Organisation for Economic Co-operation and Development

DCD(2022)21

Unclassified English text only

24 May 2022

DEVELOPMENT CO-OPERATION DIRECTORATE

Sustainable Ocean Economy Country Diagnostics of Cabo Verde

This report presents new data on, and a comprehensive, cross-sectoral analysis of Cabo Verde's ocean economy. It examines economic and sustainability trends, assesses the country's ocean governance architecture, and explores policies and financing instruments for a more sustainable ocean economy.

This paper is part of the Sustainable Ocean for All Series.
Please cite this paper as OECD (2022), "Sustainable Ocean Economy Country Diagnostics of Cabo Verde", Development Co-operation Directorate, OECD Publishing, Paris.
Comments, questions and other inquiries are welcome and may be sent to dac.contact@oecd.org.

Piera Tortora, piera.tortora@oecd.org

JT03496081

Abstract

This report presents new data on, and a comprehensive, cross-sectoral analysis of Cabo Verde's ocean economy. It examines economic and sustainability trends, assesses the country's ocean governance architecture, and explores policies and financing instruments for a more sustainable ocean economy. In light of the impacts of the COVID-19 crisis, the report suggests that Official Development Assistance and other innovative financing mechanisms be maximised to make the ocean a driver for a resilient and inclusive recovery.

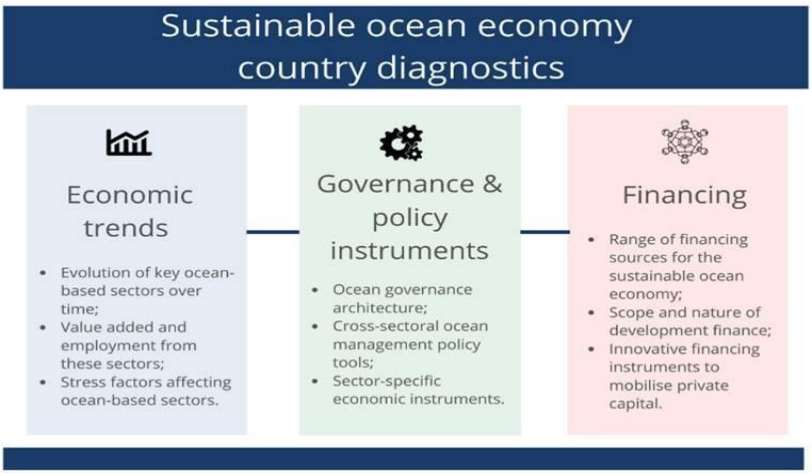
Foreword

Sustainable Ocean Economy Country Diagnostics are part of the OECD Sustainable Ocean for All Initiative. They provide country-specific evidence for developing countries to address the increasing pressures on marine and coastal ecosystems (e.g. from pollution, overfishing, climate change, etc.) and chart a new course for sustainable development through the conservation and sustainable use of ocean and coastal resources. They are founded on a multi-dimensional understanding of sustainability, encompassing social, environmental and economic dimensions. They reflect a holistic view of the ocean economy as a complex set of varied and highly interconnected sectors requiring co-ordinated and mission-oriented policy making.

Sustainable Ocean Economy Country Diagnostics are built upon three analytical pillars (Figure 1): (i) Economic and sustainability trends: to understand the size and composition of a country's ocean economy as well as key environmental stressors and socio-economic sustainability across ocean economy sectors; (ii) Governance and policy instruments: examining a country's institutional architecture governing the use and conservation of the ocean and existing policy instruments and approaches aimed at increasing the sustainability of the ocean economy; (iii) Financing flows and instruments, with a specific focus on development finance, to understand the scope and nature of Official Development Assistance (ODA) in support of a more sustainable ocean economy, as well as innovative financing mechanisms to mobilise private and public finance.

This Sustainable Ocean Economy Country Diagnostics of Cabo Verde uses the OECD's unique statistical sources and multi-disciplinary expertise on the sustainable ocean economy. This includes original ODA figures developed using a dedicated methodology, to be visualised and downloaded on the Data Platform for Development Finance for the Sustainable Ocean Economy (https://oecd-main.shinyapps.io/ocean/).

Figure 1. OECD Sustainable Ocean Economy Country Diagnostics: Analytical framework



Acknowledgements

This report was prepared as part of the OECD Sustainable Ocean for All Initiative with generous support from the Government of Portugal.

The report was authored by Daniel Prosi and Piera Tortora, with the latter also providing overall direction for the report. It was prepared under the oversight of Jens Sedemund, Team Lead for Environment and Climate Change, with the strategic guidance of Haje Schütte, Head of Financing for Sustainable Development Division, in the OECD Development Co-operation Directorate.

The report was informed by structured interviews and consultations held with the kind support of the Embassy of Portugal in Praia. Interviews and consultations were held with representatives from relevant Cabo Verdian ministries and government bodies, development partner representatives, think tanks, civil society and the private sector, including from: Ministry of Foreign Affairs, Ministry of Tourism, Ministry for the Environment, Ministry for the Maritime Economy, Ministry of Science and Technology, National Statistical Office, Fisheries Department, Port Authority, representatives from the Embassies of Portugal as well as People's Republic of China [hereafter "China"], Luxembourg, Spain, USA, EU, and representatives from United Nations, UN Food and Agriculture Organisation, and World Bank.

The authors would like to acknowledge comments and suggestions from OECD members and colleagues, including Claire Jolly, Kumi Kitamuri, Eija Kiiskinen, Anita King, Alejandro Guerrero-Ruiz, Will Symes, Rolf Schwartz, as well as from Joseph Catanzano from the UN Food and Agriculture Organisation.

Table of contents

FIGURES

TABLES

Executive summary

Economic and sustainability trends

Cabo Verde is a small island developing State (SIDS) and a Lower Middle Income Country (LMIC), whose economy and prosperity depend on the health and sustainable use of the ocean. The ocean makes up 99% of Cabo Verde's territory and constitutes its most important link to the rest of the world.

In the past two decades, Cabo Verde's ocean economy has grown fast mainly because of a quickly expanding marine tourism sector, which contributed to lifting the country out of the Least Developed Country (LDC) status in late 2007. Tourism is the largest economic sector of the country's ocean economy as well as of its national economy overall. It accounts directly for more than 20% of GDP and indirectly contributes an estimated 45%. In 2019, more than 819 000 tourists stayed on the archipelago, inhabited by 550 000 people.

Fisheries and maritime transport are the next two largest sectors of Cabo Verde's ocean economy. Fisheries includes both artisanal fisheries, a pillar for the livelihoods of small coastal communities, and the growing industrial fishing sector for processed fish products and the export market. A growing mariculture sector is also emerging. The third pillar of the country's ocean economy is the expanding maritime transport and port infrastructure, driven by the ambition to become a logistics and supply hub in the mid-Atlantic.

Small size, a highly concentrated economy and geographic isolation make Cabo Verde susceptible to economic shocks, natural disasters and the impacts of climate change and environmental degradation. Its dispersion over 10 islands, 600 km off the West African coast poses unique challenges and high costs when it comes to service provision, effective patrolling of territorial waters and advancing infrastructure such as electricity grids. Tourism has transformed parts of the country but is concentrated on two islands, and has led to the rapid deterioration of natural capital. The sector has thus far failed to integrate into the local economy and supply chains: its reliance on imports reduces the scope for backward and forward linkages to the rest of the economy and for more diffuse economic benefits.

Governance and policy instruments

The government of Cabo Verde attaches high importance to protecting its marine natural capital and to a development path centred on a sustainable ocean economy. The country, one of the few with a dedicated ministry, has created the Blue Economy Observatory to provide technical assistance and promote institutional co-operation in ocean governance. This recognises the cross-cutting nature of ocean governance that affects a multitude of economic sectors and social issues.

Cabo Verde's high-level strategy on the ocean economy focuses on the trajectory, sources of investment and on-the-ground implementation of ocean-based economic growth. It is part of the country's commitment to implement the 2030 Agenda, and includes explicit links to the SDGs, particularly SGD 14, and the African Union's Agenda 2063. In terms of data, the Statistical Office is conducting a satellite accounting exercise in co-operation with Portugal, to better ascertain the economic contribution of

ocean economy activities. The government promotes Marine Spatial Planning (MSP) as a means to operationalise this strategy. Clearly outlined Marine Protected Areas (MPAs) would facilitate the patrolling and control of some important areas that may offer benefits for marine ecosystems and local communities.

Financing flows and instruments

Cabo Verde needs to mobilise more domestic public finance and private investment to effectively foster economic, social and environmental sustainability and offset decreasing levels of concessional finance experienced since LDC graduation in 2007. Public debt stood at 128% of GNI in 2019.

Official Development Assistance (ODA) to Cabo Verde's ocean economy has increased since 2017 but remains low relative to the central importance of the latter for the country. While Cabo Verde's ocean economy makes up between half and two thirds of the overall economy, only 13% of allocable ODA in 2017-2019 targeted ocean economy sectors and marine conservation. Further, less than half of the ODA towards the ocean economy went to projects that actively enhanced its sustainability. The bulk went to infrastructure projects, in particular port infrastructure, with no explicit sustainability considerations. Marine protection programmes in Cabo Verde are left to be financed predominantly by private philanthropies.

Way forward: leveraging the ocean economy for sustainable development and a blue recovery

Cabo Verde's strong reliance on the tourism sector has amplified the impacts of the global economic downturn and travel restrictions due to the COVID-19 pandemic. On average, it suffered much larger economic consequences than other developing countries, plunging into the worst recession in its recent history. A vulnerable, small and undiversified economy, Cabo Verde must use the economic recovery as an opportunity to build forward better, bluer and more inclusive.

Building forward better is a critical opportunity to address growing anthropogenic pressures that threaten Cabo Verde's unique biodiversity and its development prospects. One of 11 global biodiversity hotspots, Cabo Verde's most important anthropogenic pressures result from the joint impact of climate change, ocean acidification, overfishing and marine pollution, especially of plastics.

Emerging sectors, such as mariculture and renewable energy, can help Cabo Verde harness the benefits of the country's extensive marine resources, if developed through an integrated, multi-sectoral approach. Marine renewable energy with smart grids incorporating desalination plants and energy storage facilities could set the country on track towards energy autonomy, while addressing water shortages.

Exceptional COVID-19 development assistance and new global financing mechanisms could help a more sustainable recovery in Cabo Verde. New sources of liquidity and exceptional support measures need to be integrated in a blue sustainable recovery plan and associated financing strategy. Cabo Verde can expand the toolbox of innovative instruments to lower its debt burden and increase liquidity, through its access to the Debt Service Suspension Initiative launched by the G20, and potentially through a proposal to re-allocate a special USD 650 billion Special Drawing Rights (SDR) to vulnerable countries. Cabo Verde can also explore innovative debt-relief instruments, such as debt-for-ocean swaps, to free up resources for investment in sustainable ocean economy activities. In addition, it can tap into emerging sovereign borrowing instruments for sustainable investments, such as blue bonds and sustainability-linked bonds, although the constraint of public debt makes it necessary to explore other instruments simultaneously. Finally, Cabo Verde can enhance the volume and stability of tax revenues to finance sustainability through tax reforms and better management of key industries, such as tourism, where revenues could be earmarked for conservation efforts in order to safeguard Cabo Verde's large natural wealth for the future.

1 The urgency of transitioning to a sustainable ocean economy

1.1. A global transition to sustainable ocean economies is urgent and possible

A healthy ocean is at the heart of human well-being, a healthy planet and a prosperous economy. The ocean forms more than two thirds of the earth's surface and is an integral part of the cultural identity of many countries and communities. It provides humanity with a range of indispensable ecosystem services and natural assets that are key to economic and social well-being. The ocean plays a key role in regulating the climate, producing half of the earth's oxygen and absorbing more than 90% of the heat resulting from anthropogenic greenhouse gas emissions. The ocean provides habitat for marine species, including many that people depend on for food, and nutrient cycling. Marine and coastal ecosystems offer flood control, protection from natural disasters, natural hazards and from pollution. The ocean is also critical for the global economy and livelihoods of billions of people. More than 90% of world trade uses sea routes and many economic sectors are either directly or indirectly dependent on ocean resources. They include traditionally exploited marine resources – either living resources (fish) or non-living resources (oil and gas) – as well as the use of the ocean for tourism, research and shipping.

The acceleration of ocean-based economic activities creates new development opportunities for coastal communities, as well as risks to be managed. Well-established economic sectors that depend on the ocean and coastal resources have expanded significantly in recent years. International tourism, for instance, has expanded from 25 million international arrivals in 1950 to a projected 1.8 billion by 2030 prior to the COVID-19 crisis. The off-shore oil and gas sector, which accounts for the largest share of the ocean economy today, is expected to record a USD 2.79 billion growth in off-shore oil and gas pipeline markets during 2020-24 (Technavio Research, 2021[1]) after a sudden halt in early spring 2020 because of the impact of the COVID-19 crisis. Further, a new range of economic activities located in the ocean have recently emerged as new technologies have opened the way for new economic opportunities. Among the fastest-growing sectors are off-shore wind energy; aquaculture and mariculture; and marine biotechnologies, while rising and long-term demand for minerals and metals, along with the depletion of land-based resources is leading to growing commercial interest in exploiting resources on the seabed in national waters and the high seas. These new and intensifying economic activities risk putting additional pressure on marine ecosystems that are already under unprecedented conditions of ocean acidification, ocean warming, pollution and loss of oxygen (IPCC, 2019[2]). Therefore, it is critical that new and emerging economic activities are pursued in a way that conserves and sustainably uses ocean resources. Ocean economy sectors that integrate sustainability can create new opportunities for developing countries, including more jobs, cleaner energy, improved food security, and enhanced resilience.

The COVID-19 crisis must be turned into an opportunity to set ocean-based sectors on a sustainable footing. While the COVID-19 crisis has halted key ocean-based sectors – particularly marine and coastal tourism and cruise shipping – demand for marine resources such as food, energy, minerals, leisure and other needs of a growing global population will persist (OECD, 2020[3]). The policies and interventions for the recovery from the crisis therefore create an opportunity to fundamentally rethink and

transform business and economic models which develop sources of clean, renewable energy, enhance society's resilience to climate and coastal changes, and deliver healthy food and livelihoods to billions.

1.2. Small island developing states and Cabo Verde stand to benefit from more sustainable management of their ocean economies

For small island developing states (SIDS), a transition to a more sustainable ocean economy is particularly important. In lower middle-income developing countries, value added from six key ocean economy sectors account for 11% of GDP in 2015 on average, compared to less than 2% in high-income countries (OECD, 2020[4]). In SIDS, where ocean resources are on average more than 2 000 times[1] the size of their land masses, the dependence on ocean-based sectors is even stronger, and one ocean economy sector alone, such as tourism, can account for over 20% of the GDP in many SIDS. This greater reliance on ocean-based sectors can present opportunities from an expanding global ocean economy, as well as pose substantial risks from increasingly deteriorating ocean ecosystems. Overfishing, ocean pollution, and increasing impacts from climate change are already deteriorating SIDS' wealth of maritime resources, risking to derail the economic sectors that depend on them and SIDS' development trajectory. Therefore, it is critical that ocean resources be used in more sustainable ways that integrate the conservation of natural assets while allowing for innovative uses of ocean resources (OECD, 2021[5]) .

As a SIDS, Cabo Verde's economy is strongly linked to its marine natural capital. Recent GDP growth in Cabo Verde, which determined graduation from the Least Developed Country status, was largely driven by the expansion of the tourism sector. However, the tourism sector expanded with limited consideration of environmental and social sustainably, with important consequences on Cabo Verde's natural assets, and leading to unbalanced and unequal economic development. Cabo Verde's vast ocean resources and the new economic opportunities from the global ocean economy, have led the government of Cabo Verde to identify the sustainable ocean economy as one of the key opportunities to diversify the economy and enhance resilience. This Country Diagnostic aims to provide country-specific evidence to support policy making in Cabo Verde towards a more sustainable use of ocean resources that can foster inclusive and resilient development in the country.

[1] This figure refers to the average ratio of EEZ to land mass in the 34 ODA-eligible SIDS. This ratio is highest for Tuvalu (EEZ exceeds its land mass by 28 838 times), followed by Nauru (EEZ exceeds its land mass by 14 689 times).

2 The ocean economy of Cabo Verde: Economic trends and sustainability stressors

2.1. Cabo Verde's ocean economy in the context of its overall economic development and the COVID-19 crisis

As a small island developing state (SIDS) located in the Macaronesia[2] region, the surface of Cabo Verde consists of ocean to 99.5%. Cabo Verde is an archipelago composed of 10 islands and 18 islets situated in the mid-Atlantic Ocean, approximatively 600 km off the West African coast. Only 10% of its terrestrial territory is classified as arable land, and its exclusive economic zone (EEZ) is almost 200 times larger than the surface of all its islands taken together. The population of Cabo Verde is estimated at 550 000 inhabitants scattered across nine islands[3]. The diaspora of Cabo Verde is estimated to be twice as numerous as Cabo Verdeans living across the archipelago (IOM, 2014[6]).

Cabo Verde is a large ocean state with a thriving ocean economy. Approximatively three quarters of Cabo Verde's GDP[4] are generated from service-oriented activities, such as commerce (e.g. shipping), transport (e.g. maritime interconnections), tourism (e.g. sea, sun and sand destinations) and public services. As the largest economic sector, tourism directly accounts for more than one fifth of GDP and indirectly drives more than two fifths of the overall economy (World Bank, 2021[7]). The government originally aimed at expanding this sector by targeting to receive 1 million tourists annually by 2021 – almost double the size of Cabo Verde's population (Cabo Verde, 2016[8]) – but the COVID-19 crisis has averted reaching this target. Industrial production accounts for less than 20% of GDP, notably including ocean-

[2] Macaronesia comprises volcanic islands in the Atlantic Ocean off the coast of Europe and Africa, such as: Cabo Verde; Azores and Madeira Island (belonging to Portugal); and Canary Islands (belonging to Spain).

[3] Cabo Verde's EEZ expands over almost 800 000 km² and stands out as the largest in the sub-region (comprising Cape Verde, the Gambia, Guinea, Guinea-Bissau, Mauritania, Senegal and Sierra Leone). Compared to its extensive EEZ, Cabo Verde is constituted of only 4 000 km² of land.

[4] Cabo Verde's total GDP in 2019 amounted to USD 2 billion (World Bank, 2021[10]) representing the second smallest economy among ECOWAS counties, preceded only by Guinea Bissau (USD 1.3 billion). Contributions to the national GDP from the nine inhabited islands varies greatly from one island to the other: Santiago (where Praia, the capital, is situated), contributed 53%, São Vicente 15%, Sal 11%, São Antão 6%, Boa Vista et Fogo 5%, São Nicolau 2%, Maio 1% and Brava 1% (INE, 2019[122]).

based activities such as fish processing, salt mining and ship repair. Agriculture yields less than 10% of economic wealth[5] (African Development Bank, 2019[9]).

Tugged mainly by the tourism sector, Cabo Verde's economy has experienced remarkable growth in the past 25 years. A decade after its independence from Portugal in 1975, Cabo Verde embarked on an impressive spree of development, witnessing a remarkable increase of its GNI per capita, from around USD 900 in 1990 to USD 3300 in 2008 and to USD 3600 in 2019 (World Bank, 2021[10]). The four-fold increase in GNI per capita in thirty years has been institutionally backed by a stable democracy[6]. The poverty rate decreased from 49% in 1989 to 37% in 2002 and by 2013 less than three out of ten Cabo Verdeans (26.6%) were living below the poverty line (World Bank, 2018[11]). In addition to economic growth, schooling and life expectancy in Cabo Verde improved, too. It ranked 125th out of 189 countries and territories in the Human Development Index in 2017, maintaining the highest position among the members of the Economic Community of West African States (ECOWAS)[7] (United Nations Development Program (UNDP), 2018[12]).

