
11 Beverages	100	94	104	123	126	151	165	161	129	146	152	175	196	3,409 (3.5%)
13 Textiles	100	92	80	77	74	74	232	198	121	189	194	175	213	711 (0.7%)
14 Wearing apparel	100	88	38	35	44	38	35	39	14	25	33	32	138	2,489 (2.6%)
15 Leather and related products	100	107	112	172	176	122	132	142	113	103	107	163	157	162 (0.2%)
16 Wood products, excluding furniture	100	100	223	235	226	327	579	307	468	485	641	683	652	5,362 (5.5%)
17 Paper and paper products	100	93	111	110	116	93	88	69	57	85	89	102	133	927 (1.0%)
18 Printing and reproduction of recorded media	100	83	87	92	103	103	83	101	115	122	124	114	97	1,517 (1.6%)
19 Coke and refined petroleum products	100	105	185	177	177	202	139	159	147	182	228	251	271	3,256 (3.4%)
20 Chemicals and chemical products	100	98	111	122	148	154	157	230	234	239	245	249	269	5,645 (5.8%)
21 Pharmaceuticals, medicinal chemicals, etc.	100	121	97	169	183	134	120	134	124	54	54	140	141	701 (0.7%)
22 Rubber and plastics products	100	112	152	150	164	198	187	216	198	240	241	236	250	5,044 (5.2%)
23 Other non-metallic mineral products	100	107	112	125	151	149	147	169	168	186	201	208	224	19,237 (19.9%)
24 Basic metals	100	110	120	240	311	350	423	544	506	448	628	561	559	8,408 (8.7%)
25 Fabricated metal products, except machinery	100	129	190	175	202	217	157	244	350	357	430	477	472	16,310 (16.9%)
26 Computer, electronic and optical products	100	109	116	136	161	158	219	218	207	214	194	215	205	330 (0.3%)
27 Electrical equipment	100	114	151	175	188	205	246	273	275	292	287	313	347	4,008 (4.1%)
28 Machinery and equipment n.e.c.	100	85	104	138	135	160	158	177	182	168	161	282	190	746 (0.8%)
29 Motor vehicles, trailers and semi-trailers	100	118	145	138	149	447	474	141	107	118	140	143	153	144 (0.1%)
30 Other transport equipment	100	86	92	124	119	111	1143	483	1588	1870	1688	1887	1879	1,578 (1.6%)
31 Furniture	100	105	176	187	194	214	224	186	154	154	171	194	183	2,851 (2.9%)
32 Other manufacturing	100	99	91	107	99	115	24	23	7	48	48	40	35	135 (0.1%)
33 Repair and installation of machinery/equipment							100	289	268	176	234	258	263	1,149 (1.2%)
<b>Total manufacturing</b>	100	105	126	140	157	167	171	191	197	211	236	247	264	96,702 (100.0%)