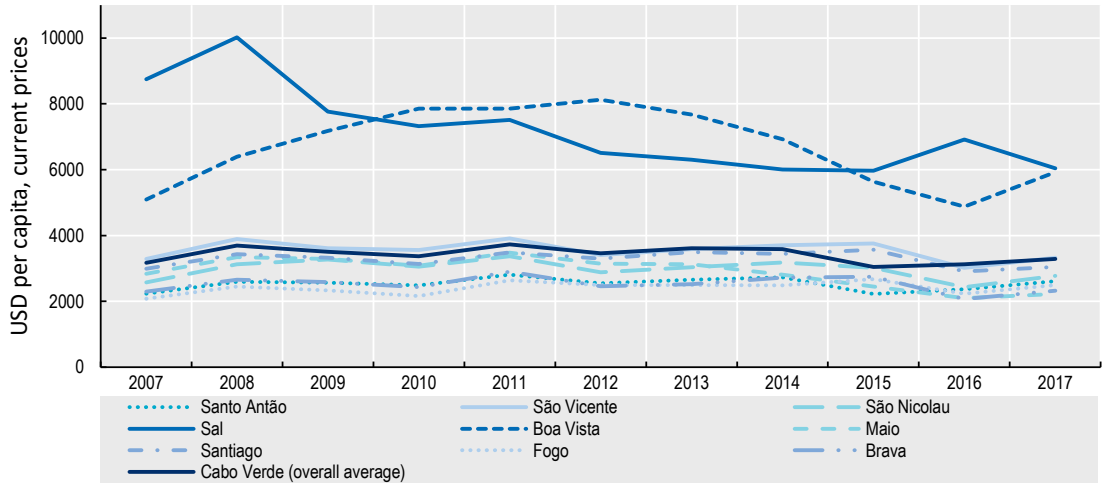
Despite the improved living conditions resulting from economic growth overall, development did not benefit all parts of the population equally. Social inequalities in Cabo Verde are large for a middle income country as indicated by the Gini coefficient, which marked a +12.7% increase between 2007 and 2013 (from 0.45 to 0.51) (United Nations Development Programme (UNDP), 2013[13]). Inequalities can be traced in income differences across islands. In 2017, average income on the two tourist hubs of Boa Vista and Sal was roughly 6000 USD per capita - almost twice as high as the national average and more than two-and-a-half times as high as on the least advantaged island of Maio (Figure 2.1). A further source of social inequality are high rates of unemployment among the country's youth (under the age of 25), which stood at 50% in 2019. This is particularly severe as the country comprises a large young population with 46% of people under the age of 25 (World Bank, 2021[10]).

[5] The main products of Cabo Verdean agriculture are bananas, corn, beans, sweet potatoes, sugarcane, coffee, peanuts.

[6] With a Freedom House Global Freedom score of 92 in 2020, the Cabo Verdean democracy ranks in front of established democracies such as France (90) and the United States (86) and is on par with Spain (92) (Freedom House, 2020[119]). In March 2016, the ruling African Party for the Independence of Cabo Verde was defeated in a free election by the Movement for Democracy, which resulted in a peaceful transition of power. In March 2021, elections were held that led to the re-election of the Movement for Democracy.

[7] Between 1990 and 2017, Cabo Verde witnessed a +2.6 years increase of mean years of schooling, +1.1 years of expected years of schooling, and +8.1 years of life expectancy at birth (73 years of age).

Figure 2.1. Large variations in GDP per capita across islands point to significant inequalities



Source: Authors' visualisation based on (INE Cabo Verde, 2017[14]).

Cabo Verde's graduation from least developed country (LDC) category at the end of 2007 coincided with the financial crisis. Having met two out of the three graduation criteria at two consecutive triennial reviews (GNI per capita and the Human Asset Index, but not the Economy Vulnerability Index (EVI)[8]), Cabo Verde graduated from the LDC category in late 2007. Yet, with a GNI per capita of USD 3600 in 2019, the country's per capita income remains roughly 30% smaller than the average SIDS (World Bank Group, 2021[15]). The loss of LDC status also resulted in increased difficulty to access sources of concessional finance for sustainable development, most notably as concessional finance had to be replaced by non-concessional sources (Morris, Cattaneo and Poensgen, 2018[16]). Furthermore, during the global financial crisis directly subsequent to LDC graduation, the economy suffered a stronger slowdown than most developing countries. This dynamic has posed a major challenge for Cabo Verde's ability to attract finance for development and increases the country's risk of development setbacks.

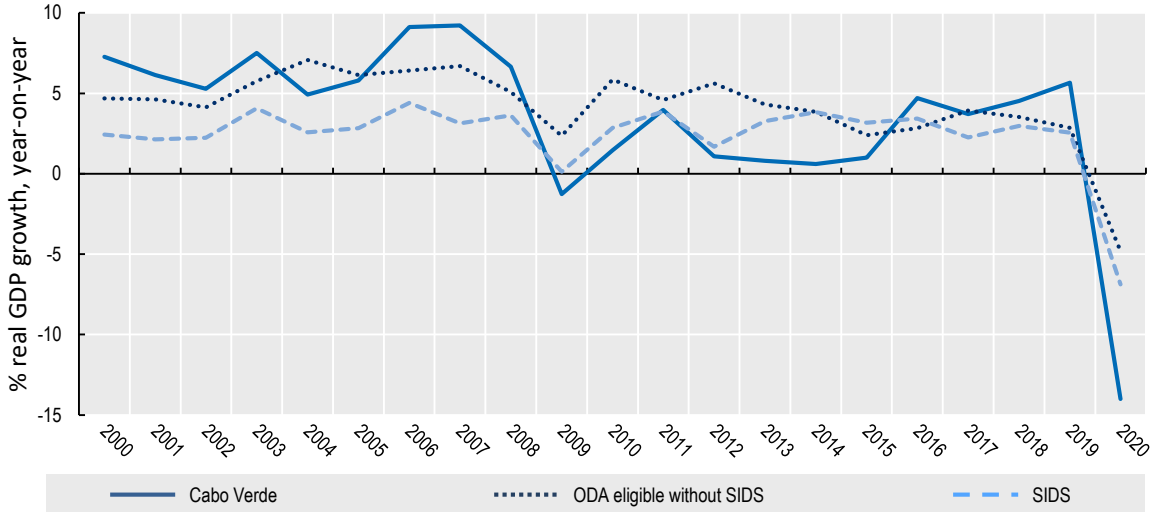
The COVID-19 crisis has had a major impact on the Cabo Verdean economy, which had just begun to recover from the adverse effects of the financial crisis and the indirect impacts of the European debt crisis. Following a period economic stagnation between 2009 and 2015, a surge in tourism, fisheries, and some manufacturing set the country on a trajectory of economic recovery (Figure 2.2). Between 2016 and 2019, GDP growth rates of around 4% signalled a reviving economy that saw large investments in public infrastructure. However, the economic impacts of the COVID-19 crisis in Cabo Verde have been very severe and greater than in other SIDS or other developing countries on average (OECD, 2021[5]). The tugboat sector of tourism, in particular, has experienced a sharp decline as a result of travel restrictions. These factors have led to a contraction in GDP of more than -14% in 2020 compared to an average -6.7% in other SIDS and -4.3% in other ODA-eligible developing countries (Figure 2.2).[9] Having accumulated

[8] The EVI captures an economy's projected reaction to external (e.g. economic or climate-related) shocks. Like many other SIDS, Cabo Verde is considered vulnerable due to its remoteness and small size (OECD, 2018[25]). The EVI is one of the criteria used by the United Nations Committee for Development Policy (UN CDP) and is based on eight indicators: 1) population size, 2) remoteness, 3) merchandise export concentration, 4) share of agriculture, forestry and fisheries in gross domestic product, 5) homelessness owing to natural disasters, 6) instability of agricultural production, and 7) instability of exports of goods and services, 8) the share of population living in low elevated coastal zone.

[9] Other GDP growth projections for 2020 and 2021 have been corrected from a growth of 5% *per annum* before the pandemic hit (African Development Bank, 2020[120]) to a contraction between -4% and -7% in 2020 and around 0% to

over 56 cases per 1000 capita by June 2021, the country has suffered from a higher number of cases per capita than most SIDS and ranked slightly above the world average of 53 cases per 1000 capita (World Health Organization, 2021[17]).

Figure 2.2. Cabo Verde's GDP growth has been strongly impacted by the COVID-19 crisis



Source: Authors' calculations based on (IMF, 2020[18]) and (IMF, 2021[19]).

Record revenue losses resulting from the COVID-19 pandemic risk aggravating surging debt levels and depressing the recovery response. Since 2016, the government of Cabo Verde fuelled the economy through expansive policies, which included extensive investment projects in infrastructure – most notably in large seaports. This led to a significant increase of the archipelago's sovereign debt to the extent that in 2016, the International Monetary Fund (IMF) classified the country at "high risk" of debt distress (IMF, 2016[20]). In 2020, the stock of debt was expected to reach 136% of GDP (IMF, 2020[21]). Unlike other highly indebted countries in the region, Cabo Verde could not benefit from an IMF pardon period on debt service because it accessed its first IMF credit only in response to the crisis and mainly owes to other creditors. However, Cabo Verde has recently accepted to participate in the "Debt Service Suspension Initiative" launched by the G20 and the Paris Club in 2020 (G20, 2020[22]) that was established to create fiscal space for developing countries affected by the COVID-19 crisis. The benefits for Cabo Verde are estimated at 0.9% of its (2019) GDP (OECD, forthcoming[23]). Overall, the impacts from the COVID-19 crisis lay bare some of Cabo Verde's structural challenges, common to other SIDS. Both the global financial crisis and the COVID-19 shock have exposed Cabo Verde's high dependence on few economic sectors and trading partners. Throughout the last decade, its main export partner Spain - which itself was suffering from the European sovereign debt crisis - consistently accounted for more than 30% of exports, even increasing to more than 60% in 2018. Collectively, trade with the EU accounts for over 85% of Cabo Verde's exports and more than 70% of its imports. Additionally, almost half of Cabo Verde's tourists arrive from the EU followed by another fifth from the United Kingdom (INE Cabo Verde, 2020[24]). This concentration is typical for SIDS and driven by small domestic markets and geographical remoteness (OECD, 2018[25]).

The small size of Cabo Verde's economy also leaves the country exposed to large adverse effects of natural disasters. Recently, the country was hit by extreme rainfall (São Nicolãu in 2009, Boavista in

1% for 2021 (African Development Bank, 2020[121]). The most recent estimates by the IMF however paint an even bleaker picture.

2012, São Miguel in 2013, and Santo Antão in 2016), the eruption of the volcano of Fogo (2014-2015 causing damages estimated at USD 30 million, almost 2% of GDP), the first tropical storms to hit the archipelago in modern times (hurricane Fred in 2015 and Rene in 2020) (Government of Cabo Verde, 2015[26]) (American Meteorological Society, 2017[27]), and a strong drought event in 2017, which affected 70 000 people. The small size of Cabo Verde's economy implies that natural disasters have a disproportionally large effect on the economy. The decentralised and remote nature of its islands furthermore render support measures in the aftermath of a disaster more costly and difficult. Furthermore, the effects of climate change stand to increase the likelihood of some disastrous events. The IPCC Sixth Assessment Report points particularly to increases in extreme precipitation patterns linked to the West African Monsoon, which affects Cabo Verde directly (IPCC, 2021[28]). The arid climate and small size of the islands render Cabo Verde particularly susceptible to water shortages, which has been recognised in the country's National Adaptation Programme of Action on Climate Change (Ministry of Environment and Agriculture of Cabo Verde, 2007[29]). The small size and remoteness of the islands imply that Cabo Verde must address these threats swiftly in order to enhance its resilience in the face of increasing climatic changes.

2.2. Economic structure and trends of Cabo Verde's ocean economy

Tourism is the largest sector of Cabo Verde's ocean economy and national economy overall

The ocean economy is a key pillar of the economy of Cabo Verde. Although data on the specific size of the ocean economy are scattered, the ocean economy seems to constitute the backbone of Cabo Verde's economy, with available estimates suggesting that ocean-related sectors make up between half and two-thirds of Cabo Verde's Gross Value Added (GVA). The largest economic sector is by far tourism, which in Cabo Verde is essentially ocean-oriented. The GVA of the ocean economy of Cabo Verde reaches two thirds of total GVA when upstream and downstream economic activity induced by tourism is included in the estimate. Despite the evidence that the ocean economy is of paramount importance, there is a lack of precise national accounts on the ocean economy in Cabo Verde. To fill this gap, the National Statistical Office (INE) is currently engaged in a satellite accounting exercise, whose advancement is however hampered by resource constraints and lack of data (INE, 2020[30]). Building statistical capacity in this area might guide policy in a more informed manner. International partners could endeavour to provide support in this area following best practises from international experience (OECD, 2021[31]).

Cabo Verde's economy is strongly dominated by its service sector, and growth is driven to a large extent by maritime tourism. From 2007 to 2017, the service sector has contributed a consistent 70%-71% of the country's GVA (INE Cabo Verde, 2021[32]). Meanwhile, the share of the population working in services has increased from 58% in 2011 to 68% in 2019, mostly driven by a surge of service-sector employment in rural areas (INE Cabo Verde, 2020[33]). Although overall GVA in the service sector grew at the economy-wide average rate of 3.6% per annum between 2007 and 2017, growth in the hospitality sector was far greater at 11.8% per annum during the same period. This reflects the strong growth of tourism on the archipelago and exemplifies Cabo Verde's dependence on tourism revenues. Hospitality alone made up 8% of Cabo Verde's GVA in 2017. Although expenditures in hospitality are to a large part attributable to tourists, they fail to capture the entire economic benefit incurred from visitors. A satellite accounting exercise for the tourism sector conducted by the INE for the years 2011-2014 found that the direct contribution of tourism to GDP rose from 19% to 21% during the period. This exercise took into account hospitality, transport services, as well as the purchase of further goods and services by tourists (INE Cabo Verde, 2014[34]). Nonetheless, the satellite accounts omitted upstream and downstream activity arising from tourism. For instance, tourism constitutes one of the main purposes for FDI-flows to the country. As such, a considerable part of the construction activity making up another 11% of Cabo Verde's

GVA in 2017 are indirectly financed through tourism. Overall, the direct and indirect effects of tourism combined have been estimated to contribute as much as 45% of GDP in 2018. Meanwhile, 39% of jobs in 2018 were estimated to be based on tourism either directly or indirectly (World Travel and Tourism Council, 2018[35]).

The impacts of COVID-19 on tourism have been detrimental to the economy. Travel restrictions and the measures against unhindered proliferation of the COVID-19 pandemic have led to a sharp drop in tourist arrivals. The number of ship passengers (domestic and foreign) fell by 29% from 2019 to 2020 with arrivals in Q2 falling by as much as 80% year-on-year (ENAPOR, 2021[36]). These numbers conceal the devastating impact that the near annihilation of tourism revenues has brought upon an economy centrally dependent thereupon. This is because most tourists arrive by plane, where arrivals particularly in Q2 and Q4 2020 fell by between 90% and almost 100% year-on-year respectively (United Nations, 2021[37]). The pandemic resulted in a marked decrease of active hotel establishments with more than 56% of hotels (temporarily) going out of business in 2020. Employment in the hotel industry alone fell by more than 82% between 2019 and 2020 (INE Cabo Verde, 2020[38]). To restore trust in the health measures on the archipelago, the government has brought forward a testing regime for inter-island travel and established a web-platform to inform potential tourists of the health measures in place[10].

Fisheries and fish-processing form the centrepiece of Cabo Verde's non-service economy and dominate its exports

Marine fisheries and related downstream industries are the largest non-service sectors in Cabo Verde's ocean economy. Official data point to a small direct contribution of fisheries of only 1% of GVA between 2007 and 2017 (INE Cabo Verde, 2021[32]). This data, however, is affected by the high level of informality that characterises artisanal fisheries, and the FAO estimates that the true contribution of fisheries could lie between 3% and 4% of GVA (FAO, 2020[39]). Downstream industries that depend on fisheries also dominate the country's goods exports with processed and unprocessed fish accounting for almost three quarters (72%) of the country's overall exports in 2019 (UNSTATS, 2021[40]). The fish processing sector is furthermore growing much faster than the overall economy. GVA in the food processing industry of Cabo Verde grew at an average rate of 9.4% per annum between 2007-2017 compared to 3.6% for economy-wide GVA (INE Cabo Verde, 2021[32]). The sector is furthermore concentrated around very few companies (section 2.3).

Steps are being taken to expand aquaculture, but this industry is still in its infancy. Globally, aquaculture is regarded as a growth sector that could help maintain food security while sparing local ecosystems from increased pressure due to overfishing. At the same time, the introduction of marine aquaculture introduces new challenges and potential threats to the environment, which include accidental pollution, breakouts of fish which could harm native fish stocks and an adverse pressure of increasing need to catch fish for feed, as most species currently farmed in aquaculture rely on wild-catch for feed (High Level Panel for a Sustainable Ocean Economy, 2020[41]). Prior to 2018, there was no aquaculture operating at an industrial scale in Cabo Verde. The potential to produce fish in aquaculture has been outlined in a 2010 report by the National Institute on Fisheries Development (INDP). This report reviews the potential of aquaculture based on native species, but also produces impact assessments for the introduction of new species to the archipelago (Box 2.1). The first 3 tonnes of aquaculture-harvested fish have been reported by the INDP in 2018 compared to over 14 000 tonnes of wild-catch fisheries. Despite its small current volumes, the aquaculture industry can be expected to grow considerably in the near future (INDP, 2010[42]), especially in light of the global forecasts pointing to aquaculture replacing wild-catch as the key driver of fish production growth in the future (FAO, 2018[43])

[10] The website http://www.caboverdesafe.com/ is designed to induce prospective tourists to come to the island state.

Box 2.1. Aquaculture as an emerging sector in Cabo Verde

A number of pilot projects in Cabo Verde have recently set out to prove the economic feasibility of aquaculture in the archipelago. Private investors are now seizing the opportunity to further develop this niche. Notably, the aquaculture sector in Cabo Verde is developing using a range of farming methods and species farmed. Although most of these projects are pilots and therefore still in their infancy, the diversity of methods indicates the feasibility to foster a diversified and promising industry in the near future. Economic viability of the sector could also serve as a way to attract private investment to the island and therefore diversify the FDI portfolio of Cabo Verde away from tourism.

An aquaculture farm near Mindelo seeks to reduce imports of shrimp for local consumption: Cabo Verde imports up to 120 tonnes of shrimp annually for consumption (Ocean Science Center Mindelo, 2017[44]). An aquaculture project established in Cabo Verde seeks to reduce the dependence on these imports by locally producing shrimp in aquaculture on the island on Sao Vicente and ultimately transition from an importer to an exporter of shrimp[11]. Additionally, a cooperation with a German supplier of tidal energy converters serves as a pilot for this technology on the island and in cooperation with wind and solar capacities ensures a renewable energy supply for the project. A higher degree of autarky in this market will free up foreign currency for investment. The availability of locally produced shrimp facilitates the goal of supplying the tourism sector with adequate locally sourced supplies of seafood (World Bank, 2019[45]). It will also play a role in reducing Cabo Verde's vulnerability to external economic shocks in this area. The autonomous production of goods for local consumption and production forms part of Cabo Verde's goal to become a circular economy in the mid-Atlantic.

The introduction of aquaculture of Tilapia Species as live-bait for tuna fisheries could increase the efficiency of wild tuna fishing. Fishing vessels for tuna have to spend considerable amounts of time during the tuna season searching for live-bait to subsequently catch tuna using pole-and-line techniques. The limited availability to instead purchase live-bait of adequate size limits the capacities of Cabo Verde's fisheries. A feasibility study conducted by FAO and INDP has concluded that introducing the Tilapia species to aquacultures in Cabo Verde has the potential to increase significantly the efficiency of pole-and-line fisheries of tuna while reducing environmental risks associated with loosely regulated imports of live-bait. Furthermore, the environmental risks posed by escaped Tilapia as an invasive species was deemed manageable (INDP, 2010[42]). Although large-scale production of Tilapia has so far not taken place, projects are planned to scale up aquaculture of Tilapia for this purpose.

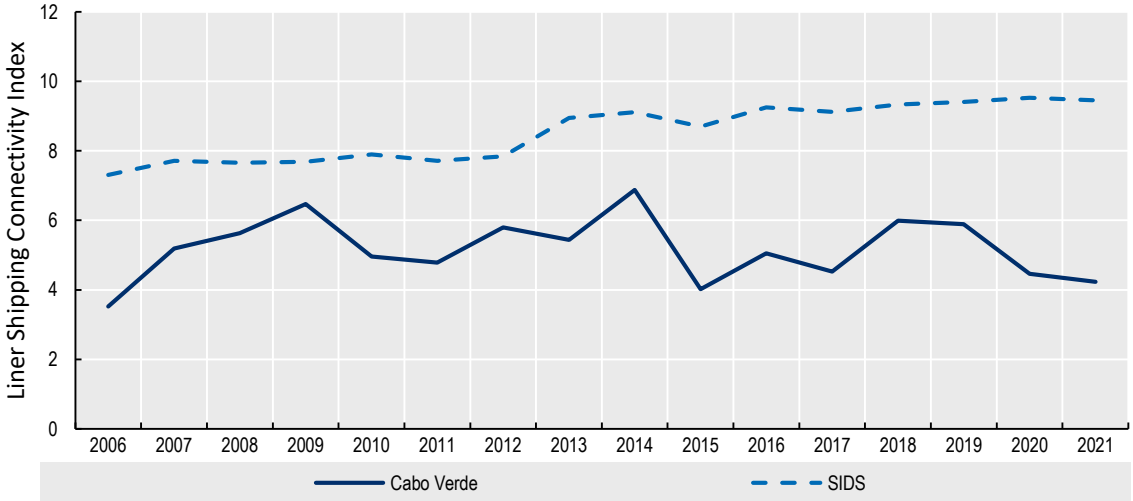
A new aquaculture project on Sao Vicente relies on innovative and cutting-edge full-cycle hatching and farming techniques to harvest tuna. A Norwegian company is establishing a full-cycle aquaculture plant for Atlantic Bluefin Tuna on Sao Vicente (Nortuna, 2021[46]). As opposed to more established capture-based aquaculture for tuna (also called fattening operations), full-cycle aquaculture does not rely on wild catch of juvenile fish to populate the aquaculture facilities at each rearing cycle. Therefore, it has the potential to alleviate pressures on the wild population of tuna and to substitute wild catch (FAO, 2021[47]). Full-cycle aquaculture for Atlantic Bluefin Tuna is an emerging technology and the farm will serve as a pilot project for this method. As Atlantic Bluefin Tuna belongs to the most important commercial species fished in Cabo Verde, this project has the potential to transform and increase fish production in the archipelago without the equivalent associated increase in pressure on local ecosystems.

[11] In 2019 the net import of crustaceans amounted to USD 1.46 million (UNSTATS, 2021[40]).

Despite its importance for the island's development strategy, ship connectivity has remained stagnant throughout the last decade

Port infrastructure and maritime connectivity are highly important for large ocean states like Cabo Verde. In order to enhance economic integration both among the different islands within the country and internationally, maritime transport infrastructure is indispensable. The means by which either type of maritime connectivity can be achieved differs, however. Whereas international connectivity requires investment in few centralised ports, improving domestic connectivity requires the maintenance of smaller, decentralised landing points and the either profitable or subsidised creation of regular shipping services. With 15% of GVA in 2017, the transport and logistics sector is the largest sub-sector detailed in Cabo Verde's national statistical accounts. Cabo Verde's location in the mid-Atlantic serves as a strategic asset for the country, which has prompted the government to seek to turn it into a transport hub in the mid-Atlantic as a means for development. This would help integrate Cabo Verde into the world economy and increase the presence of high value-added maritime services. The strategic importance has led the government to actively seek large investments in its port infrastructure and promoted the expansion of the sector by providing tax cuts on investment, particularly when new jobs in the sector are created. Despite these ambitions, the Liner Shipping Connectivity Index depicted in Figure 2.3 indicates that, over the past 15 years, there has been no significant increase to Cabo Verde's maritime connectivity, and the index in 2021 ranks below levels achieved when Cabo Verde graduated from LDC status. Furthermore, the archipelago remains less connected than the average SIDS (UNCTAD, 2021[48]).

Figure 2.3. Cabo Verde's maritime connectivity remains below that of peers according to the Liner Shipping Connectivity Index



Source: Authors' calculations based on (UNCTAD, 2021[48]).

The establishment of Cabo Verde as a local transportation hub aims at growing auxiliary industries such as ship repair, warehousing, distributional logistics and bunkering and to turn Cabo Verde into an international hub for high value-added maritime services. As part of a new special economic zone on Sao Vicente, the government plans to privatize the existing ship repair facility (Cabnave). This facility, which is in need of major investments, continues to receive and repair ships from Europe and China. Cabo Verde's geographic location in combination with its ambition to become a trans-shipment hub in the region provide an opportunity to grow ship repairing activity on the archipelago. In a similar vein, the provisioning of fuel and supplies to ships that pass through Cabo Verde's Porto Grande on Sao Vicente

(called bunkering in industry jargon) is a critical component of transforming the country into a maritime platform in the Atlantic.

2.3. Socio-economic sustainability trends

While driving economic growth, the tourism sector has contributed to a polarised distribution of benefits

Cabo Verde's tourism sector has traditionally been centred around sea, sand and sun tourism and heavily concentrated on two islands. The island of Sao Vicente and Sal jointly accounted for 78% of foreign arrivals and 92% of foreigners' hotel stays in 2019 (INE Cabo Verde, 2019[49]). A recent World Bank study found that among these, a share of more than 70% was channelled through only one large international tour operator (TUI/Thomson) (World Bank, 2019[45]). The stark concentration of the industry raises the question whether a transformation towards a more diffused, community-based tourism could extend social benefits of touristic activity to a broader range of Cabo Verde's population. This in turn could incentivise and fund the development of improved connectivity and integration of the more remote islands of the archipelago, help protect natural treasures and cultural attractions and provide resources for improved waste management systems. The government of Cabo Verde has brought forward a long-term strategy for the tourism sector that outlines the aim to diversify the local tourism industry. This is a positive step and is in line with similar efforts by other countries that have traditionally attracted sea, sand and sun tourism in often foreign-owned resorts. For instance, Indonesia is developing peripheral tourist destinations to complement tourism on the island of Bali with its "10 New Bali's Project". A number of Caribbean countries including the Turks and Caicos Islands also aim at re-shaping their image from pure beach-side destinations by promoting visits to places of cultural heritage, natural beauty and history (Cameron and Gatewood, 2008[50]). These transformations require thoughtful investment, but the recovery from the COVID-19 pandemic provides a window of opportunity to instigate change in this direction.

Box 2.2. Cabo Verde's Grand Strategy for the Sustainable Development of Tourism

The government's Grand Strategy for the Sustainable Development of Tourism in Cabo Verde 2018-2030 (GOPEDS-TURISMO) outlines the need and opportunity to diversify its tourism to a more inclusive and diverse offer of services for foreigners. The plan identifies six areas of growth:

- Continued investment in sea, sand and sun tourism (on Boa Vista and Sal);
- Rural and nature-based tourism (including the volcanic island of Fogo and the northernmost island of Sao Antao);
- Urban and event-based tourism;
- Cruise-ship tourism;
- Circuit tourism involving various destinations on the archipelago;
- Nautical and sports tourism.

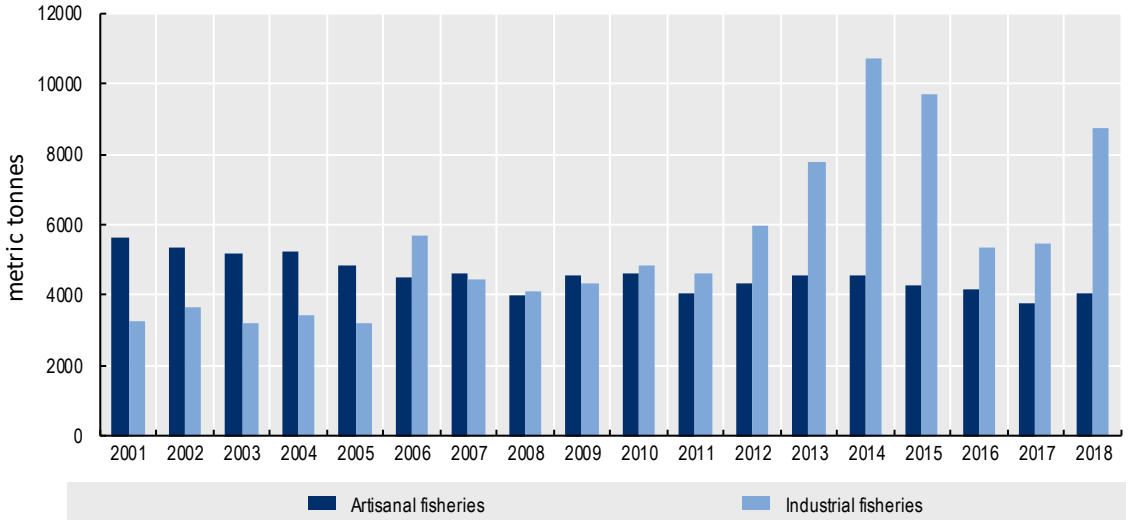
The GOPEDS-TURISMO put forwards four scenarios for the future development of local tourism, the most pessimistic of which envisaged reaching 1 million arrivals by 2025 and full employment through direct and indirect increase in tourism based jobs by 2030. This led to the prediction that in the medium-term, Cabo Verde would turn from a country characterised by emigration into one characterised by immigration (Cabo Verde, 2018[51]). The disastrous impacts of the COVID-19 crisis have evidently dented these plans and the focus is now on re-building tourism. This provides the opportunity to build back better and increase the inclusive growth of the sector.

The tourism sector has so far been widely de-coupled from local supply chains. In 2018, only 5-10% of food requirements in the hotels on Boa Vista and Sal were catered by local producers. A survey of hotel operators conducted by the World Bank found that, despite these low rates, there is sufficient supply of local products, particularly fresh produce with high perishability such as fresh fish, seafood, fruit, vegetables and meat (World Bank, 2019[45]). To achieve a higher level of local sourcing however, cost-effective inter-island connectivity between the touristic centres and the islands featuring agricultural production is important. It was noted anecdotally that many local vessels serving inter-island links operate not on a regular schedule but rather when their transport capacity is reached. This has inhibited the establishment of reliable supply chains that the hotel operators require. Recent improvements in scheduled services through the establishment of CV Interilhas – a local transport company that is majority owned by the Portuguese ETE group and was established in 2019 – were partly aimed at tackling this issue (CV Interilhas, 2021[52]). CV Interilhas has received a 20-year concession to operate a maritime inter-island transportation network. The goal of the concession was to serve each of the 9 inhabited islands with a scheduled connection at least every 48 hours. The company is currently operating 7 shipping lines with a fleet of 6 vessels and offers regular scheduled transport linkages between the 9 islands as requested under the concession (CV Interilhas, 2021[52]). Under these improved circumstances, a renewed assessment of food accessibility would be helpful to shed light on its impact on local supply chains and to identify the most relevant bottlenecks. One such bottleneck is a lack of cooling infrastructure on islands with agriculture, which negatively affects the quality and sanitary standards of locally sourced produce. Another inhibiting factor is the lack of quality assurance certificates and food safety checks of produce, which is required for food supplied to hotel operators. The government has attempted to improve the post-harvest handling of agricultural produce through the creation of post-harvest centres that centralise the treatment of produce and supply quality checks. Unfortunately, these centres have been under-funded and under-utilised due to the charged fees as well as remote geographical location on the respective islands, which renders access to them costly for small-scale producers.

The fisheries sector suffers from the impacts of illegal, unreported and unregulated (IUU) fishing and strong concentration in the processing industry

The structure of fishery sector is transforming from predominantly small-scale artisanal fisheries to large-scale operations, requiring accompanying measures for local fishers. Whereas artisanal fisheries accounted for two thirds of landings in 2001, this partition had been reversed by 2018, where industrial landings made up 69% of landings. The reversal in shares was primarily driven by a speedy increase in fish volumes landed industrially. Meanwhile however, artisanal fisheries experienced a decline not only in market share but also in terms of total volumes, which fell by 29% between 2001 and 2018 despite a 44% increase in overall landings across all types of fisheries. The reduction in artisanal catch reflects increased difficulty for artisanal fisheries to operate profitably. This development has been partly driven by the overfishing of some predatory species in deeper waters driven by large vessels operating in the area (Cabo Verde, 2015[53]) (see also section 2.4).

Figure 2.4. Evolution of artisanal and industrial fishery landings



Source: (FAO Representation to Cabo Verde, 2019[54])

A duopoly governing local tuna processing leads to low prices for local semi-industrial operators of fishing vessels, inhibits the further development of Cabo Verde's higher-margin fisheries industry and excludes artisanal fisheries from accessing export markets. The local market for tuna processing is highly concentrated around two tuna processing companies. The Spanish-owned Frescomar is one of the leading employers in the country and accounts for a bulk of Cabo Verde's overall exports and as much as 2% of Cabo Verde's GDP[12]. The smaller national company SUCLA caters more towards the domestic market (UNIDO, 2016[55]). The lack of an operational competition authority has meant that public interventions to curb this development have remained largely ineffective (UNCTAD, 2018[56]). Furthermore, the processing facility operated by Frescomar relies to a large extent on imports of frozen fish into Cabo Verde. A third tuna processing facility partly owned by Frescomar relies purely on supplies from European fishing fleets combined with imported fish (European Commission, 2018[57]). Overall, the market concentration and specific requirements made by the fish-processing plants currently in operation render it difficult for artisanal fisheries to access higher-margin sales for the export market and instead restricts them to local markets, which are often informal, reliant on personal relationships and offer limited mark-ups (UNIDO, 2016[55]). This implies that artisanal fisheries are highly vulnerable to external shocks and disruptive events to their targeted fish stocks or their equipment.

A sustainable fisheries agreement with the EU could further strengthen Cabo Verde's local capacities. A sustainable fisheries agreement with the EU allows a number of EU vessels to engage in tuna fishing until 2024. The EU pays Cabo Verde around EUR 500 000 annually to gain access to fishing tuna and tuna-like species in its EEZ. Additionally, the vessel operators have paid a joint average of EUR 490 000 annually in the 2015-2017 period[13]. This arrangement has been in place in different forms since the 1990s, and the current agreement has been renewed on a rolling basis since 2007. The agreement includes the provision of national observers to supervise activity on EU vessels during fishing operations. This provision has not been applied until 2018 due to the lack of a standing corps of observers in Cabo

[12] Indirectly, Frescomar is estimated to account for as much as 4% of GDP (European Commission, 2018[57]).

[13] During this time and prior to the renewal of the agreement, the benchmark access fee paid by the EU itself stood at only EUR 275 000 annually.

Verde (European Commission, 2018[57]). Under the West Africa Regional Fisheries Program, the concessional arm of the World Bank (i.e. the International Development Association) in co-operation with the Global Environment Facility have provided finance for the training of observers in 2016 (World Bank, 2017[58]). Since 2018, a total of 22 maritime safety inspectors have been in employment working from the port of Praia. However, the position of fishery inspector has only been established within Cabo Verde's legal framework in 2021 (Inforpress, 2021[59]). In its evaluation study of the agreement 2014-2018, the European Commission pointed out that monitoring of the EU vessels by Cabo Verde has proven problematic because the Vessel Monitoring Systems installed on EU vessels are incompatible with the systems operated by Cabo Verde (European Commission, 2018[57]). The lack of oversight of foreign vessels active in Cabo Verde's EEZ may contribute negatively to rising pressures on local fisheries. This is particularly true for the practice of transhipping, where fish caught are not landed in Cabo Verde but rather exported directly thus increasing the difficulty to patrol and verify the stocks caught.

Extensive by-catch from industrial fisheries negatively impacts local artisanal fisheries and marine ecosystems. Disturbance of deeper waters' ecosystems also has an effect on coastal artisanal fisheries targeting smaller fish species. Some shark-species in particular are subject to targeted IUU fishing driven by the economic value of their fins in East Asian markets. The declining population of shark in Cabo Verde's EEZ increases ecological pressure on a species important to the balance of the ecosystem, which affects fish populations also in coastal areas. This in turn negatively affects the ability of artisanal fisheries to operate profitably while destabilising the local ecosystem (Cabo Verde, 2015[53]). Prior to 2013, it was possible for EU vessels to legally engage in shark finning. A number of European vessels actively engaged in this practise under the fisheries agreement between Cabo Verde and the European Union (European Commission, 2016[60]). Between 2009 and 2012, a large fraction of species caught by European vessels in Cabo Verde's waters were sharks, which increased pressure on these predatory species and contributed to changes to the local ecosystems (Cabo Verde, 2015[53]). This in turn affected the ability of coastal communities to engage in their traditional fishing activities. It is therefore important to involve coastal communities in the management of marine resources. This is especially important when it comes to the establishment of Marine Protected Areas, which can only be effective if general acceptance can be achieved in the population. Furthermore, local communities have considerable political power over local spatial planning policies.

The fisheries sector remains segregated by gender. A 2018 report by UNWOMEN has outlined the high degree of segregation between genders in the fisheries sector (UNWOMEN, 2018[61]). Despite noting that many of the policy objectives towards political gender equality in Cabo Verde have been met, women particularly in rural communities remain largely excluded from fishing activity and rather engage in artisanal fish processing or alternative economic activities such as sand collection (Ferreira et al., 2021[62]). To guarantee an inclusive development of the fisheries sector that benefits the society more widely it is important that the differential impact of fishery policies for all genders is taken into account. This includes the need to ensure that access rights to fish resources do not work against the empowerment of people belonging to disadvantaged groups (Blue Action Fund, 2020[63]). It also requires the collection of disaggregated data on the issue.

2.4. Environmental sustainability trends

Climate change and other excessive anthropogenic pressures threaten Cabo Verde's ecosystems and the economic activities that depend on them

As a small island development State, Cabo Verde has one of the world's lowest greenhouse gas emissions per capita. However, it is among the countries most vulnerable to climate change and it suffers from widespread natural resources over-use. Available projections suggest that by 2100, temperatures can be expected to increase up to 4ºC and rainfall to decrease by up to 20% in Cabo Verde (Ministry of

Environment and Agriculture of Cabo Verde, 2007[29]). In the next 10 to 20 years, impacts from climate change will include seasonal water shortages, more storms, floods and droughts, and a shorter rainy season. These will result in growing challenges in terms of water resources availability, food and energy security, and desertification.

In the marine and coastal environments, climate change will result in coastal erosion and sea-level rise. According to Cabo Verde's own definition in the Voluntary Report on the Agenda 2030, 80% of Cabo Verde's population resides in the immediate vicinity of the coast (Cabo Verde, 2018[64]). Erosion of coast lines poses a great risk to the country that has intensified because of coastal sand-mining for construction projects as well as illicit sand-mining (GFDRR, 2020[65]). The majority of Cabo Verde's islands are at medium risk of experiencing a major coastal flood, and the island of Brava is at high risk of landslide in the medium term (GFDRR, 2021[66]). Therefore, critical infrastructure will have to incorporate resilience measures against sea level rise or risk exposure to climate change-induced damages. However, most port projects and other critical infrastructure that constitute long-term investments so far have not yet taken sea level rise into account in their planning.

Changes in precipitation patterns put the country at risk of droughts in the future. Cabo Verde is already experiencing water scarcity and uses as much as 50% of this valuable resource to irrigate agricultural lands (World Bank, 2021[67]). Changing rainfall patterns with extended periods of drought therefore constitute a serious threat to the country's food security and water supply. Increasing desalination capacity would help alleviate this pressure but requires large investments in both energy and desalination infrastructure and adequate management of waste and by-products.