SOURCE | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

NOTE | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

TABLE C.21 | MANUFACTURING EMPLOYMENT BY GENDER AND INDUSTRY, 2005, 2012 AND 2017

Manufacturing industry (ISIC Rev. 4)	2005			2012			2017		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
10 Food products	6	5,740	656 (10.3%)	9,030	8,282	748 (8.3%)	12,583	11,609	974 (7.7%)
11 Beverages	1,738	1,738		2,804	2,741	63 (2.2%)	3,409	3,294	115 (3.4%)
13 Textiles	334	271	63 (18.9%)	660	566	94 (14.2%)	711	633	78 (11.0%)
14 Wearing apparel	1,809	813	996 (55.1%)	701	473	228 (32.5%)	2,489	1,419	1,070 (43.0%)
15 Leather and related products	103	60	43 (41.7%)	146	101	45 (30.8%)	162	111	51 (31.5%)
16 Wood products, excluding furniture	823	806	17 (2.1%)	2,524	2,505	19 (0.8%)	5,362	5,237	125 (2.3%)
17 Paper and paper products	695	642	53 (7.6%)	482	448	34 (7.1%)	927	835	92 (9.9%)
18 Printing and reproduction of recorded media	1,568	1,426	142 (9.1%)	1,580	1,420	160 (10.1%)	1,517	1,354	163 (10.7%)
19 Coke and refined petroleum products	1,201	1,111	90 (7.5%)	1,906	1,777	129 (6.8%)	3,256	2,961	295 (9.1%)
20 Chemicals and chemical products	2,101	1,932	169 (8.0%)	4,833	4,549	284 (5.9%)	5,645	5,318	327 (5.8%)
21 Pharmaceuticals, medicinal chemicals, etc.	498	498		669	590	79 (11.8%)	701	508	193 (27.5%)
22 Rubber and plastics products	2,018	1,956	62 (3.1%)	4,367	4,133	234 (5.4%)	5,044	4,697	347 (6.9%)
23 Other non-metallic mineral products	8,599	8,387	212 (2.5%)	14,527	14,220	307 (2.1%)	19,237	18,688	549 (2.9%)
24 Basic metals	1,505	1,483	22 (1.5%)	8,187	8,001	186 (2.3%)	8,408	8,164	244 (2.9%)
25 Fabricated metal products, except machinery	3,459	3,371	88 (2.5%)	8,457	8,230	227 (2.7%)	16,310	15,917	393 (2.4%)
26 Computer, electronic and optical products	161	158	3 (1.9%)	351	331	20 (5.7%)	330	314	16 (4.8%)
27 Electrical equipment	1,155	1,139	16 (1.4%)	3,152	3,014	138 (4.4%)	4,008	3,845	163 (4.1%)
28 Machinery and equipment n.e.c.	392	356	36 (9.2%)	695	656	39 (5.6%)	746	710	36 (4.8%)
29 Motor vehicles, trailers and semi-trailers	94	93	1 (1.1%)	133	120	13 (9.8%)	144	122	22 (15.3%)
30 Other transport equipment	84	84		406	406		1,578	1,534	44 (2.8%)
31 Furniture	1,560	1,461	99 (6.3%)	2,905	2,792	113 (3.9%)	2,851	2,709	142 (5.0%)
32 Other manufacturing	381	381		87	71	16 (18.4%)	135	127	8 (5.9%)
33 Repair and installation of machinery/equipment				1,262	1,247	15 (1.2%)	1,149	1,103	46 (4.0%)
<b>Total manufacturing</b>	<b>36,674</b>	<b>33,906</b>	<b>2,768 (7.5%)</b>	<b>69,864</b>	<b>66,673</b>	<b>3,191 (4.6%)</b>	<b>96,702</b>	<b>91,209</b>	<b>5,493 (5.7%)</b>

SOURCE | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

NOTE | THE SHARE OF FEMALE EMPLOYEES IS INDICATED FOR EACH INDUSTRY. MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