The combined effects of climate change, overfishing and pollution threaten Cabo Verde's unique biodiversity

As one of the 11 marine biodiversity hotspots in the world, Cabo Verde's marine biodiversity is at risk. The hotspots approach pioneered by Norman Myers defines a biodiversity hotspot as an area hosting a large number of endemic species that is exhibiting a significant loss of biodiversity and must thus be considered threatened (Myers, 1988[68]). This concept applied to marine ecosystems has identified 11 such biodiversity hotspots globally including the waters and coral reefs of Cabo Verde. A recent study of endemic plants in Cabo Verde found that of the roughly 120 species (taxa) endemic to the archipelago, 78% are currently threatened (Moreias et al., 2016[69]). These facts signal the fragility of ecosystems in Cabo Verde and renders it imperative to weigh policies against their potential impact on biodiversity in the archipelago. Cabo Verde is home to many fragile ecosystems (e.g. salt water marshes or seagrass beds (Creed, 2016[70])) and species, including cold and warm water corals, five types of sea turtles, over twenty types of whales, dolphins and porpoise (IUCN, 2021[71]). It is also an excellent research base offering unique insights for a variety of research disciplines (e.g., chemical/physical/biological oceanography, atmospheric chemistry, meteorology, geology, etc.). The "Ocean Science Center Mindelo" is a joint facility of the IMar - Instituto do Mar and supported by the GEOMAR Helmholtz Centre for Ocean Research from Germany. The Centre strengthens capacities and academic education in Cabo Verde and contributes to long-term ocean observation and field research in the tropical Northeast Atlantic region.

To ensure a sustainable use of fish resources, it is imperative to take into account natural limits to depleting fish stocks. The state of fisheries in Cabo Verde is overseen by National Fisheries Development Institute (INDP), which conducts regular surveys on the status of fish stocks and landings. The main fish stocks for Cabo Verde's fisheries consist of a variety of tuna species, many of which – owing to their migratory behaviour – are exploited seasonally. Following estimates by the International Commission for the Conservation of Atlantic Tunas – of which Cabo Verde is a member – some tuna species such as Yellowfin Tuna or Bigeye Tuna targeted disproportionally by foreign vessels active in Cabo Verde's EEZ are overfished (ICCAT, 2018[72]). Yellowfin Tuna, however, was also the second most landed tuna species in the country's most important industrial fisheries port of Porto Grande amounting to 17% of

tuna landings in 2019 (ICCAT, 2019[73]). Local fisheries targeting small pelagic fish stocks for sale in the domestic market have been reported to occasionally violate closed season rules thus putting into jeopardy the reproductive cycle of these stocks. The species offering highest profit margins in local fisheries are four types of lobster endemic to the archipelago. Due to long life spans and slow reproduction rates, these are highly susceptible to over-exploitation. Despite no comprehensive studies on three of the four lobster species, there are signs to suggest that their exploitation is at the limit of sustainable exploitation. For pink lobster - the only local deep-water lobster species – a regime with only four licensed operators has been established (UNIDO, 2016[55]).

Curbing IUU fishing is critical for achieving a more sustainable fisheries sector. IUU fishing poses a great threat to marine ecosystems. Globally, the practise accounts for significant shares of overall fishing activities, which result in losses for legal fisheries on the order of 10-30% (Agnew et al., 2009[74]). Globally, it is estimated that the direct exploitation of organisms (mainly fishing) has had the largest relative impact on marine ecosystems, followed by land-/sea-use change, including coastal development for aquaculture and infrastructure, and pollution (IPBES (2019[75])). In line with this global trend, The 5th Report on the Status of Biodiversity in Cabo Verde (Cabo Verde, 2015[53]) points out that fish volumes in coastal water have been diminishing. The report clearly points out that certain species of fish are over-exploited, including because of by-catch from industrial fishing, and that this issue has generated both ecological and socio-economic negative impacts (IPBES, 2019[75]). Artisanal fisheries in particular are highly affected by this trend, which increases efforts and therefore costs for artisanal fisheries.

Effectively combatting IUU fishing exceeds the current capacity of Cabo Verde's coastal security forces, but technological improvements might improve this capacity in the future. IUU fishing in Cabo Verde's waters is conducted by both international vessels intruding into Cabo Verde's EEZ without registering and national fisheries not or under-reporting their catch. Due to the country's extensive EEZ, Cabo Verde is currently unable to effectively and comprehensively patrol its waters despite efforts by the Coast Guard. Cabo Verde has implemented the FAO's International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing. Building capacity to survey and effectively govern fisheries should therefore constitute a central priority for the country and the country's supporting partners. Portugal has engaged in bilateral support towards capacity building of the Coast Guard of Cabo Verde. Nonetheless, physical patrolling of Cabo Verde's vast EEZ will likely prove insufficient if not accompanied by other policies and technologies. Efforts have further been undermined by the fact that the Vessel Monitoring Systems (VMS) installed on EU fishing vessels were incompatible with the systems in place in Cabo Verde and delayed updates have led to periods during which the country was unable to effectively monitor EU vessels active in its EEZ (European Commission, 2018[57]). Cabo Verde does not stand alone with this challenge. Many large ocean states are finding that effective control of fishing operations in their waters exceed their current capacities. Some have resorted to policy measures that render fishing activities more easily controllable. For instance, Indonesia has outlawed transhipment in its EEZ, which either limits the amount of time fishing vessels can spend fishing in its EEZ or requires them to come into port where controls are more readily implemented. However, Cabo Verde's ambition to become a logistic hub in the mid-Atlantic might render such extreme policies less attractive to the country. The operation of a VMS by Cabo Verde also does not tackle the issue of so-called *dark vessels* that enter Cabo Verde's EEZ with the intent to engage in fishing without complying with legal requirements to be equipped with or activate VMS transponders. New satellite-based technologies are increasingly used to detect such vessels and facilitate maritime surveillance (OECD, 2021[76]). Cabo Verde could strive to be included in recently launched projects that aim to equip SIDS with this technology, which would allow the Coast Guard to deploy their limited assets in the most efficient fashion to effectively tackle IUU fishing (Government of Canada, 2021[77]).

The combined effects of overfishing and a rise in water temperature put at risk Cabo Verde's marine ecosystems and food security. Cabo Verde's Strategic Sustainable Development Plan recognises that both overfishing and a rise in water temperature threaten the marine habitats of local fish. This in turn

would not only greatly impact the economic foundation of coastal communities but also impact the country's food security. Particularly, the numerous coral reefs around the archipelago are at risk of suffering from an increase in ocean temperatures and ocean acidification. Protection of coral reefs in Cabo Verde is instrumental in ensuring long-term attractiveness as a tourist destination. Furthermore, the West Africa region is projected to be one of the world regions most negatively affected by climate change in terms of productivity of fisheries. The stress induced on local ecosystems by changes in water temperature and acidification must be reflected in local governance of fisheries in order to not irreversibly strain local fauna. However, this must be weighed against ensuring food security. The increased use of mariculture offers the potential to fill this gap (High Level Panel for a Sustainable Ocean Economy, 2020[41]) and positive examples exist in Cabo Verde (Box 2.1). The increasing use of new technologies to survey the ocean can also prospectively help shape an ecosystem-based fishery policy and inform protection efforts at reduced costs (OECD, 2021[76]).

A number of seabird species unique to Cabo Verde are increasingly threatened by the direct and indirect effects of human activity. Around one in five bird species indigenous to Cabo Verde are seabirds. These birds rely on coastal rocks and terrains for reproductive purposes, at which stage they are highly vulnerable to disruptions by human activity both directly and indirectly. Legislation for the protection of biodiversity and educative initiatives of local communities in recent years have, in conjunction with increased patrolling and surveillance of breeding sites, reduced the direct impacts on the seabird populations in some locations. However, increased touristic activity around breeding sites could threaten this progress. Furthermore, invasive species that proliferate through human waste left in the environment – particularly cats and rats – pose threats to the eggs of breeding seabirds that are generally not adapted to defend their young from these large terrestrial predators. Therefore, effective and environmentally sound waste management practises and the management of invasive populations are required to safeguard the stability of marine and coastal ecosystems below and above the surface (Cabo Verde, 2015[53]).

The effects of inadequate environmental safeguards and a lack of waste management infrastructure jeopardise Cabo Verde's ecosystems and natural beauty

Inadequate environmental safeguards in the tourism sector have contributed to deteriorating coastal and marine environments. Environmental practises by tourist resorts have repeatedly been criticised as not taking sufficient account of their local impacts despite being critically dependent on Cabo Verde's natural capital and beauty. This extends to badly managed beaches, limited impact assessment of construction projects and solid waste management by tourist resorts, which threaten local endangered species (World Bank, 2018[11]). Further, Cabo Verde is home to a number of endangered sea turtles and unique sea bird species. The main breeding grounds for these turtles can be found on the beaches of the island of Boa Vista, which hosted 63% of identified sea turtle nests in 2013 (Cabo Verde, 2015[53]). Many of the turtles nest in the vicinity of one of the country's touristic hubs. These turtle populations are a major attraction point of the archipelago and were linked to major sources of income through turtle watching. In 2016 alone, the NGO Project Biodiversity linked Cabo Verde's turtle population to an EUR 900 000 industry comprising turtle watching tours and conservation efforts (Project Biodiversity, 2021[78]). A continuous increase in the monitoring of known nesting sites of sea turtles by the government and private actors constitutes an effective measure to protect these species during their vulnerable spawning season (Cabo Verde, 2015[53]).

A lack of infrastructure for solid waste management as well as limited awareness among the population has led to significant plastic pollution in the ocean and coastal areas, which negatively affects ocean-based economic activities. The problem of plastic waste in the ocean is threatening marine wildlife and human health, damaging equipment of fisheries and leading to polluted coastlines. This in turn threatens the appeal of the archipelago as a tourist destination and decreases the productivity of coastal economic activities such as artisanal fishing and the collection of sand, which support a significant number of coastal communities. A recent study of two small coastal communities on the country's largest

island of Santiago has identified two main causes of increased plastic pollution in Cabo Verde (Ferreira et al., 2021[62]). First, the absence of infrastructure and know-how for solid waste management induces the local population to dispose of their solid waste in the community's surroundings, ultimately leading to leakage into the ocean. Second, a lack of awareness of the environmental impacts of this practise among parts of the population reinforces this behaviour. Third, building on increased awareness, a reduction in the use of plastic products – especially single-use plastic - could prove effective especially in the tourist resorts but also throughout the archipelago. Local artisanal fisheries have reported damages to their equipment arising from plastic debris in the ocean and the presence of chunks of plastic in fish, including invisible microplastic. Improving infrastructure and awareness for environmentally sound solid waste management practices is therefore vital to protect both marine and coastal ecosystems and to support ocean-based economic activity, particularly for small coastal communities on the archipelago.

The Ocean Health Index confirms these trends. The index ranks Cabo Verde's EEZ as 96th of 221 globally assessed maritime zones for 2019, with a score (69) slightly below the global average (71). Cabo Verde's score has only increased by 1 point since 2015. The index is compiled by an independent group of scientists and attempts to measure the prosperity of ocean resources and their use. Given the complex interactions of marine ecosystems and the ocean economy, it should be seen as an indication rather than a definite ranking. The index assesses 10 socio-ecological goals of healthy oceans ranging from food production, opportunities for artisanal fisheries, biodiversity, touristic and cultural values to coastal protection and carbon storage. Cabo Verde ranks very high on the value of coastal tourism and coastal economies in general. In contrast, the sub-indices for food-provision and artisanal fishing opportunities rank far below global averages. This indicates that current fishing practices and governance of fisheries need to be improved in order to secure long-term sustainable use of maritime food resources and to ensure their inclusive accessibility for small-scale artisanal fisheries. The country also has a low score for 'sense of place' – a variable measuring the state of iconic local marine species combined with the overall share of protected coastal areas. This is in part due to the endangered state of some iconic species like sea turtles. It is noteworthy that the quality of coastal protection infrastructure is not assessed for Cabo Verde. Therefore, the index for Cabo Verde does not take strong account of the resilience of coastal communities against adverse effects of climate change (Ocean Health Index, 2019[79]).

Figure 2.5. Sub-components of the Ocean Health Index for Cabo Verde, 2019

Source: (Ocean Health Index, 2019[79])

Cabo Verde's dependence on fossil fuel imports for energy production dominates its carbon footprint and exposes the country to global price shocks

Cabo Verde is still highly dependent on fossil fuels for energy production but aspires to expand renewable energy production as a key pillar in the transition towards a circular economy in the mid-Atlantic. In 2017, Cabo Verde was reliant on fossil fuel imports for 80% (Cabo Verde, 2018[80]). In 2018 and 2019, the renewable energy penetration in Cabo Verde even receded slightly from 20.3% in 2018 to 18.4% in 2019. Furthermore, progress was not uniform across islands. Whereas Sao Vicente (29.4%), Sal (26.4%), Boa Vista (21.8%) and Santiago (17.9%) produced considerable shares of energy from renewables, the remaining five inhabited islands produced either no or little energy from renewable sources (Ministério da Indústria, Comércio e Energia, 2021[81]). Reducing fossil fuel dependence is desirable for two main reasons. First, the transition towards renewable energy is necessary to contribute to mitigating the effects of climate change. As Cabo Verde's greenhouse gas emissions (GHG) are low in absolute terms due to its small size, this is a necessary contribution but not the central argument. Second, fossil fuel dependence renders Cabo Verde susceptible to shocks to the world market prices and supply, and requires a large amount of foreign currency for energy imports. Therefore, Cabo Verde has the ambition to become independent from imports of fossil fuels to meet its energy demand as formulated in the Master Plan for the Energy Sector 2018-2030, which sets out to reach a 50% penetration rate of renewable energy by 2030. This constitutes a downward correction of ambition with respect to earlier plans to attain a 100% penetration rate of renewables by 2025. As for many SIDS, the fragmented nature of Cabo Verde's energy grid poses challenges to the transition to renewable energies, which in many cases are highly intermittent. The challenges linked to fragmented grid systems are not, however, unique to renewable energies but also pose constraints under a mostly non-renewable energy mix. Indeed, the decentralised nature and small scale of many renewable sources of energy such as tidal power can help overcome some of these challenges. Further, a focus on renewable energies also mitigates the risk of investing in technologies that need to be phased out in the medium and long term, thus preventing

investment in future stranded assets. A pilot project aims to render the island of Brava self-sufficient by expanding renewable energies with the goal to attain full energy autonomy on the island. A key motivation behind the project is the creation of knowledge on how to overcome the challenges faced by small and decentralised grid systems with a particular focus on the energy required to fuel mobility for both commercial and personal reasons. This pilot could serve as a model to kick-start progress particularly on the small and sparsely inhabited islands of the archipelago and in other SIDS (Cabo Verde, 2018[80]).

3 Governance and financing of Cabo Verde's ocean economy

3.1. Institutional architecture and governance

Cabo Verde has developed a dedicated institutional framework to enhance the governance of the ocean economy

Effective governance of the ocean requires a holistic approach of social, environmental and economic aspects across sectors. The ocean economy comprises a range of highly interdependent economic activities and sectors where policies and actions in one likely affect the others. (OECD, 2020[4]). This issue is particularly salient in small island nations, where the ocean plays a ubiquitous role in the everyday lives and livelihoods of citizens. Ocean policies that aim at protecting natural capital such as coral reefs or marine biodiversity in many cases have a direct impact on the ability to utilise ocean resources, for instance by marine fisheries or maritime transport routes potentially affecting short-term employment. At the same time, positive long-term effects may secure and sustain the ocean capital for the future and thereby support economic activity in areas such as fisheries and tourism. This illustrates the importance of taking interlinkages into account when designing ocean policies. A holistic approach to governing the ocean can lead to conscious evaluations of trade-offs between sectors and the identification of policy synergies that benefit multiple areas of governance. Conversely, co-ordinating these multiple policy dimensions under a fragmented administrative system of competences risks focusing on isolated problems and policy challenges. Therefore, the institutional framework of ocean governance should reflect the interconnectedness of ocean policies (OECD, 2020[4]).

Cabo Verde is one of the few countries in the world to have established a dedicated Ministry for the Ocean. In 2018**,** Cabo Verde established a Ministry for the Maritime Economy (since 2021 called Ministry for the Ocean), which has authority over a wide array of ocean-related policies. The portfolio of the ministry includes maritime policy, maritime economy and industry, marine resources, fisheries, aquaculture, ports, and maritime transport. Until late 2019, the ministry's portfolio was also closely tied to tourism and transport because the Minister for the Maritime Economy headed the Ministry for Tourism and Transportation at the same time. Since early 2020 however, the Ministry for Tourism and Transportation has been separate from the Ministry for the Maritime Economy. Furthermore, based in the city of Mindelo on the island of Sao Vicente, the Ministry for the Maritime Economy constitutes the only ministry that is not located in the capital Praia. This is explained by the strategic importance of Mindelo - the second largest city and the main port of Cabo Verde - but also implies physical distance to the remainder of the government. Nonetheless, the centralised institutional arrangement has allowed the government of Cabo Verde to promote a holistic view of the ocean as an integral part of the country's natural capital and take a forward-looking perspective on the ocean economy as a driver for sustainable development. This approach to reaching coherent policies for managing the ocean over both geographical areas and sectors has enabled the country to develop and promote grand strategies for the development of the ocean economy

and has helped develop promising operational policies including a recent initiative to realise marine spatial planning in Cabo Verde.

Cabo Verde's high priority towards the sustainable development of the ocean is enshrined in the Strategic Sustainable Development Plan (PEDS) – the country's official development strategy. The PEDS provides the overarching short-term strategy for Cabo Verde's development policy. It identifies a sustainable ocean economy as a strategic pillar for Cabo Verde's development path and sets specific development targets for the 2017-2021 period. It is embedded in the wider context of the national implementations of the UN's Agenda 2030 and the African Union's Agenda 2063. As part of this strategy, Cabo Verde aims to transform into a circular economy and become a strategic hub for maritime transport and exchanges in the mid-Atlantic. The strategy also emphasises the country's strong and ancestral relation with the ocean and its paramount importance for the prosperity of the country.

Conserving the ocean is part of Cabo Verde's ambition for a sustainable ocean economy, and the country has joined a number of international initiatives to conserve and sustainably use its marine resources. Cabo Verde has become a member of the Global Ocean Alliance and its 30by30 Initiative - a coalition of 40 countries that aim to conserve, by 2030, 30% of the ocean through the establishment of marine protected areas where no destructive or extractive activities can take place. The country is furthermore leveraging its 2021 presidency of the Community of Portuguese-speaking Countries – which stands under the motto "People, Culture, Oceans" – to deepen international cooperation for the protection of marine natural capital and the ocean. This community has committed in a 2010 high-level strategy to cooperate on the following areas: maritime security, mapping of the ocean, establishing marine protected areas (MPAs), sustainable use of ocean resources, education and fostering scientific exchange on the ocean (Comunidade dos Países de Lingua Portuguesa, 2010[82]). In 2018, the government of Cabo Verde also entered into the *Mindelo Arrangement* with the European Union. This agreement on scientific cooperation in the area of marine sustainability and ecosystems sets out areas of scientific cooperation and awareness building to improve knowledge of the Atlantic Ocean.

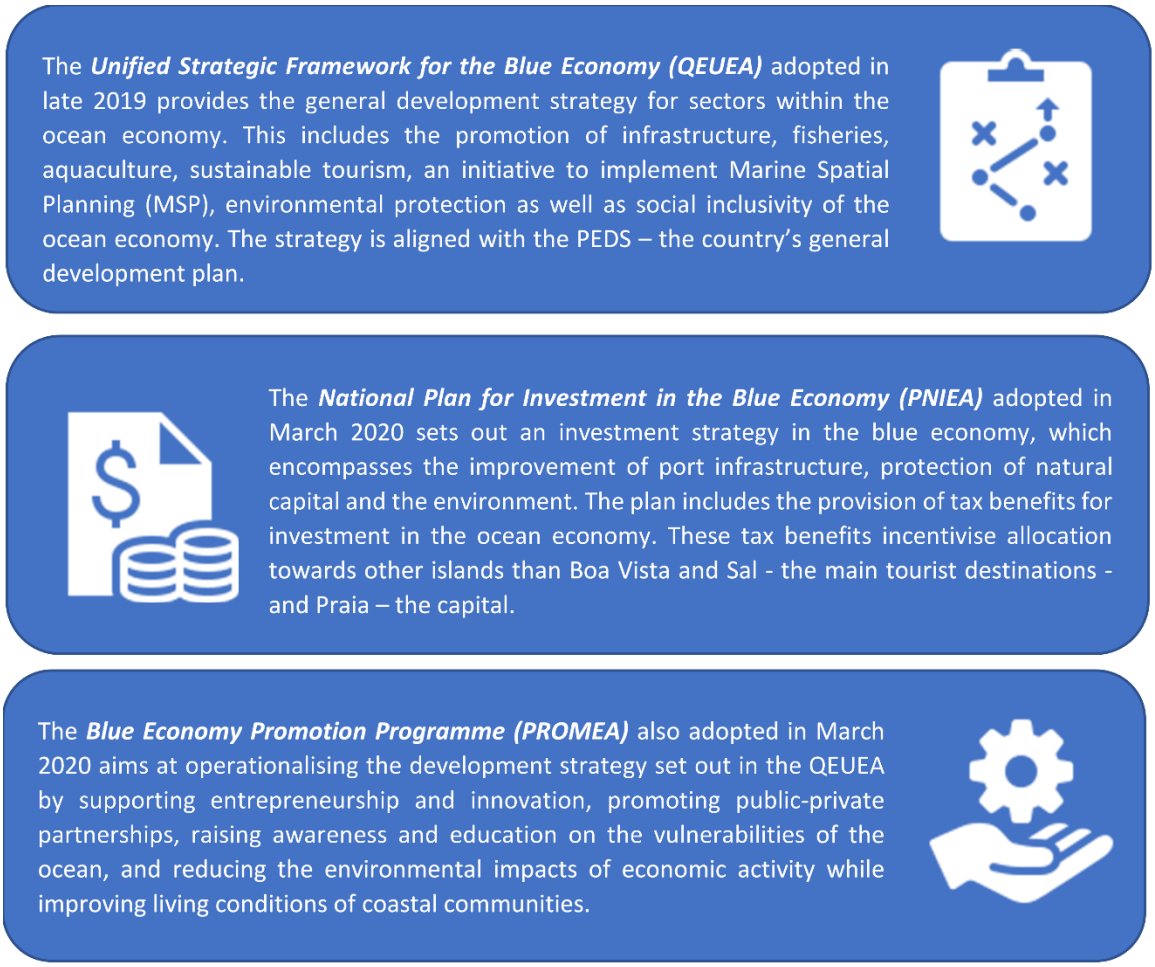
The development strategy of Cabo Verde has a strong focus on the ocean economy

Cabo Verde has partnered up with international organisations to build a comprehensive strategic framework of its ocean governance and blue development. Specifically, the country has benefited from technical assistance by the Food and Agricultural Organisation (FAO)'s Blue Growth Initiative accompanied with financial support from the African Development Bank (AfDB) to develop the 2015 Blue Growth Charter[14]. This charter identifies more than ten strategic axes of the blue economy in Cabo Verde, among which feature: fisheries and aquaculture, ecotourism, maritime transport and port development, urban development, as well as responsible management of coastal and maritime renewable energies. It enshrines blue growth as a priority of government policy, which should seek to develop the sustainable development of oceanic and coastal areas while minimising environmental degradation and loss of biodiversity and maximising the economic and social benefits for the local population. The cooperation with the FAO financed by the AfDB has furthermore culminated in the adoption of three strategic documents at different levels of functionality, which have entered into force in late 2019 and March 2020 (Figure 3.1). This detailed set of strategies to leverage blue growth as a vehicle for sustainable and inclusive

[14] FAO's assistance to Cabo Verde is determined by the United Nations Development Assistance Framework (UNDAF) for the period 2018-2022, and is based on three medium-term priority areas: i) strengthening the governance of food security ii) ensuring that the income of the working population increase through transformation and growth into key economic sectors, namely the Green and the Blue Economy iii) developing and implementing integrated approaches and innovative approaches to sustainable and participatory management of natural resources.

development is aligned with the PEDS – Cabo Verde's general development strategy - and constitutes a positive example to explicitly link development policy with sustainable blue growth at the national level.

Figure 3.1. Cabo Verde's Ocean Strategy



Source: Authors' representation based on official documents.

The government has established the Blue Economy Observatory (OEA), a technical body that oversees the implementation of the aforementioned development. This body has already collected experience in drafting and implementing strategies for the blue economy under the Blue Growth Charter. The OEA thus serves as a hub for methodological support and technical expertise on ocean governance and co-ordinates different institutions and stakeholders both nationally and internationally by conducting assessments, providing technical expertise and raising awareness of the government policy. Increasing the resources of this body could improve co-ordination of policies across different sectors and help achieve the goals set out in the aforementioned comprehensive ocean strategy.

The importance of building resilience against the adverse effects of climate change has been recognised in high-level documents issued by Cabo Verde. The realities of climate change have received consideration by Cabo Verde's government from the perspective of mitigation as well as adaptation. From the mitigation perspective, the government has issued a plan to become a circular economy in the mid-Atlantic. This plan includes a stark reduction of fossil fuel dependence, which have been dominating the energy-mix of the archipelago, and to transition to energy autonomy through renewable energy. It also entails the improvement of waste management facilities, which is a pressing

issue in the country. Acknowledging that as a small economy Cabo Verde's global contributions to mitigation will remain equally small, the particular dangers faced by the SIDS have been reflected in various high-level documents by outlining adaptation strategies at different levels. The PEDS recognises that the country faces dangers from changing climate patterns, which include changes in the precipitation patterns as well as rising sea levels. The country furthermore issued a voluntary report in the implementation of the Agenda 2030 (Cabo Verde, 2018[64]). With regards to SDG14, this report frames the threat of climate change to marine resources as a threat to the country's "greatest wealth" (Cabo Verde, 2018, p. 103[64]). It clearly states the challenge of adaptation to climate change in the context of extreme precipitation events, biodiversity, fisheries, coastal erosion and sea-level rise. The 2020 update to the Nationally Determined Contributions developed with support of Luxembourg and the UNDP spell out more detailed plans and ambitions in all of these fields (Cabo Verde, 2020[83]).

The vertical integration of municipal authorities and local communities into sustainable blue development initiatives is central to a successful implementation of national policies. In addition to the horizontal distribution of mandates and competences between different branches of government, the vertical distribution of competences between national and local actors has the potential to impact the management of ocean resources and the ocean economy both positively and negatively. This vertical component of ocean management is of vital importance in order to include the local communities into the efforts of sustainable use of ocean resources. Government officials have emphasised that including local communities in the process towards creating a sustainable ocean economy is of the utmost importance to ensure compliance with policies and create flexible and suitable solutions for the local circumstances. The national government in Cabo Verde shares the competence in establishing marine territorial management systems with the 22 municipal administrations, which possess considerable sway over local policy implementations (World Bank, 2018[11]). For instance, the municipal governments have extensive power to engage in the land use regime in accordance with national policies. Therefore, local governments must be involved closely in the creation of coastal and marine spatial plans. This requires close consultation with the municipalities and the Minister for Foreign Affairs, Communities and Regional Integration alongside other government ministries.

3.2. The structure of finance for Cabo Verde's ocean economy

Cabo Verde is facing increasing costs for financing its sustainable development

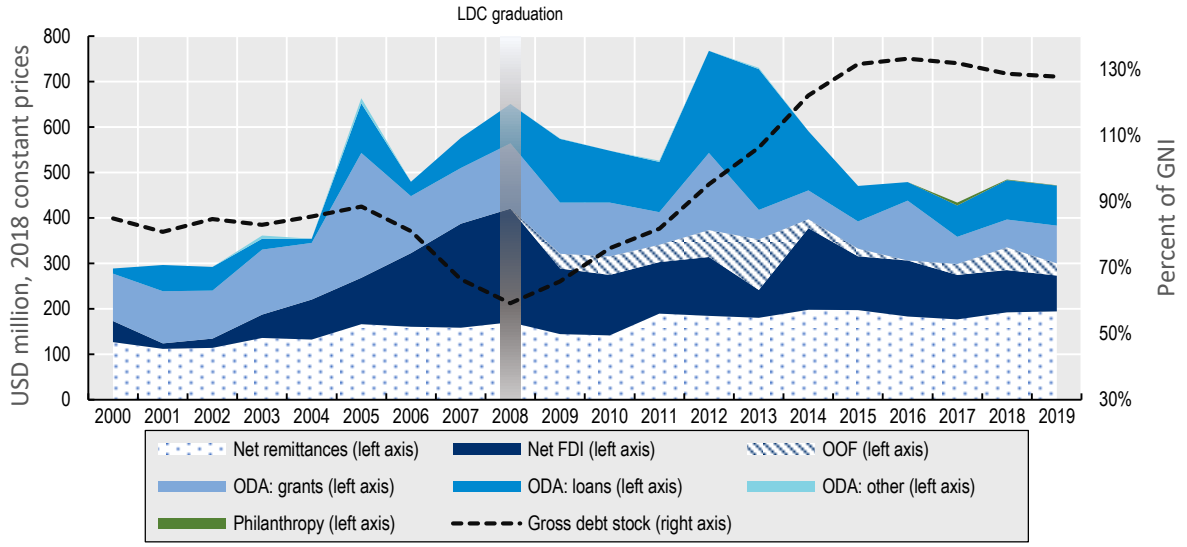
Cabo Verde has reduced its dependence on ODA in recent years starting from relatively high levels. Prior to LDC graduation (2000-2007) ODA financed a large part of Cabo Verde's economy accounting for 18% of GNI annually as compared to an average of 13% of GNI in SIDS overall during the same period[15]. This situation did not fundamentally change in the period immediately following LDC graduation (2008-2014), during which ODA still amounted to 17% of GNI in Cabo Verde. Since 2015 the picture has started to change with ODA amounting to only 8% of the country's GNI from 2015-2019 compared to a continuous 14% in SIDS. This dynamic reflects the changing mix of financing sources that Cabo Verde can access to promote sustainable development, and the necessity to gradually shift towards broadening the sources of private capital and domestic resources to finance development projects.

Since its graduation from LDC status in late 2007, the level of concessionality implicit in ODA to finance development projects in Cabo Verde has decreased. The share of grants in Cabo Verde's ODA has decreased from 77% in 2000-2007 to 46% in 2008-2019. This was in part driven by a drastic

[15] The SIDS in question are Antigua and Barbuda, Belize, Comoros, Cuba, Dominica, Dominican Republic, Fiji, Grenada, Guinea-Bissau, Guyana, Haiti, Jamaica, Kiribati, Maldives, Marshall Islands, Mauritius, Micronesia, Nauru, Palau, Papua New Guinea, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Solomon Islands, Suriname, Timor-Leste, Tonga, Tuvalu and Vanuatu. The figure provides unweighted averages over SIDS.

increase in ODA loans to the country, from an average of USD 45 million annually in 2000-2007 to USD 119 million in 2008-2019. Additionally, providers of development co-operation have also begun extending official loans with a level of concessionality lower than required for ODA, which are counted as other official flows (OOF). These hovered around USD 32 million annually in 2008-2019. These trends exemplify the increasing costs faced by Cabo Verde for financing its development.

Figure 3.2. Cabo Verde: composition of financial inflows (excluding commercial loans)



Source: Authors' calculations based on the (OECD, 2021[84]) Creditor Reporting System and the (World Bank, 2021[10]) World Development Indicators.

Foreign Direct Investment (FDI) flows to Cabo Verde are large but have declined following LDC graduation. Cabo Verde attracts a higher level of FDI (7% of GNI from 2000-2008) than most other LMICs (2% of GNI in the same period). The inflow of capital through this channel was however highly concentrated in the tourism sector and constituted the main tugboat forces towards LDC graduation in 2008. The high concentration of investment on two islands (Boa Vista and Sal) meant that this source of finance had an unequal impact across the archipelago and played a part in increasing inter-island inequalities (Morris, Cattaneo and Poensgen, 2018[16]).

Cabo Verde remains reliant on remittances from its large diaspora. Cabo Verde's diaspora is estimated to comprise as much as twice the number of the country's local inhabitants (IOM, 2014[6]). This population continuously contributes a large and slowly rising amount of remittances to the country's income. With a volume of almost USD 200 million in 2019, net remittances amounted to 10% of GNI – as much as ODA and OOF combined. The largest source countries for remittances in 2019 were Portugal (29%), France (24%), the United States (23%) and the Netherlands (5%) (Banco de Cabo Verde, 2020[85]). During the COVID-19 pandemic remittances have provided one of the few steady inflows of foreign capital alongside ODA. The World Bank estimates remittances to Cabo Verde to have increased by USD 8 million in 2020 (+3.4%) despite the global pandemic (World Bank, 2021[86]). Remittances have been a stable source of external funds over the last 20 years and prove to be resilient to economic shocks. As transaction costs for remittances remain high (9.1% in 2016 compared to 8.8% in other SIDS), reducing these costs could leverage the impact of remittances for sustainable development (Morris, Cattaneo and Poensgen, 2018[16]).

A major obstacle for financing future investments are the high levels of public debt that have accumulated since graduation from LDC status in late 2007. Cabo Verde's sovereign debt soared after reaching a low-point in 2008. In 2016, this deteriorating debt situation led the IMF to classify the country as under high risk of debt distress. Following this event and the 2016 elections, the gross debt stock of the general government has stabilised at roughly 130% of GNI. Additionally, the government issued debt guarantees to domestic companies amounting to USD 130 million (7% of GNI) and loss-making state-owned enterprises held a further debt-stock of USD 669 million (35% of GNI) on their books in 2019 (IMF, 2020[87]). Nonetheless, a joint debt-sustainability analysis by the IMF and the World Bank conducted in September 2020 concludes that Cabo Verde's public debt path is overall sustainable. This conclusion arises because the country's outstanding debt still contains a high level of concessionality with average maturities of 30 years and interest rates of below 1% on average (IMF, 2020[87]). Despite its long-term sustainability, the high levels of public debt continue to impose a burden on the country. In 2020 services on official public debt amounted to 5% of GNI - a quarter of which was the payment of interest (World Bank, 2021[88]). Furthermore, they limit the government's fiscal space to respond to crises and to finance new development projects for the sustainable ocean economy.

The health and economic crisis triggered by COVID-19 has aggravated the country's debt situation. The combined effects of the decline in international tourism and in the broader economy with the costs of combatting the pandemic have taken a large toll on Cabo Verde's balance sheets in 2020. The country's tax revenue fell by 22% in 2020 and the debt-to-GNI ratio rose for the first time since 2016 (IMF, 2020[87]). This prompted the country to access the IMF's Rapid Credit Facility for the first time ever (IMF, 2020[89]). Cabo Verde also participates in the Debt Service Suspension Initiative launched by the G20 and the Paris Club in 2020. It is estimated that this initiative will lead to freed-up savings of up to 0.9% of Cabo Verde's 2019 GDP (OECD, 2021[5]).

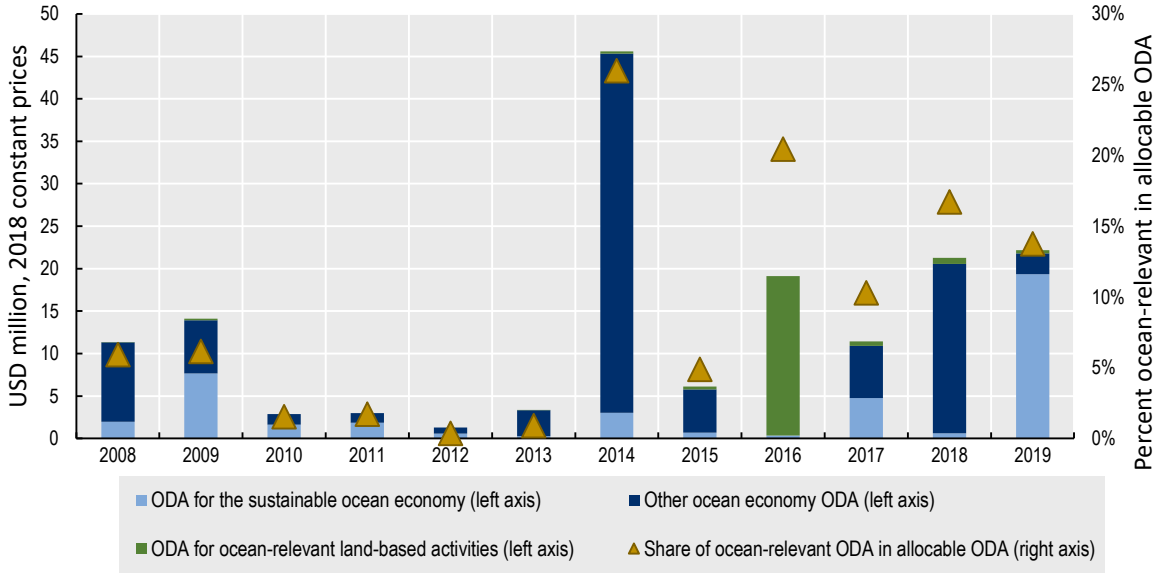
Domestic resources already constitute a key financing pillar for sustainable development in Cabo Verde due to relatively high domestic resource mobilisation. Aided by relatively high levels of transparency and good governance, Cabo Verde maintained an average tax-to-GDP of 19% between 2008 and 2018 (OECD, forthcoming[90]), which is high when compared to other African countries but around average for SIDS. In light of the reduced levels of concessional finance received in recent years and the high levels of public debt, this implies however that the potential to increase domestic resources to finance sustainable ocean economy is probably limited, unless the productive base, and thus the taxable base, broaden. As decreasing levels of ODA are likely to be accompanied by a reduction in sources of finance that target explicit SDG objectives, clearly linking up domestic financing plans to the SDGs could offer a pathway to prevent financing gaps for sustainable development (Morris, Cattaneo and Poensgen, 2018[16]). Nonetheless, the COVID-19 crisis has exemplified the risks associated with domestic resources during strong economic turndowns as experienced through the record 22% reduction in tax revenues in 2020. Common to many SIDS, volatility of tax revenues remains a problem due to the low degree of economic diversification in Cabo Verde (IMF, 2020[87]).

Following LDC graduation, Cabo Verde's efforts to secure loans from private providers have included modest but growing volumes of investment from China, which the country actively seeks to increase via the creation of a Special Economic Zone (SEZ) on the island of São Vicente. Some of the public debt held by non-traditional, non-Paris-Club creditors, particularly from China, tends to remain off the radar of public external debt statistics if it is not reported to the IMF. A recent OECD study has estimated that Cabo Verde has a modest stock of such obligations standing at 2% of GNI (OECD, forthcoming[91]). Nonetheless, in its attempt to tap into broader sources of finance from private creditors, the government of Cabo Verde is increasingly seeking to increase foreign investment from new sources, especially from China. One vehicle to achieve this is through the creation of a SEZ on São Vicente – the same island where the main port of Mindelo is located.

Development finance for the ocean economy has been relatively low in volume and only partially focused on enhancing sustainability

ODA towards the ocean economy has long remained at very low levels but has increased since 2016. From 2008 to 2016 ODA for the ocean economy, or ODA in support of ocean economy sectors and marine ecosystems, remained low, with the exception of a single Portuguese line of credit valued at USD 36.8 million committed in 2014-2015 to modernise the port of Sal – one of the two tourist hubs. When excluding this project from the analysis, the average ODA investment in the ocean economy amounted to only USD 5.7 million annually during 2008-2016, representing only 3% of total allocable ODA to Cabo Verde. In the period 2017-2019 however, the share of ocean projects in ODA has increased to 13% of Cabo Verde's allocable ODA and amounted to USD 17.8 million annually (Figure 3.3). The growing share of ocean-related ODA in the country has accompanied the development of the strategic framework on the blue economy (see section 3.1).

Figure 3.3. ODA commitments towards Cabo Verde's ocean economy



Source: Authors' calculations based on the Creditor Reporting System (OECD, 2021[84]). For more visualisations and data downloads see the associated Data Platform on Development Finance for the Sustainable Ocean Economy.

ODA towards the ocean economy in per-capita terms is higher than in other LMICs but can largely be explained by its small size and large fixed costs of project implementation comparable to other SIDS. Cabo Verde received an average of USD 32.70 per capita in ODA towards the ocean economy during the period 2017-2019. This compares to a (weighted) average of USD 6.41 per capita for SIDS, USD 0.30 per capita for LMICs.[16] It is well documented that development projects in SIDS face large fixed costs and little effects of scale due to the small populations and remote location of the countries (OECD, 2018[25]). This partly explains the comparably large figure of ODA per capita towards the ocean economy

[16] Note that the per-capita figures for SIDS and LMICs are calculated as weighted averages of ODA towards the respective group of countries. The weighted average compares the ratio of total ODA volume for the respective group over its total population. By contrast, the unweighted average computes the average of national per-capita rates. Compared to unweighted averages, Cabo Verde has a lower level of ODA per-capita than other SIDS, which is mostly driven by very high level in very small SIDS.

in Cabo Verde, which for a SIDS is not extraordinarily large. In fact, Cabo Verde's per-capita ODA towards the ocean economy is smaller than for many SIDS on the lower end of the population scale.