**TABLE C.22 | AVERAGE ANNUAL MANUFACTURING WAGES AND SALARIES IN CURRENT PRICES, BY INDUSTRY, 2005-2017**  
OMANI RIAL

Manufacturing industry (ISIC Rev. 4)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>10 Food products</b>	2,623	2,521	2,689	3,044	3,054	3,535	4,503	4,611	5,034	5,088	5,710	5,383	6,041
<b>11 Beverages</b>	2,880	3,135	3,018	3,247	3,560	3,925	5,274	5,357	5,914	6,598	8,626	7,187	6,843
<b>13 Textiles</b>	3,282	3,071	3,503	3,926	3,789	4,303	4,336	4,383	3,601	4,815	4,771	4,973	4,884
<b>14 Wearing apparel</b>	1,212	1,270	1,124	1,246	1,103	1,133	2,424	2,452	3,970	3,276	2,358	2,485	2,525
<b>15 Leather and related products</b>	1,942	1,967	2,081	2,429	2,230	2,143	2,847	2,898	3,772	4,708	5,162	5,052	5,148
<b>16 Wood products, excluding furniture</b>	2,176	2,005	2,046	2,445	2,442	2,266	2,641	2,833	3,060	3,643	3,437	3,377	4,235
<b>17 Paper and paper products</b>	2,714	2,712	2,498	2,885	2,984	3,099	5,575	5,997	5,618	5,433	5,555	5,383	5,796
<b>18 Printing and reproduction of recorded media</b>	2,921	2,680	2,847	3,335	3,539	3,410	4,148	4,317	6,101	6,165	7,018	7,149	7,812
<b>19 Coke and refined petroleum products</b>	11,761	9,943	7,909	7,179	12,650	7,891	8,335	8,580	24,077	18,949	20,477	18,493	37,425
<b>20 Chemicals and chemical products</b>	4,480	4,781	8,260	6,119	6,501	6,440	11,771	12,352	10,558	10,500	10,591	11,762	10,922
<b>21 Pharmaceuticals, medicinal chemicals, etc.</b>	2,753	2,651	4,655	3,353	3,729	3,023	6,571	6,688	7,564	6,594	6,820	7,147	10,974
<b>22 Rubber and plastics products</b>	2,182	2,285	2,297	2,604	2,679	2,615	4,388	4,390	4,821	4,998	5,778	5,943	5,918
<b>23 Other non-metallic mineral products</b>	2,501	2,569	2,848	3,152	3,227	3,616	4,378	4,576	4,877	4,872	5,004	5,096	5,362
<b>24 Basic metals</b>	3,472	3,502	6,778	3,284	3,376	5,093	8,379	8,013	9,423	10,341	8,921	10,105	9,428
<b>25 Fabricated metal products, except machinery</b>	2,252	2,324	2,673	2,762	3,243	2,995	5,265	5,067	4,947	5,213	4,872	5,528	4,861
<b>26 Computer, electronic and optical products</b>	5,051	4,981	5,714	5,936	6,477	6,866	6,082	5,818	6,432	6,671	8,093	7,618	7,838
<b>27 Electrical equipment</b>	3,641	3,039	3,108	4,636	3,957	5,110	7,300	6,970	7,435	7,734	9,079	8,178	8,830
<b>28 Machinery and equipment n.e.c.</b>	3,345	3,778	3,792	4,542	4,626	4,503	9,006	8,641	9,421	10,323	10,187	12,206	10,675
<b>29 Motor vehicles, trailers and semi-trailers</b>	2,143	1,766	1,759	1,636	1,884	2,353	3,824	3,637	4,738	4,691	4,472	5,135	4,956
<b>30 Other transport equipment</b>	3,560	4,083	2,627	2,920	3,754	3,868	1,970	2,188	9,566	8,372	2,933	8,479	9,518
<b>31 Furniture</b>	1,940	1,925	2,200	2,274	2,243	2,903	3,495	3,591	3,744	3,863	4,096	3,886	4,415
<b>32 Other manufacturing</b>	2,479	2,434	2,562	2,203	2,491	2,804	2,086	2,179	3,593	3,031	4,019	5,105	4,442
<b>33 Repair and installation of machinery/equipment</b>							4,446	4,670	5,702	5,830	5,856	3,825	4,206
<b>Total manufacturing</b>	<b>2,949</b>	<b>2,891</b>	<b>3,381</b>	<b>3,363</b>	<b>3,673</b>	<b>3,844</b>	<b>5,380</b>	<b>5,741</b>	<b>6,447</b>	<b>6,451</b>	<b>6,559</b>	<b>6,778</b>	<b>7,366</b>

**SOURCE** | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTE** | THE AVERAGE WAGE IS CALCULATED AS THE TOTAL WAGES AND SALARIES IMBURSED BY AN INDUSTRY DIVIDED BY THE TOTAL NUMBER OF RECIPIENTS (I.E. THE EMPLOYEES). MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.