Less than half of ODA towards the ocean economy in Cabo Verde went towards projects that aimed at enhancing its sustainability. Even when excluding the Portuguese 2014-2015 line of credit for the modernisation of the Port of Sal, 41% of ocean ODA during the period 2008-2019 was provided to projects that enhance sustainability in this area. Increases in ODA for the ocean economy were driven by ODA towards the maritime transport sector and port infrastructure with no explicit account of sustainability issues. This compares to, on average, half of ODA towards the ocean economy integrating sustainability in other developing countries over the same period.[17] The sustainable share of Cabo Verde's ODA for the ocean economy, however, fluctuated widely in this period, from 8% in 2013 to 100% in 2016 and 89% in 2019.[18] Therefore, the slight increase in sustainable ODA since 2016 does not represent a clear and unambiguous trend.

ODA towards curbing land-based pollution of the ocean has experienced an increase since 2015 but remains low. Marine and land ecosystems are interrelated and much of ocean pollution originates inland. With a total volume of USD 21 million in the period 2008-2019, ODA towards curbing land-based pollution of the ocean amounted to one fifth (18%) of the volume of ODA towards the ocean economy in Cabo Verde. The most notable contribution in this category is the provision of a USD 17.5 million concessional loan by Kuwait in 2016, which was used to improve the water supply and wastewater management system in the capital Praia (

[17] When ocean ODA allocated to regional and inter-regional projects is included, the share of sustainable ocean ODA worldwide increases to 65% during 2008-2019.

[18] When the line of credit is included, this lowers the overall share of sustainable ocean ODA between 2008 and 2019 from 41% to 31%. The large share for 2016 reflects a very low overall volume of investments into the ocean economy in that year (only USD 360 000). The large share in 2019 is driven by a large infrastructure investment project financed by the EU, which took account of sea-level rise and is therefore identified as sustainable by the OECD methodology.

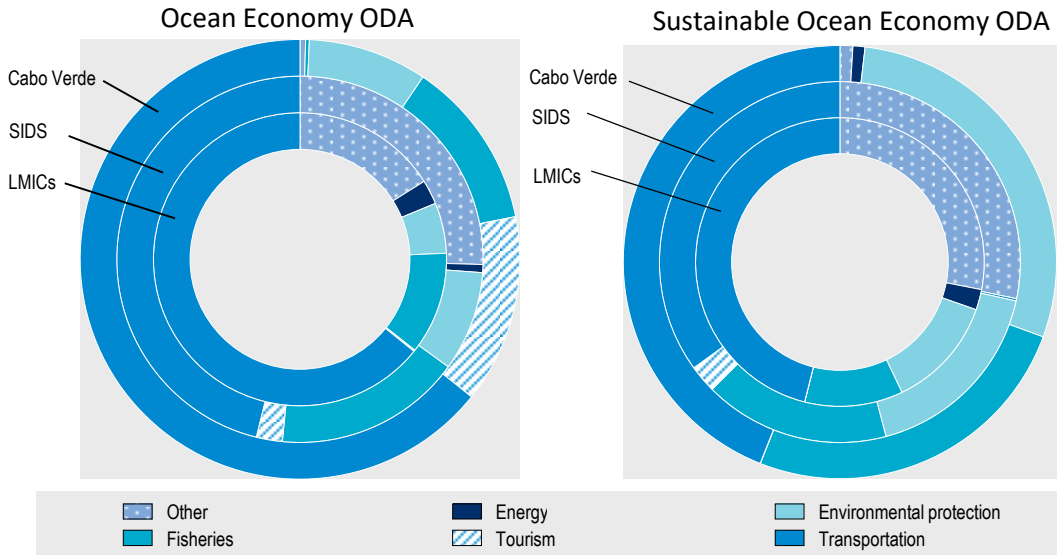
Table 3.1). However, even when excluding this project from the analysis, ODA towards curbing ocean pollution from land has increased from an average of USD 70 000 *per annum* during 2008-2014 to an average of USD 720.000 during 2015-2019 (Figure 3.3). These land-based projects predominantly tackle wastewater management and consist almost exclusively of grants. The volume of ODA improving solid waste management infrastructure and awareness was markedly lower standing at only USD 22.000 *per annum* on average. These low volumes persist despite increasing environmental and economic impacts of plastic pollution on the archipelago and a lack of infrastructure and effective policy measures to cope with the problem (Ferreira et al., 2021[62]).

Compared to other SIDS and LMICs, a very large share of development projects in Cabo Verde focuses on investment in transport infrastructure, particularly in ports, with no consideration explicitly given to environmental sustainability (Figure 3.4). The sectoral break-down of ocean-related ODA reveals that more than three quarters of ODA towards the ocean economy in Cabo Verde are channelled towards transportation infrastructure projects such as the construction, modernisation and extension of ports (Figure 3.4).[19] Four out of the five largest ODA investments in ocean-related activities in the period 2008-2019 were made in the maritime transport and tourism sector and four of them went towards ports. Although inter-island connectivity is a key inhibitor for domestic economic development particularly on the less developed islands in Cabo Verde, these investments focused on connectivity in the more developed parts of the country – namely the tourism-heavy island of Sal, the capital Praia and the country's largest port in Mindelo (

[19] Closer inspection of the tourism-related projects entering Figure 3.4 reveals that this category is dominated by a USD 19.5 million loan to construct a cruise terminal at the port of Mindelo, which has been classified as investment in tourism by the providing OPEC Fund for International Development. Therefore, this category essentially captures investment in (tourism-related) transport infrastructure, as well.

Table 3.1). This focus of investment on the already more developed regions of the country has the potential to aggravate social inequalities by locking in the spatial concentration of higher-margin economic activity. Although extending the country's capacity to fulfil their target of becoming a local trade-hub will benefit from these investments, it is vital to take into account the inclusivity of ODA investments for the more peripheral regions of the country. A future port infrastructure project financed by the EU and the African Development Bank signed in late 2020 will continue the trend of large infrastructure investments in the ocean economy by providing EUR 44 million (more than USD 50 million) towards port infrastructure on Sal and Maio (European Commission, 2020[92]). In contrast to past large-scale investments, this project also extends to less developed regions, particularly the island of Maio which ranks among the economically least advantaged islands of the archipelago (Figure 2.1). Thereby, the project partly serves the goal to develop sustainable tourism throughout the archipelago. As port infrastructure projects constitute long-term investments, resilience to the adverse effects of climate change should receive due consideration in their planning and execution in order to make the investments economically sustainable in the long-term (OECD, 2020[4]).

Figure 3.4. Composition of ODA for the ocean economy (2008-2019)



Source: Authors' calculations based on the Creditor Reporting System (OECD, 2021[84]). For more visualisations and data downloads see the associated Data Platform on Development Finance for the Sustainable Ocean Economy.

Table 3.1. Examples of large ocean-related development finance projects since 2008 (> USD 1 million)

Purpose	Project	Commitment *2018 constant prices*	Year	Provider
Transport: Infrastructure	Line of Credit for the modernisation of the port of Sal	USD 32 million	2014	Portugal
		USD 4.8 million	2015	
	Africa Investment Facility to improve infrastructure	USD 15.8 million	2019	EU
	Supply and installation of a maritime traffic control system	USD 7.3 million	2008	Spain
		USD 6.1 million	2009	
	Modernisation and expansion of the ports on Sal and in Praia	USD 9.6 million	2014	EU
	Infrastructure project for port activity	USD 1.5 million	2008	United States
	Various projects in the transport sector	USD 2.2 million	2013	International Development Association
		USD 2.6 million	2014	
		USD 3.4 million	2017	
		USD 2.5 million	2019	
Tourism : Infrastructure	Construction of a cruise terminal in Mindelo	USD 19.5 million	2018	OPEC Fund
Fisheries	West Africa Regional Fisheries Program to govern and manage fisheries	USD 6.1 million	2009	International Development Association
	Study on the blue economy in Cabo Verde	USD 1.4 million	2017	African Development Bank
	Implementation of operational plan to support artisanal fisheries	USD 1.2 million	2009	Spain
	West Africa Regional Fisheries Program phase II	USD 1 million	2017	Global Environmental Facility
Water supply	Praia water supply and wastewater project	USD 17.5 million	2016	Kuwait
	Development on an action plan for water resources	USD 1.1 million	2015	Luxembourg
Environmental protection	Managing multi-sector threats to marine eco-systems	USD 4.4 million	2017	Global Environmental Facility
	Regional maritime systems research	USD 2 million	2019	Germany
	Infrastructure and support for marine research station	USD 1.2 million	2011	Germany
	Conservation of sea-birds	USD 2.2 million	2017	MAVA Foundation
	Sustainable management of the Santa Luiza Marine Reserve	USD 1.3 million	2017	MAVA Foundation
	Conservation of Loggerhead Turtles	USD 1.3 million	2017	MAVA Foundation
Waste management	Develop a roadmap for waste management and water resources	USD 1 million	2016	Portugal

Source: Authors' calculations based on the Creditor Reporting System (OECD, 2021[84]). For more visualisations and data downloads see the associated Data Platform on Development Finance for the Sustainable Ocean Economy.

Development finance towards the ocean economy was provided to a large extent by few institutions. The three largest providers - Portugal (27% of ocean-related ODA), the EU (18%) and Spain (15%) – accounted for 60% of the provisions of development finance towards the ocean economy during the period 2008-2019. This reflects the close partnership that Cabo Verde maintains with Portugal, Spain and the European Union and is similar to concentration of overall ODA providers. Cabo Verde's ocean strategy for instance is closely co-ordinated with the Community of Portuguese-speaking Countries. The three largest multilateral providers accounted for an additional 30% of funds during this period and consisted of the OPEC Fund for International Development (14%), the International Development Association (12%) and the Global Environmental Facility (4%). Multilateral institutions provide a much

larger share of ODA to the ocean economy than they represent in overall ODA, where all multilateral contributions together make up a mere 17.6% of ODA. Finally, the MAVA foundation – a private philanthropy active in biodiversity and conservation efforts – provided additional grants equivalent to 6% of ocean-related ODA.

Individual providers of ocean-related ODA tend to focus their assistance on few areas of the ocean economy leading to a division of labour among providers. During 2008-2019, 88% of ODA towards the ocean economy that focused on infrastructure investment[20] – predominantly port infrastructure – was provided by four institutions: Portugal (34% of ODA towards infrastructure investment in the ocean economy), the EU (23%), the OPEC Fund for International Development (18%) and Spain (16%). Only one fifth of these overall investments in infrastructure for the ocean economy can be classified as ODA towards the sustainable ocean economy. Likewise, ODA towards fisheries is concentrated among 3 providers, who contributed 85% of ODA in this area. These providers are the International Development Association (34% of ODA towards fisheries), Spain (29%) and Japan (22%). ODA towards fisheries contain a higher share of sustainable ocean ODA with 62% of commitments classified as sustainable mostly through a focus on supporting artisanal fisheries and by tackling IUU fishing.

The bulk of development finance towards environmental protection of the ocean in Cabo Verde has been provided by the MAVA foundation – a private philanthropy. Like in other areas of ocean-related development finance, 82% of commitments towards environmental protection in the ocean in the 2008-2019 were made by three providers. It is notable, however, that the largest provider in this area is the MAVA foundation – a philanthropic organisation working on biodiversity. This philanthropy has massively increased its engagement in Cabo Verde since 2017 and thereby provided 41% of development finance towards environmental protection of the ocean in the period 2008-2019. Their focus was on providing protection for endangered bird and turtle species and financing the sustainable management of a marine reserve. This activity was followed by projects by the Global Environment Facility (21% of finance towards environmental protection) supporting national strategies for environmental protection and projects by Germany (20%) focussing on scientific projects for environmental protection.

Compared to other SIDS and LMICs, Cabo Verde receives very little ODA towards educational projects related to the ocean, initiatives on marine disaster risk reduction and industrial development in the blue economy. Projects to enhance the education on the ocean, contribute to disaster risk reduction, support industrial development in the blue economy or similar projects have made up less than 1% of Cabo Verde's ODA towards the ocean economy in the period 2008-2019. These areas make up a combined average of 26% of ocean ODA in other SIDS and 16% in non-landlocked LMICs (Figure 3.4). Many projects in these areas contribute to the sustainability of the ocean economy in the medium and long term or enhance resilience against climate and disaster related risks. In addition, not a single ODA project in Cabo Verde took explicit account of sea-level rise and addressed this issue as a major priority to enhance coastal resilience to climate change. Filling the gap of ODA in these areas could provide an opportunity to diversify the portfolio of development projects for the ocean away from a strong focus on marine infrastructure in the economic centres towards a more inclusive structure of financial development assistance in all parts of the country. These could include conservation efforts and the protection of natural capital while also increasing the opportunity to diversify the range of touristic activities towards islands other than the touristic centres of Sal and Boa Vista. In addition, pilot projects spearheading the application of new technologies in the domains of marine renewable energy and integrated decentralised grids could help the country achieve its ambitious goals to become self-sufficient in terms of energy. Finally, the challenge of waste management and especially the management of plastics could be addressed.

[20] This figure includes the USD 19.5 million loan to construct a cruise terminal in Mindelo, which has been classified as investment in tourism by the provider.

4 Setting sail for sustainability: Opportunities and tools for fostering a sustainable ocean economy

This chapter takes a forward-looking perspective to outline promising ocean economy sectors, policy tools, and financing instruments that could help Cabo Verde enhance the sustainability of its ocean economy and turn it into a driver for more inclusive, resilient and sustainable development. In particular, this chapter first discusses integrated and cross-sectoral policy tools that can allow Cabo Verde to manage its ocean resources more holistically, balancing the need for conservation with alternative ocean uses. Second, the chapter highlights specific sectors that could help boost Cabo Verde's sustainable ocean economy with positive effects on the overall development trajectory of the country, such as renewable energy and disaster risk preparedness. Third, the chapter explores how new international financing initiatives and other financing approaches could be leveraged and integrated in a financing strategy for a sustainable ocean economy that could allow Cabo Verde to turn ambitions into actions.

4.1. Integrated and cross-sectoral policy tools

Cabo Verde's Marine Spatial Planning policy can operationalise the ocean strategy ambitions but requires adequate implementation and resources

Marine Spatial Plans can serve as an important tool to enable governments to manage their marine capital effectively and ensure a sustainable use of marine resources. Marine ecosystems are valuable resources that are required for both cultural and economic ocean-based activity to flourish (OECD, 2017[93]). However, co-ordinating conflicting interests of resource exploitation and use in the ocean is a complex task. Increasingly, Marine Spatial Plans (MSP) are being recognised as a key tool for governments to effectively govern their resources and mediate between conflicting interests on ocean use. These plans establish clear zoning rules and can be used to establish Marine Protected Areas (MPA) to support and preserve marine biodiversity as well as clearly define the rules of using marine resources. The potential for positive impacts of MPAs are well documented. MPAs can be a tool not only for the conservation of biodiversity and management of fisheries stocks, but also for harmoniously integrating the human populations and tourism into the local natural environment. Furthermore, in some instances they enable the collection of ocean-use fees, which in turn generate revenue for conservation efforts. MSPs have additionally become a prerequisite to attract investment in offshore projects, as private investors are increasingly incentivised not to invest in unsustainable ocean-related practices. One indicator to assess

sustainability in this context is the presence of comprehensive MSPs that take due consideration of both ecosystem impacts and the interests of local stakeholders in ocean usage[21].

In order to be effective, MPAs require solid governance and a sustainable economic model. MPAs require a clear institutional and legal framework, which must be regularly monitored in order to have the desired effect. Furthermore, local stakeholders should be included in the process of their creation and be given a voice. The most fundamental requirement is a clear set of policy objectives to which the MPA contributes. These could be founded in an integrated strategy for MSP and ocean management generally and incorporate ecosystem-based approaches that take account of ecosystem services provided by MSPs and thus aid the involvement and interest of local communities in the exercise. To be effective, MPAs need to be clearly defined and outlined. This requires detailed knowledge and maps of marine areas that are accessible to all potential ocean-users in the area (OECD, 2017[94]).

Cabo Verde is advancing its policy to establish MPAs. The basis for the creation of protected areas in Cabo Verde was laid through the National Biodiversity Action Plan in 1999 followed by legislation that allows the government to establish four categories of protected areas passed in 2003 (Cabo Verde, 2015[53]). Cabo Verde is a member of the 30by30 Initiative, a club of countries pledging to protect at least 30% of their EEZ by 2030. 21 of Cabo Verde's 46 protected areas extend to marine and coastal areas. These cover 5.6% of Cabo Verde's marine area, which falls short of an international target under the Convention for Biological Diversity but is in line with current national targets. However, to achieve the 30by30 target, the area of MPAs in the country must be increased almost six-fold over the course of less than 10 years. In fact, in its 2020 update to the Nationally Determined Contributions supported by Luxembourg and the UNDP, Cabo Verde pledged to extend the area covered by coastal and marine protected sites by 50% by 2030 (Cabo Verde, 2020[83]). In December 2020, the government furthermore held a workshop exploring the creation of further protected areas, which would work towards the achievement of this goal. To this end, mapping exercises of coastal areas have been undertaken and the central government is liaising with local communities to deliberate on spatial planning exercises of coastal areas. The application of selected digital technologies to enhance monitoring are explored with researchers in the framework of the "Ocean Science Centre Mindelo", as such new technologies could contribute to improved and cheaper monitoring of Cabo Verde's EEZ and MPAs.

MPAs offer unused potential to generate revenues from access fees. The Department of the Environment within the Ministry of Environment and Agriculture in charge of managing MPAs has limited capacity to fund conservation efforts through MPAs. However, so far the potential to generate revenue from charging use-fees for designated maritime activities has been explored to a very limited extent therefore leaving scope to increase resources available for conservation. Ocean-use fees can be levied on touristic activity within MPAs or on controlled and limited exploitation of certain marine resources such as lobsters. Revenues thus generated can fund various types of efforts including monitoring and mapping of endangered endemic species such as seabirds and sea turtles. Although awareness raising is central to such efforts, disadvantaged rural communities in particular need alternative sources of income in order to effectively create change, as the use of local marine resources in many cases provides a significant part of their livelihoods. Anecdotal examples of income generated from activities that preserve local wildlife include a fisherman on Sao Vicente that offers for tourists to swim with turtles that he feeds around his house (INE, 2020[30]). Tours to observe seabirds or marine mammals can likewise generate employment from showcasing a healthy ecosystem. Thus far, these activities are mainly offered by European entrepreneurs. In pursuing these opportunities, it is important to note that revenue-seeking efforts have the potential to perturb local wildlife and that an ecosystems-based and co-ordinated approach to

[21] The exclusion list of the new UNEP-FI principles for sustainable private finance in the ocean lists the absence of a coherent MSP in the preparation to invest in offshore windfarms as a criterion for private investors to reject their participation (UNEP FI, 2021[111]).

conservation should be implemented to manage and check such efforts. Use-fees from tour operators and similar schemes can then serve as a basis for funding this co-ordinated conservation.

A Special Maritime Economic Zone in Sao Vicente is set up to kick-start foreign investment in the ocean economy

The *Zone de Calhau* on the island of Sao Vicente is a Special Maritime Economic Zone that is designed to kick-start investment in the blue economy and test strategies to attract investment in a controlled fashion before extending the lessons learned to the wider economy. In this sense, it is regarded by the government as both a pilot project and a policy laboratory (Cabo Verde, 2020[95]). The project is built around four columns of investment: port infrastructure for fisheries, commercial activity and nautical sport; development of aquaculture (see the projects outlined in Box 2.1); maritime renewable energy; and conservation and tourism, which entails the surveillance of protected zones in neighbouring islands. It thus incorporates a large fraction of ocean economy activities present in Cabo Verde and aims to increase the value-added retained from these activities on the archipelago. For instance, a focus on improving the value chain for tuna processing and making it more accessible to fisheries from Cabo Verde is a central part of this effort. The project incorporates both local private actors and foreign stakeholders to advance the incorporated industries. The public component of the project requires an estimated investment of USD 11 million.

4.2. Transformational areas that could act as SDG multipliers

The transition to renewable energy can be aided by marine energy sources and potentially open doors for new maritime industries in the future

Cabo Verde has issued very ambitious targets to transition to energy autonomy based on renewable sources but faces technical challenges and financing gaps. In their first Nationally Determined Contribution (NDC) in 2016, Cabo Verde issued an ambitious goal to achieve a 35% renewable energy penetration rate during 2016-2018, a 50% rate by 2020 and a 100% rate during the period 2020-2025 (Cabo Verde, 2016[96]). In 2020, this timeframe was corrected downwards to a 50% penetration rate by 2030 with the aim to reach net-zero emissions by 2050 in line with some G20 countries (Cabo Verde, 2020[83]). While these targets demonstrate the high level of ambition of the government of Cabo Verde on advancing sustainable policies, their revision also speaks to the concrete issues to realise them, such as large infrastructural challenges and lack of finance. For instance, the geographic fragmentation of the islands of Cabo Verde means that each of the nine inhabited islands must rely on individual small and independent grid systems, which poses a challenge when it comes to installing renewable but intermittent sources of energy such as wind and solar power, which so far form the majority of Cabo Verde's renewable energy mix (Ministério da Indústria, Comércio e Energia, 2021[81]). Addressing the financing gap requires cooperation with providers of ODA to help mobilise bankable projects in blended finance instruments. To this end, Cabo Verde is a member of the International Renewable Energy Agency's Lighthouse initiative, which helps transform SIDS into leaders in the energy transition. Cabo Verde is also home to the ECOWAS Center for Renewable Energy and Energy Efficiency (ECREEE). The ECREEE located in Praia serves as a regional hub with a mandate to contribute to the sustainable economic, social and environmental development of West Africa by improving access to modern, reliable and affordable energy services, energy security and reduction of energy-related externalities. Among other things, it seeks to strengthen private investment in renewable energy projects in the ECOWAS region. In cooperation with the Global Environment Fund, the ECREEE has engaged in a project in Cabo Verde to implement small-scale demonstration projects for renewable energies on various islands in Cabo Verde and to subsequently seek out private finance for the larger-scale realisation of similar projects (ECREEE, 2021[97]).

Improvements in grid development and energy storage capacity can help enhance renewable energy penetration. Cabo Verde's insular nature implies that the variation of energy supply provided by intermittent sources poses a greater challenge than in other countries. This is because Cabo Verde is unable to integrate into larger power grid systems that allow for offsetting regional supply shortages with energy produced elsewhere. Cabo Verde therefore needs to increase its storage capacity in order to be able to increase the use of intermittent renewable sources of energy such as sun and wind, which have high potential on the archipelago. The installation of battery storage facilities or additional pump storage plants would be one potential way ahead to tackle this issue. A further potential is to regulate the demand side by designing smart grids. In Cabo Verde, the use of desalination plants for this purpose is promising, as they are able to flexibly react to fluctuations in energy supply and fresh water can be easily stored (Segurado et al., 2015[98]). Furthermore, integrating increased electric mobility into a smart grid system using *vehicle-to-grid* systems where the batteries in electric vehicles are used as energy storage systems that charge when energy supply exceed demand and provide energy back to the grid when demand surpasses supply. The decentralised nature of such systems may prove highly adequate for the micro-grid context of Cabo Verde's islands (Nordman et al., 2019[99]).

So far, the focus of the energy transition has remained largely on on-shore sources of renewable energy, but ocean-based energy sources are receiving increasing attention. Cabo Verde's renewable energy sector is dominated by its on-shore wind-farms. Investment in wind power was kick-started by the creation of the Cabeolica wind farm, which alone raised power generation from renewable sources from less than 2% in 2009 to more than 20% in 2011. The project was financed with blended finance instruments where the EIB and AfDB provided grants to mobilise private finance for the commercial wind farm project, which was the first of its kind in sub-Saharan Africa (Africa Finance Corporaton, 2010[100]). Increasingly, other sources of renewable energy – both marine and terrestrial – are being considered for the country's energy mix. To address the issue of stability in power supply, pump-storage facilities have been constructed that allow for the storage of energy during slumps in wind supply. Furthermore, the country's reliance on desalination for water supply allows it to use excess energy during low-demand hours for desalination and store this water to be used during peak hours in energy demand (Segurado et al., 2015[98]).

Marine sources of energy could complement land-based renewable energy sources as their energy production is less prone to environment-induced fluctuations. Most marine sources of energy are much more predictable than solar and wind power. Tidal energy production can be almost perfectly predicted and therefore offers a potential reliable base-load production. However, at the current level of technology, the tidal range in Cabo Verde comprising roughly one meter is insufficient to effectively deploy tidal energy (Nordman et al., 2019[99]). Wave energy is an intermittent source of energy as wave strength varies over time. More importantly, wave height is correlated with wind speed, which renders the technology less adequate to compensate for energy shortages during calm winds. However, due to the large mass of water wave energy production is much less sensitive to fluctuations than wind. Pilot projects deploying wave energy for decentralised projects are currently underway on the archipelago. For instance, the AfDB has granted initial finance to explore the construction of a purely wave-powered desalination plant that is set to support the fresh-water needs of up to 48 000 people and that is currently under development by the company Resolute Marine Energy (African Development Bank, 2015[101]). The project could serve as a pilot demonstrating the economic viability of wave energy in Cabo Verde and thus laying the foundation for future private investment in the area. Technologies also exist that combine wave energy infrastructure with either offshore wind energy or coastal protection infrastructure. These combined solutions help lower the cost of wave energy and in some cases serve adaptation purposes at the same time (IRENA, 2020[102]). Emerging technologies could also provide promising complements to the existing marine energy sources in the future. These technologies will be particularly important if Cabo Verde is to reach its ultimate goal to achieve 100% renewable energy penetration. Ocean thermal energy conversion is an emerging technology that uses temperature differences between the surface and deep ocean water to generate electricity. It has the advantage that, unlike the above sources of renewable energy, it provides

baseload power. Cabo Verde's geographical location places it just outside ideal temperature conditions for this technology to work efficiently, which requires a difference of surface to deep ocean water temperature of 20 degrees Celsius compared to 19.5 degrees in Cabo Verde (IRENA, 2020[102]). These almost ideal conditions render the technology worthwhile exploring. A pilot project has been deployed in Hawaii, but the lack of commercial projects of this technology make it a costly and risky investment at present, thus rendering the technology commercially unviable for the time being (Nordman et al., 2019[99]). The lack of large freshwater outflows into the ocean also renders salinity gradient energy – a different emerging technology that generates energy from different degrees of salinity, for instance by freshwater discharges into the ocean - unattractive for the archipelago. Therefore, complementing mature land-based renewable sources of baseload power such as geothermal energy with increased intermittent sources of marine energy in conjunction with extended energy storage capacity may be more feasible at this point.

Bunkering services for a de-carbonising shipping industry

Cabo Verde could potentially benefit from the trend to de-carbonise the shipping industry by offering bunkering services particularly if maturing zero-emission propulsion systems necessitate a more regular uptake of fuel – but this would require cheap renewable energy and a developed grid. The path towards net-zero economies and the commitments to become carbon neutral by 2050 issued by an increasing number of countries – among which rank all members of the G7 and the majority of G20 nations – is mounting pressure to de-carbonise the shipping sector. Some large shipping companies have followed this trend and begun exploring their own commitments to carbon neutrality by 2050. Whereas in the short term this trend will likely be driven by increasing the efficiency of fossil fuels and propulsion systems, in the medium term the phasing-out of hydrocarbons and their replacement by renewable alternatives seems likely. Technological candidates for long-distance shipping include green hydrogen and green ammonia as fuel systems (ITF, 2020[103]). These technologies have the advantage that alongside energy they require raw materials that are ubiquitously available. The European Union has launched a pilot project to test and increase shipping based on green ammonium in the North Sea. An island nation like Cabo Verde with abundant sources of cheap renewable energy may in the future hold the ability to provide fuel bunkering services from domestic energy sources. Cabo Verde's proximity to major shipping routes between Europe and South America might enable the country to capitalise on such trends. However, as these technologies are still in their infancy, their future development and uptake in the industry are hardly foreseeable at the present stage. Nonetheless, technological progress as well as dynamics within the shipping industry world-wide should be followed closely in order to assess whether the potential to build on these developments becomes realistic in the medium term. A prerequisite for this development opportunity is a developed grid with access to cheap renewable energy.

Increasing disaster risk preparedness and coastal resilience for adapting to climate change

Coastal planning and MSPs should take account of projected sea-level rise, and investment addressing coastal protection needs to increase. With 80% of its population residing in the immediate vicinity of the coast, sea-level rise constitutes a real and tangible threat to Cabo Verde. Much of its economy is reliant on infrastructure that is susceptible to extreme weather events, and large debt-financed investments in coastal infrastructure such as ports in recent years imply that the country is heavily invested in coastal infrastructure. Current projections of sea-level rise estimate increases of 1m on average until the end of the century following intermediate scenarios and increases of over 2.4m in more extreme scenarios (OECD, 2021[104]). At the same time, coastal storm events are likely to increase in both likelihood and strength. Particularly the south of the tourism-heavy and low-lying island of Sal would be heavily affected by even moderate increases in sea-level and the increased impact of storms would exacerbate coastal erosion. This is aided by the fact that informal sand-collection currently provide the livelihood of many coastal communities – especially for women (Ferreira et al., 2021[62]). Cabo Verde needs to find

ways to anticipate and adapt to rising sea-levels and to decrease coastal erosion without erasing the livelihood of disadvantaged members of the community. This complicated task can be spearheaded by creating knowledge of the local requirements using MSP policies. By incorporating different scenarios for sea-level rise into zoning regulations and construction permits, infrastructure investment can anticipate sea-level rise and provide services in the long-term. Mobilising finance for climate adaptation is an urgent endeavour that will be challenging for the SIDS to achieve. Financial support for SIDS in general is currently falling short of requirements to effectively adapt to climate change. It has also been established that single large disasters attract higher financial support than smaller, recurrent ones that accumulate a similar impact over time (OECD/The World Bank, 2016[105]). In light of the projected rise in damages from sea-level rise and climate change-induced disasters, existing financial investments should incorporate adaptation elements to the extent possible.

There is scope to increase Cabo Verde's disaster response preparedness. The adverse effects of climate change are projected to increase the incidence of not only storms but also other extreme weather events on the archipelago. In 2015 and 2020, tropical storms hit the country, which is a marked increase to the frequency of previous decades. The eruption of the Fogo volcano in 2015 left local communities, road infrastructure and agricultural production heavily impacted by the destruction. A post-disaster needs assessment found that disaster preparedness in the country focussed mostly on reactive measures and could focus more on proactive risk reduction (GFDRR, 2015[106]). A more recent report on emergency preparedness found that whereas on the legal and national policy level there is an advanced strategic framework in place, local authorities tasked with maintaining the operational capacities for disaster preparedness in many cases lack the resources and capabilities to realise the ambitious strategy goals. This is furthermore augmented by a lack of national standards for minimal equipment requirements (GFDRR, 2020[65]). In light of the projected increased risk of natural disasters due to climate change, building capacity in this area is essential to safeguard the development progress achieved in recent years. This capacity building needs to take place at the national level by the creation of a national emergency operations centre and at the municipal level by providing training, equipment and resources to local authorities to enable them to effectively fulfil the operational responsibilities that the national emergency response strategy tasks them with. These capacity-building efforts should take into account the increased risk posed by sea-level rise and coastal erosion due to climate change. Furthermore, capacities to address marine disaster – such as damage to coral reefs or oil spills – should receive due consideration at both the national and the municipal level.

4.3. Accessing finance for a sustainable ocean economy and sustainable development under surging debt

Transitioning from concessional finance to a more diversified set of financial sources

From a financing standpoint, since its LDC graduation, Cabo Verde has faced a dual challenge around: (i) transitioning to a more diversified set of financial sources away from concessional ones and (ii) using scarce concessional resources in a more targeted and effective way to unlock new sustainable investments and reduce the country's economic and environmental vulnerabilities. LDC graduation has meant that Cabo Verde has been able to access diminishing levels of international concessional finance, requiring an increasing focus on mobilising greater public finance as well as on attracting private finance with a proven sustainability focus.

The current COVID-19 crisis, which is severely affecting Cabo Verde's heavily tourism-dependent economy, **has led to the provision of exceptional development assistance and to discussions on new global financing mechanisms that hold the potential to benefit Cabo Verde in important ways.** Together with other existing financing opportunities, these could potentially transform Cabo Verde's financing landscape and put the country on a different trajectory of more inclusive sustainable

development. In particular, it will be important that new sources of liquidity and exceptional support measures be combined with additional efforts and be part of a financing strategy for a blue sustainable recovery that leads to building forward better. In 2020-21 Cabo Verde has been able to access exceptional international assistance to counter the effects of the pandemic, such as USD 32 million under the IMF Rapid Credit Facility to address the urgent balance of payment needs, which together with exceptional support from the World Bank and the EU brought to an estimated USD 42.6 million the direct international support for the country's COVID-19 response – amounting to 29% of Cabo Verde's annual overall ODA in the immediate pre-COVID period 2017-2019 (OECD, 2021[5]). The following paragraphs illustrate some of these initiatives and other promising financial tools and approaches. They could be part of this integrated financing strategy, helping Cabo Verde mobilise greater public and private finance to chart a new course towards a sustainable ocean economy that can act as a driver for inclusive and resilient sustainable development.

Enhancing the volume and stability of tax revenues through tax reforms and better management of key industries to finance sustainability

Domestic revenues, and taxation in particular, are a key source of financing for sustainable development and resilience in SIDS such as Cabo Verde. Compared to external finance, tax revenues are in general a larger and more stable source of revenues, and therefore critical for SIDS to finance their own development in a sustained and sustainable manner. Over the past decades, many ODA-eligible SIDS have implemented a range of tax policy and tax administration reforms which, combined with increasing GDP levels and a favourable economic context, have successfully contributed to raising tax revenue levels in many of them, in particular smaller SIDS (OECD, forthcoming[90]). However, SIDS' domestic revenues remain highly susceptible to external shocks, as witnessed in the current COVID-19 crisis. Even prior to the COVID-19 crisis, in the 2008-18 period, on average tax-to-GDP ratios fluctuated more strongly in ODA-eligible SIDS than in other countries (OECD, forthcoming[90]). In addition, Cabo Verde's high stock of public debt implies that over the next years it faces relatively low fiscal space to borrow in order to support development of ocean-based sectors or invest in sustaining its natural capital in the ocean. Although the current high levels of public debt are largely concessional and therefore deemed manageable by the IMF, fiscal space for future government borrowing is limited and must be assessed carefully (IMF, 2020[87]).

Three main areas were identified as critical for SIDS' governments and providers of development co-operation to partner on in order to enhance domestic resource mobilisation (OECD, forthcoming[90]) and these seem highly relevant to Cabo Verde as well. They are:

- Introduce tax policy and tax administration reforms, learning from and building on previous experience of many SIDS' national jurisdictions, to enhance the volume and stability of tax revenues.
- Enhance the management of existing ocean economy sectors and harness new opportunities from an expanding global ocean economy.
- Support international and domestic efforts to curb illicit, unreported and unregulated fishing.

Further, domestic resources of finance for the ocean could be levied specifically targeting beneficiaries of ocean services such as the tourism sector. The tourism sector constitutes one of the main sources of revenue for the country and profits immensely from its natural beauty and marine natural capital. In order to preserve and protect this asset, the idea of levying a *blue tax* for tourism has been introduced. The revenues of such a tax could be ear-marked for use in conservation efforts and the preservation of ecosystem services provided by the ocean. Additionally, access fees for marine areas could be raised to support those areas. The great advantage of domestic revenue streams is its independence of foreign providers and lack of impact on the country's debt stock. However, the COVID-19 crisis has shown that domestic revenue streams are also subject to fluctuation and vulnerable to global and local economic shocks. Furthermore, Cabo Verde already boasts a comparably high tax-revenue to GNI ratio, which limits

the extent to which domestic resource mobilisation can be increased (OECD, forthcoming[90]). Therefore, earmarked levies on specific activities linked to the ocean are the most appropriate tool to redirect rather than increase domestic resources for investment in sustaining ecosystems services provided by the ocean.

Tapping into new sovereign borrowing instruments for sustainable investments

Sustainability-linked bonds

A new market segment on the rise is that of sustainability-linked bonds (SLBs), defined as a type of bond in which the financial and/or structural characteristics can vary depending on whether the issuers achieve predefined sustainability/ESG objectives. This new type of debt instrument, pioneered in 2019, is the latest addition to the green & sustainable financing toolbox which will broaden the scope of eligible issuers and is a good complement to the green/social/sustainability bond products (with dedicated Use-of-Proceeds) (OECD, 2021[107]). On June 9, 2020, the International Capital Market Association (ICMA)'s Green & Social Bond Principles published a new set of voluntary process guidelines for debt capital market issuances related to sustainability-themed borrowing activity: the Sustainability-Linked Bond Principles. The G20 has also adopted its High-Level Principles on Sustainability-Related Financial Instruments in 2021 (G20, 2021[108]). Since October 2020, more than 25 SLBs have been issued in alignment with ICMA's principles. As of mid-February 2021, outstanding SLB issuances totalled over USD 12 billion, and the SLB market is expected to reach approx. USD 25 billion in 2021, mainly supported by corporates' appeal for this new sustainable debt instrument.

The success and positive growth prospects of these corporate bonds are leading to increasing discussions, especially among international development finance institutions, around the replicability of such debt instruments in the sovereign sphere as a means to support developing countries to tackle increasing levels of debt and at the same time meet increasing financing needs for climate and environmental action. Most corporate SLBs are multiple times oversubscribed, indicating high demand. However, the large interest in these instruments also stems from the high credit ratings of the issuing bodies. This signals that one way for international partners to leverage finance for Cabo Verde's sustainable development would be by guaranteeing for SLB's, which would mean that they can be issued at a lower interest rate than a standard bond (OECD, 2021[107]). Unlike a sustainable bond, such as green or blue bonds, a sustainability-linked bond has no restrictions on the use of proceeds and their KPIs don't have to be Paris-aligned. Instead, it has its own unique characteristics that are designed to promote sustainability while providing general-use liquidity to the issuer.

Sovereign SLBs could potentially provide Cabo Verde and other developing countries with a new source of liquidity to be invested in the conservation and sustainable use of ocean resources in a view to unlock new development opportunities. In addition, the choice of the KPIs underlying the SLBs could be used to incentivise the achievement of ambitious, predetermined sustainability performance objectives with a specific focus on fostering a sustainable ocean economy. For instance, among the possible KPIs under discussion for a sovereign sustainability-linked bond is the coverage of protected areas in relation to marine areas, as well as GHG emissions, and other KPIs linked to the environmental impacts of ocean economy industries could also be added.

Blue bonds

A blue bond would mobilise limited direct finance but could raise Cabo Verde's profile on the private capital markets. The issuance of a blue bond with credit enhancement by development partners is under study. In a study published in 2020, the World Bank investigated the possibility for Cabo Verde to issue a blue bond similar to the first such instrument ever issued by the Seychelles in 2018 (World Bank, 2020[109]). A blue bond is a debt instrument raising private investments in ocean-based activities that exert positive environmental, economic and social benefits. The study posits that realistic maturities for such a

finance instrument are between 5 and 10 years. As such, a blue bond poses a heavier burden on the country's debt stock than concessional sources of finance, which regularly have much longer maturities. This is one factor that limits the volume of blue bonds that the government could issue without threatening the sustainability of its debt portfolio. The study furthermore found that it would be very difficult for Cabo Verde to issue a blue bond as a pure private-market instrument, as coupon payments for the country would be too high. This is partly because Cabo Verde would enter the private capital market as a first-time issuer, which at current levels of debt would push annual interest in the range of 7-10 percent. Instead, the study suggests to issue a blended version of a blue bond as was done by the Seychelles in 2018. One option is for a provider of concessional finance to underwrite a guarantee for the blue bond so as to de-risk private investment. Another option is for a provider of concessional finance to subsidise coupon payments so as to drive down the interest paid by Cabo Verde. A mix of these two blended finance approaches was used in the Seychelles. In any case however, the debt-based nature of the instrument implies that the maximum sustainable volume of blue bonds that the government of Cabo Verde could issue according to the World Bank study is in the order of USD 10 to 15 million and thus remain below Cabo Verde's average annual ODA for the ocean economy since 2017 (USD 17.8 million per annum).