**TABLE C.23 | CAPITAL PER EMPLOYEE IN MANUFACTURING SECTOR AT CONSTANT 2007 PRICES, BY INDUSTRY 2007-2017**

OMANI RIAL

Manufacturing industry (ISIC Rev. 4)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>10A Food and beverages</b>	14,442	12,157	12,695	13,887	14,339	15,183	14,337	14,301	23,722	14,498	16,650
<b>13 Textiles</b>	22,859	18,607	45,216	17,711	7,567	10,189	11,483	10,262	26,024	5,292	19,568
<b>14 Wearing apparel</b>	781	2,645	2,095	1,143	2,499	1,919	277	765	1,821	2,113	1,747
<b>15 Leather and related products</b>	10,687	5,090	3,215	7,614	6,636	6,209	7,399	7,517	7,044	475	10,793
<b>16 Wood products, excluding furniture</b>	1,365	2,527	2,740	1,569	434	1,885	25,352	51,010	775	1,604	1,525
<b>17 Paper and paper products</b>	14,475	14,265	20,660	14,304	13,080	18,186	15,825	16,629	11,403	16,736	18,839
<b>18 Printing and reproduction of recorded media</b>	18,359	10,353	17,017	157,697	8,621	7,994	8,954	7,386	8,935	12,196	10,339
<b>19 Coke and refined petroleum products</b>	572,469	373,126	566,097	472,897	239,790	198,750	3,894	3,403	514,951	784,978	793,703
<b>20A Chemicals and chemical products, pharmaceuticals</b>	160,967	126,299	237,253	155,206	86,203	64,647	96,813	90,041	96,852	72,147	231,550
<b>22 Rubber and plastics products</b>	13,334	13,689	14,287	28,440	18,337	17,853	20,512	47,441	25,063	29,361	26,790
<b>23 Other non-metallic mineral products</b>	22,733	24,124	23,638	32,201	26,965	27,168	29,487	27,993	27,765	27,068	14,699
<b>24 Basic metals</b>	33,958	15,192	243,976	164,491	181,788	162,268	199,914	226,958	219,308	217,360	209,632
<b>25 Fabricated metal products, except machinery</b>	4,469	4,426	5,537	4,810	10,152	8,970	8,678	11,696	14,717	16,009	13,523
<b>26 Computer, electronic and optical products</b>	17,231	11,404	13,628	14,898	57,841	59,637	61,104	66,002	56,862	19,493	64,102
<b>27 Electrical equipment</b>	13,881	12,251	17,315	20,197	21,326	22,409	22,260	20,898	62,270	25,283	33,071
<b>28A Machinery and equipment n.e.c., repair and installation</b>	21,177	24,713	28,639	15,887	22,427	12,544	6,488	6,705	6,586	16,180	25,089
<b>29 Motor vehicles, trailers and semi-trailers</b>	1,703	1,636	5,210	11,177	2,078	7,437	5,216	3,658	3,083	3,360	2,461
<b>30 Other transport equipment</b>		1,075	3,256	3,046			4,483	20,195	11,803	26,228	23,624
<b>31A Furniture, other manufacturing</b>	3,520	2,279	2,125	3,793	2,143	3,602	4,483	4,611	4,175	6,064	6,808
<b>Total manufacturing</b>	<b>49,899</b>	<b>35,561</b>	<b>68,843</b>	<b>60,417</b>	<b>42,452</b>	<b>42,285</b>	<b>42,597</b>	<b>43,974</b>	<b>62,972</b>	<b>65,794</b>	<b>72,817</b>

**SOURCE** | ELABORATION BASED ON ANNUAL INDUSTRIAL SURVEYS FOR THE PERIOD 2005-2017 (MOCI 2018C).

**NOTE** | MANUFACTURING INDUSTRIES ARE CLASSIFIED ACCORDING TO REVISION 4 OF THE INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC). SEE NOTE ON TOBACCO PRODUCTS (ISIC 12) IN APPENDIX TABLE C.4.

**TABLE C.24 | MANUFACTURING EXPORTS AT CURRENT PRICES, BY TECHNOLOGY LEVEL, AND SHARES IN TOTAL AND MANUFACTURED EXPORTS, 1990-2016**  
THOUSANDS, US DOLLARS

	Total exports	Manufacturing exports	Share of total exports	Resource-based	Share of total manufacturing exports	Low-tech	Share of total manufacturing exports	Medium-tech	Share of total manufacturing exports	High-tech	Share of total manufacturing exports
1990	5,504	460	8.4%	185	40.1%	49	10.7%	186	40.5%	40	8.7%
1991	4,874	650	13.3%	239	36.8%	59	9.1%	303	46.6%	49	7.5%
1992	5,451	770	14.1%	151	19.6%	76	9.9%	518	67.3%	24	3.2%
1993	5,300	974	18.4%	219	22.4%	90	9.2%	615	63.1%	51	5.2%
1994	5,418	1,080	19.9%	226	20.9%	115	10.6%	687	63.6%	53	4.9%
1995	5,917	1,039	17.6%	250	24.0%	157	15.1%	591	56.9%	41	4.0%
1996	7,222	1,183	16.4%	253	21.4%	167	14.1%	712	60.1%	51	4.3%
1997	7,631	1,656	21.7%	436	26.3%	200	12.1%	927	56.0%	93	5.6%
1998	5,519	1,685	30.5%	433	25.7%	212	12.6%	926	55.0%	115	6.8%
1999	7,231	1,603	22.2%	447	27.9%	196	12.3%	827	51.6%	133	8.3%
2000	11,318	1,475	13.0%	548	37.2%	176	11.9%	673	45.7%	78	5.3%
2001	11,074	1,958	17.7%	718	36.7%	225	11.5%	925	47.3%	89	4.6%
2002	11,237	2,341	20.8%	765	32.7%	256	10.9%	1,204	51.4%	117	5.0%
2003	12,196	557	4.6%	244	43.7%	79	14.2%	180	32.4%	55	9.8%
2004	11,981	925	7.7%	492	53.2%	240	26.0%	191	20.7%	1	0.1%
2005	17,173	1,291	7.5%	637	49.3%	266	20.6%	388	30.0%	1	0.0%
2006	19,591	1,879	9.6%	937	49.9%	304	16.2%	636	33.9%	1	0.1%
2007	22,082	4,109	18.6%	2,663	64.8%	277	6.7%	1,160	28.2%	9	0.2%
2008	33,777	6,109	18.1%	4,008	65.6%	335	5.5%	1,757	28.8%	9	0.1%
2009	22,880	3,666	16.0%	1,562	42.6%	367	10.0%	1,716	46.8%	21	0.6%
2010	31,603	5,141	16.3%	2,601	50.6%	344	6.7%	2,163	42.1%	33	0.6%
2011	41,246	6,627	16.1%	2,909	43.9%	435	6.6%	3,253	49.1%	31	0.5%
2012	45,672	9,260	20.3%	5,567	60.1%	534	5.8%	3,108	33.6%	51	0.6%
2013	46,287	8,383	18.1%	4,452	53.1%	557	6.7%	3,334	39.8%	40	0.5%
2014	50,718	9,021	17.8%	5,039	55.9%	739	8.2%	3,189	35.4%	55	0.6%
2015	31,927	8,538	26.7%	4,584	53.7%	686	8.0%	3,101	36.3%	167	2.0%
2016	24,455	7,633	31.2%	4,305	56.4%	732	9.6%	2,381	31.2%	216	2.8%

**SOURCE |** CIP 2018 DATABASE (UNIDO 2018C).

**NOTE |** SEE TECHNOLOGY CLASSIFICATION IN UNIDO (2018).

**TABLE C.25 | SHARE OF NATURAL RESOURCE RENTS IN GDP, SELECTED MENA COUNTRIES**  
PERCENT

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Egypt</b>	13.9	14.2	13	15.7	8.2	8.7	12.1	10.7	9.8	8.4	3.9	4
<b>Jordan</b>	0.1	0.1	0.6	8.3	1.5	1.7	3.3	2.6	1.4	1	1.4	1.3
<b>Kuwait</b>	54.7	53.7	49.6	54.5	37	48.3	60.8	60.7	57	54.1	37	44.7
<b>Morocco</b>	0.4	0.7	1.5	8.3	1.9	2.7	4.2	4.3	2.9	2.1	2.6	2.5
<b>Oman</b>	44.7	43.4	39.8	39.6	31.7	37.1	48.8	46	44.1	38.7	23	26.8
<b>Qatar</b>	40.7	36.9	33.4	35	27.2	31.8	38.6	36.8	34.5	29.6	19	21.1
<b>Saudi Arabia</b>	50.2	50.4	46.8	54	33.8	40.9	50.1	48.1	44.7	40.1	23.5	27.2
<b>Tunisia</b>	4.1	4.5	6	11.2	4.8	5.9	6.6	6.9	5.9	4.7	2.7	2.8
<b>United Arab Emirates</b>	24.8	25.2	23	26.3	17.3	20.6	27.6	27.5	25.5	22.8	13.1	15.3

**SOURCE |** WORLD DEVELOPMENT INDICATORS (WORLD BANK 2018) BASED ON SOURCES AND METHODS DESCRIBED IN "THE CHANGING WEALTH OF NATIONS 2018: BUILDING A SUSTAINABLE FUTURE" (LANGE ET AL. 2018).

**NOTE |** ESTIMATES BASED ON NATURAL RESOURCE RENTS AND GDP (GROSS DOMESTIC PRODUCT) IN US DOLLARS. TOTAL NATURAL RESOURCES RENTS ARE THE SUM OF OIL RENTS, NATURAL GAS RENTS, COAL RENTS (HARD AND SOFT), MINERAL RENTS, AND FOREST RENTS.

**TABLE C.26 | FOREIGN DIRECT INVESTMENTS, SELECTED SECTORS AND MANUFACTURING INDUSTRIES, 2009-2016**  
PERCENT

Industrial sector	2009	2010	2011	2012	2013	2014	2015	2016
<b>Manufacturing</b>	30.4	23.2	24.4	27.8	24.6	21.3	22.3	19.1
<b>Financial intermediation</b>	27.2	30.2	30.6	25.8	27.2	27.2	30.1	31.1
<b>Oil and gas exploration</b>	25.9	28.7	28.2	30.1	32.9	35.2	29.6	34.1
<b>Transport, storage and communication</b>	4.1	5.1	4.6	3.5	3.9	4.1	4.4	3.9
<b>Electricity and water</b>	3.8	3.8	2.8	2.3	2	1.8	1.3	1.2
<b>Real estate, renting and business activities</b>	3.2	3.2	3.6	2.5	3.6	3.8	4.3	4.4
<b>Trade</b>	2.2	2.5	2.4	2.3	2.4	2.4	2.8	2.7
<b>Construction</b>	2	2.4	2.2	4.5	2.1	1.8	1.9	1.7
<b>Hotels and restaurants</b>	0.8	0.9	0.9	0.8	0.9	1.7	1.2	1.2
<b>Other</b>	0.4	0.2	0.3	0.4	0.4	0.5	2.1	0.7

**SOURCE |** NCSI (2018B).

**TABLE C.27 | FOREIGN DIRECT INVESTMENTS AS PERCENTAGE OF GDP, SELECTED MENA COUNTRIES, 2005-2017**  
**PERCENT**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Rank 2005	Rank 2017
<b>Egypt</b>	6.0	9.3	8.9	5.8	3.6	2.9	(0.2)	1.0	1.5	1.5	2.1	2.4	3.1	2	3
<b>Jordan</b>	15.8	23.5	15.3	12.9	10.1	6.4	5.2	5.0	5.8	6.1	4.3	4.0	5.1	1	1
<b>Kuwait</b>	0.3	0.1	0.1	-	1.1	1.1	2.1	1.7	0.8	0.3	0.2	0.3	0.1	9	9
<b>Morocco</b>	2.6	3.4	3.6	2.7	2.1	1.3	2.5	2.9	3.1	3.2	3.2	2.2	2.4	7	5
<b>Oman</b>	4.9	4.3	7.9	4.8	3.1	2.1	2.4	1.8	2.0	1.6	(3.2)	3.4	4.0	5	2
<b>Qatar</b>	5.6	5.7	5.9	3.3	8.3	3.7	0.6	0.2	(0.4)	0.5	0.7	0.5	0.6	4	7
<b>Saudi Arabia</b>	3.7	4.9	5.8	7.6	8.5	5.5	2.4	1.7	1.2	1.1	1.2	1.2	0.2	6	8
<b>Tunisia</b>	2.2	9.4	3.9	5.8	3.5	3.0	0.9	3.5	2.3	2.2	2.2	1.5	2.0	8	6
<b>United Arab Emirates</b>	6.0	5.8	5.5	1.6	0.4	3.0	2.0	2.6	2.5	2.7	2.4	2.7	2.7	2	4

**SOURCE |** WORLD DEVELOPMENT INDICATORS (WORLD BANK 2018).

**NOTE |** GDP IS GROSS DOMESTIC PRODUCT.





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