Issuing a blue bond would create a track record of Cabo Verde in the private capital markets and increase its profile among investors with an affinity for the ocean economy. Although the amount of finance raised by a blue bond would not be transformative per se, the issuance of such a bond could have important reputational effects for Cabo Verde. First, it would enable Cabo Verde to take an important step into private capital markets. With increasing levels of development and the associated decrease in concessional finance, this transition is a route that the country needs to progress on in order to retain access to finance for development. Second, it would increase Cabo Verde's profile among investors with a sustainability focus, particularly those with an interest in investing in the blue economy. This would also raise awareness among financiers of Cabo Verde's development strategy, of which the blue economy is a key component. Overall, these reputational effects could facilitate future access to private finance.

Possible areas of investment can be designed to combine progress in multiple dimensions of the ocean economy. The World Bank has identified three overall areas that could realistically benefit from investment through a blue bond (World Bank, 2020[109]). These areas are: sustainable and diversified tourism; plastic pollution and solid waste management; and fisheries. More specifically, investment in the first category - sustainable tourism - could focus on establishing MPAs, protecting the natural capital and beauty of the marine environment, and improving infrastructure to better integrate tourism into local supply chains. While MPAs could be financed by use-fees in the medium term and infrastructure to integrate local businesses and the tourism sector might also generate revenues, the repayment of funds spent on protection of natural capital would ultimately be borne by the government. Nonetheless, these investments are necessary as destruction of the natural beauty threatens the viability of tourism, especially as more activity-oriented kinds of tourism are promoted. Investment in the second category – plastic pollution and waste management – could entail improved waste-collection and recycling capabilities with a particular focus on solid waste. Investments in this area would have important positive effects on other parts of the ocean economy, as increasing plastic pollution puts at risk the beauty of beaches, fishery activities and the islands' water supply, which relies heavily on the desalination of seawater. Investment in the third category – fisheries – has the potential to affect a large number of artisanal and small-scale fisheries that are currently facing limited opportunities to sell their products and whose profitability is increasingly threatened by environmental pressures such as plastic pollution and unsustainable fishing practices. The goal of investment in this area could be the improvement of cooling facilities and quality certification, which would help integrate local fisheries into supply chains for higher-margin export-oriented markets and the local tourism industry. It thus becomes evident that investment in fisheries may also enhance the social sustainability of the tourism sector, that investment in solid waste management would also benefit fisheries, etc. Sectoral investments should therefore not be assessed in isolation but rather holistically.

The sustainability aspect of private finance in Cabo Verde's ocean economy should receive due consideration – not only to protect Cabo Verde's natural assets but also for the country to remain attractive to private investors that increasingly incorporate sustainability aspects into their investment decisions. Increased visibility of Cabo Verde would ultimately help mobilise private investment in Cabo Verde's ocean economy. Steering the sustainability of private investment at the same time as attracting investors however poses new challenges to the government. The increasing popularity of impact investment in the blue economy provides the opportunity to mobilise private finance, especially in a politically stable country with a comprehensive ocean strategy such as Cabo Verde. Whereas impact investment generally follows a broad definition that includes philanthropic activity, the increased engagement of private investment funds in impact investment poses the greatest opportunity to mobilise finance for sustainable investments. FAO has found that one in five impact investment funds consider SDG 14 (Life below water) in their portfolio, albeit often as a secondary priority (FAO, 2020[110]). To ensure that investments are sustainable not only in name but also in reality, the UN Environment Programme Finance Initiative (UNEP FI) has recently launched a set of guidelines that provide the private sector with information on how to incorporate sustainability considerations into private investment towards the ocean economy (UNEP FI, 2021[111]). This exercise was accompanied by an exclusion list of damaging activities that investors should refrain from financing, including port and maritime transportation projects that exert adverse impacts on local communities, threaten the loss of biodiversity habitats or do not comply with either MARPOL, IMO rules or national regulations regarding waste management, runoff and emissions. The government of Cabo Verde has incentivised investment in the ocean economy using tax exemptions – particularly in the Calhau Special Maritime Economic Zone and in the less developed regions of the archipelago (Cabo Verde, 2021[112]). At the same time, the Ministry for the Maritime Economy has issued a portfolio containing private investment opportunities in Cabo Verde's ocean economy. Out of the 11 projects listed there, 7 constitute investments in port infrastructure, and these comprise 87% of the proposed EUR 717.5 million of foreseen investment. Two of the remaining projects comprising another 9% of this overall intended investment are designated for naval yards (Cabo Verde, 2018[113]). Such a strong focus on infrastructure development in attracting finance necessitates that port projects take due consideration of their environmental impacts as well as their resilience to climate change. It is also important that sustainable investment in other areas of the ocean economy, such as marine renewable energy, environmental protection and sustainable tourism is not crowded out by disproportional investment in only one area of the ocean economy. Granting tax benefits in such a way that they target investment in sustainable ocean economy sectors and practices that have so far received less private investment could provide the government with a tool with which it could steer private finance in a direction that benefits both the country and the ocean. Raising awareness of such diverse investment opportunities in the same way that the government is doing for port infrastructure would constitute another step in this direction. The increasing interest of investors in sustainable investments can help create an interest of financiers to support Cabo Verde's efforts.

Conservation in particular is beginning to become subject to private investment, particularly through blended finance instruments to be targeted by impact investors. A recent blended finance initiative established by the Ministry of the Blue Economy of Belize in cooperation with an impact investment fund and the NGO International Union for the Conservation of Nature has created a novel finance instrument with the aim to fund the management of the Turneffe Atoll, an MPA containing coral reefs, mangroves and sea-grass meadows in Belize. The MPA is designed so as to contribute to conservation efforts within the atoll by generating revenue from nature-based tourism. It also incorporates the needs and protects the biodiversity that supports artisanal fisheries in the area. This pilot project will attract natural capital investment and allow the country to raise funds for governing its MPA (Mirova, 2021[114]). Due to its similar needs regarding growing nature-based tourism and protection of artisanal fisheries, Cabo Verde could aim to attract investment in a similar fashion. The country's comprehensive ocean strategy may prove a valuable asset to attract impact investors for such endeavours.

The allocation of ODA to LMICs such as Cabo Verde could have a higher focus on reducing economic and environmental vulnerabilities, which are disproportionally large in SIDS. The Economic Vulnerability Index (EVI) is the only criterion which Cabo Verde failed to meet when graduating from LDC to LMIC status. This fact reflects the small size of the country, its geographic isolation, vulnerability to changes in the natural environment, the extremely low degree of economic diversification and the high dependence on the world economy that the small size of the economy invariably brings about. It is an established fact that SIDS despite relatively large per-capita incomes exhibit high per-capita costs of development and are disproportionally exposed to economic shocks such as the COVID-19 crisis. A recent initiative led by the UNDP has developed an alternative vulnerability indicator coined the Multidimensional Vulnerability Index (MVI), which further confirms SIDS' and Cabo Verde's strong vulnerabilities. Instead of focussing purely on economic vulnerability, this index additionally incorporates measures of financial, environmental and geographic vulnerability. For SIDS, an important result follows from this broader definition: Whereas only 20 of the 50 most vulnerable countries according to the EVI are SIDS, the MVI classifies 28 SIDS as among the 50 most vulnerable countries in the world. Cabo Verde in particular is ranked as the 15th most vulnerable country in the world according to the MVI, compared to ranking only 42nd on the EVI despite relatively high per-capita income levels (UNDP, 2021[115]). This high vulnerability is illustrated by the fact that, as a result of COVID-19, the country's most important source of income all but vanished due to a complete halt of worldwide tourism. Therefore, the economic downturn was more severe in Cabo Verde than in other LMICs.

To increase the sustainability of investment, finance in maritime projects causing harm to the marine ecosystem will need to be re-directed towards sustainable alternatives. With reduced amounts of ODA, the focus of policy makers to support investment in a sustainable ocean economy must shift towards channelling private finance towards sustainable investment opportunities. In the National Blue Economy Investment Plan – the financing element of Cabo Verde's blue economy strategy – there is a clear focus on investment driven by public-private partnerships. Providers of development assistance can furthermore assist the country's effort to access private funds by leveraging blended finance instruments for development projects that introduce Cabo Verde to private investors at preferential rates of return. This can lead to increased trust and visibility among private investors. For instance, in 2018, the Global Environment Facility funded a project directed at improving Cabo Verde's water supply using renewable sources of energy. This project was executed by UNIDO in cooperation with a number of ministries in Cabo Verde and included private stakeholders as investors thus leveraging in excess of USD 1 million in private finance for the project (GEF, 2018[116]). This type of engagement with a focus on the sustainable ocean economy can help create institutional processes and physical infrastructure needed for future private investment in the country. The OECD has published principles for the sustainable implementation of blended finance instruments, which provide guidance in this process (OECD, 2020[117]).

Expanding the toolbox of innovative instruments to lower the country's debt burden

From Debt Service Suspension to the allocation and possible reallocation of SDRs

Already before the COVID-19 pandemic, many developing countries, including Cabo Verde, had been struggling with rising public and private debt levels. Cabo Verde's domestic revenues suffered a large contraction largely due the effects on the global economic downturn and travel restrictions affecting the tourism sector Cabo Verde's economy heavily depends on. Other developing countries' debt situations were exacerbated by record portfolio capital outflows from emerging economies and often sharp currency devaluations have made debt servicing more onerous, worsening pre-existing unsustainable debt burdens. This situation has led to a number of international initiatives, such as the Debt Service Suspension Initiative (DSSI) launched by the G20 and the Paris Club, which Cabo Verde is benefitting from and which is estimated to free up resources of up to 0.9% of Cabo Verde's 2019 GDP (OECD, 2021[5]).

While this is a positive step, there may be a need to address some of the limitations of the DSSI, such as: (i) its limited time horizon (although it has been extended for a final time to December 2021); (ii) incomplete implementation of the agreement by official bilateral creditors and (iii) no private sector involvement, although this may have limited bearing for Cabo Verde, whose debt is largely owned by bilateral and multilateral creditors. In addition, the DSSI is a debt repayments suspension and not a debt relief mechanism. As such, it can provide short-term fiscal space to countries facing a liquidity crunch as a result of the pandemic, but it offers an incomplete way of addressing long-standing debt issues. More broadly, the DSSI also exposes the shortcomings of an international system that lacks a comprehensive debt moratorium mechanism that can kick in in times of crisis. This is why proposals for changes in the international debt architecture have recently re-emerged, and in particular around the establishment of a multilateral sovereign-debt restructuring mechanism to deal with obligations owed to private creditors as well as the creation of a multilateral credit rating agency.

In addition, in order to address the long-term global needs for reserves during the worst crisis since the Great Depression, the IMF agreed to issue a new general Special Drawing Rights (SDRs) allocation equivalent to USD 650 billion, the largest allocation in IMF history. The SDR allocation is expected to boost the liquidity and reserves of IMF member countries and strengthen their response to the COVID-19 crisis, as well as build confidence, and foster the resilience and stability of the global economy. Currently, proposals have been presented to re-allocate also part of SDR to developed economies towards more vulnerable countries (CEPAL, 2022[118]).

Debt-for-ocean swaps

Innovative debt-relief instruments such as debt-for-ocean-swaps could free up resources for investment in ocean services and thus contribute to the ocean as a global public good. The strained debt situation is one of the main inhibiting factors to public investment in the sustainable ocean economy in Cabo Verde. Freeing up borrowing capacity for investment in preserving the ocean could therefore yield promising results for a highly indebted country such as Cabo Verde. The Seychelles have in the past engaged in a debt-for-ocean swap, where the Paris Club of international creditors forgave debt in return for the establishment of MPAs and on the condition that the financial resources thus available to the debtor country be used towards conservation projects. As Cabo Verde is part of the 30by30 initiative pledging to protect 30% of their EEZ by 2030, such a deal would align with the country's overall strategy and interest. However, debt-for-nature swaps in general and debt-for-ocean swaps in particular constitute highly complex financial instruments that require a high level of expertise, commitment and effort from all parties involved and entail significant transaction costs.

The risk of damage to coral reefs could be partially mitigated using parametric insurance schemes. Cabo Verde's coral reefs constitute one of the country's natural capital assets that serve to attract tourism and are therefore vital to the country's economic progress. The increasing risk of environmental damages to such reefs therefore threatens not only the environmental integrity of local ecosystems but also the economic and social sustainability of the island nation. A quick response to restore reef ecosystems after a damaging event is vital to preserve the biodiversity and natural beauty of coral reefs. New parametric insurance products have been created that allow for quick mobilisation of funds after a disaster and have successfully been employed to insure coral reefs in Mexico and elsewhere. Cabo Verde could use this new tool to adapt to the rising risk of environmental damages to its coral ecosystems and thus increase its resilience to a select type of disasters.

5 Conclusion

The ocean is Cabo Verde's most important resource and affects many industries and aspects of everyday life in the country. Up to two thirds of the economy depends on ocean resources and ecosystem services either directly or indirectly. The tourism sector in particular, which is largely made up of sea, sand and sun tourism, forms the centrepiece of the country's economy and has been the main driver of economic development over the past two decades. Additionally, a large number of inhabitants are employed in the fishery sector, and maritime transport constitutes a key pillar of economic activity.The COVID-19 pandemic has had a detrimental effect on Cabo Verde's economy and exposed the low degree of economic diversification and resulting vulnerabilities to economic shocks that characterise Cabo Verde's economy. This vulnerability is augmented by social and environmental pressures that threaten the sustainability of Cabo Verde's economy. For instance, the low integration of local supply chains in the tourism sector lead to unequal benefits from this large source of revenue. Furthermore, the mounting risk of the effects of climate change, unsustainable fishing practises and environmental pollution, especially marine plastic pollution lead to increasing damages to ocean-based industries and put at risk the country's vital but fragile marine ecosystems. For instance, Cabo Verde is considered one of 11 global biodiversity hotspots. Diversifying the country's ocean economy and building resilience of the marine resources available therefore constitute necessary steps to safeguard Cabo Verde's prosperity.

The government has committed to a high level of ambition regarding the ocean and dedicated political and economic resources to this issue. Cabo Verde is one of the few countries to have set up a Ministry for the Ocean and with the support of the international community has put forward a number of high-level strategies to improve the sustainability of ocean use and the ocean economy. The ocean features prominently on the country's development agenda. At the same time, high levels of public debt and increasingly limited access to concessional finance limit the amount of resources that can be mobilised to operationalise this ambition. To overcome this challenge, the country faces three not-mutually exclusive options. First, the international community can direct existing ODA towards the ocean economy towards a more diverse set of sustainable activities. The overwhelming majority of current ODA projects finance port infrastructure, which may be able to levy private investment. However, this development for the most part does not take into account resilience to the adverse effects of climate change nor contributes to enhancing the sustainablity of the ocean economy and inclusive economic development. Second, access to private finance can be increased by creating a track record of borrowing by Cabo Verde using innovative blended finance instruments. Third, domestic resources towards the ocean could be increased through the creation of access-fees for certain ocean activities or a tax on tourism, a sector which profits heavily from the country's natural marine capital.

The ocean holds great potential for Cabo Verde's future development. Cross-sectoral management of ocean resources using Marine Spatial Planning offers the opportunity to apply a holistic strategy to overcome use-conflicts of ocean resources across sectors and catering to the requirements of ecosystems. Emerging ocean-based industries such as mariculture and marine renewable energies have started to set foot in Cabo Verde and can be built upon. With a keen eye on future developments, Cabo Verde can position itself to cater to the needs of prospectuous industries such as providing bunkering services to a de-carbonising shipping sector. Exceptional development assistance to Cabo Verde to counter the COVID-19 crisis and current discussions on new global financing mechanisms to

face the crisis hold the potential to benefit Cabo Verde in important ways. Together with other existing financing opportunities, these could potentially transform Cabo Verde's financing landscape if new sources of liquidity and exceptional support measures be combined with additional efforts and be part of a financing strategy for a blue sustainable recovery that leads to build forward better.

References

Africa Finance Corporaton (2010), *Projects: Cabeolica Wind Farm Project*, https://www.africafc.org/what-we-do/our-projects/cabeolica-wind-farm-project/. [100]

African Development Bank (2020), *African Economic Outlook*. [120]

African Development Bank (2020), *West Africa Economic Outlook*. [121]

African Development Bank (2019), *African Economic Outlook*. [9]

African Development Bank (2015), *Project Summary Note: Resolute Marine Energy –Wave2O Energy Project*, https://www.afdb.org/en/documents/cabo-verde-resolute-marine-energy-wave2o-energy-project-sefa-project-summary-note. [101]

American Meteorological Society (2017), *Hurricane Fred (2015), Cape Verde's First Hurricane in Modern Times: Observations, Impacts, and Lessons Learned*, https://doi.org/10.1175/BAMS-D-16-0222.1. [27]

Banco de Cabo Verde (2020), *Balance of payment statistics: Emigrants' remittances by country of origin*, https://www.bcv.cv/en/Estatisticas/Quadros%20Estatisticos/Sector%20Externo/quadrosestatisticos/Paginas/BalancadePagamentos.aspx. [85]

Blue Action Fund (2020), *Gender-responsive Guidance for Coastal Conservation and Sustainable Fisheries Projects*, https://www.blueactionfund.org/wp-content/uploads/2020/10/200826_BlueAction_Gender_Guide.pdf. [63]

Cabo Verde (2021), *Cabo Verde Trade Invest*, https://cvtradeinvest.com/economia-do-mar. [112]

Cabo Verde (2020), *2020 Update to the Nationally Determined Contribution*, https://www4.unfccc.int/sites/NDCStaging/Pages/Home.aspx. [83]

Cabo Verde (2020), *National Blue Economy Investment Plan (PNIEA)*. [95]

Cabo Verde (2018), *Grandes Opções do Plano Estratégico de Desenvolimento Sustanéval do Turismo em Cabo Verde (2018-2030)*. [51]

Cabo Verde (2018), *Investment Brochure: Blue Economy Sector*, https://peds.gov.cv/caboverdef4dev/wp-content/uploads/2018/12/Blu-Economy-Sector-w.pdf. [113]

Cabo Verde (2018), *SDG Cabo Verde: Voluntary National Report on the Implementation of the 2030 Agenda for Sustainable Development*. [64]

Cabo Verde (2018), *Sectoral Background Paper: Energy*. [80]

Cabo Verde (2016), *Intended Nationally Determined Contribution of Cabo Verde*, https://www4.unfccc.int/sites/NDCStaging/Pages/Home.aspx. [96]

Cabo Verde (2016), *Plano Estratégico de Desenvolvimento Sustentável (PEDS)*. [8]

Cabo Verde (2015), *Relatório Causas e Consequências da Perda de Biodiversidade Nacional e sua Relação com o Bem Estar Humano*. [53]

Cameron, C. and J. Gatewood (2008), "Beyond Sun, Sand and Sea: The Emergent Tourism Programme in the Turks and Caicos Islands", *Journal of Heritage Tourism*, Vol. 3/1, pp. 55-73, https://doi.org/10.1080/1743873x.2008.9701250. [50]

CEPAL (2022), *Special Drawing Rights (SDRs)*, https://repositorio.cepal.org/bitstream/handle/11362/47856/1/S2200199_en.pdf. [118]

Comunidade dos Países de Lingua Portuguesa (2010), *Estratégia da comunidade dos Países de Lingua Portuguesa para os oceanos*, https://oceano.cplp.org/media/1134/estrategia-da-cplp-formatada.pdf. [82]

Creed, J. (2016), "First record of seagrass in Cape Verde, eastern Atlantic", *Marine Biodiversity Records*, pp. 1-4. [70]

CV Interilhas (2021), *Routes and Schedules*, https://www.cvinterilhas.cv/routesschedules. [52]

ECREEE (2021), *Activities: Cabo Verde*, http://www.ecreee.org/node/49254. [97]

ENAPOR (2021), *Port Statistics*, http://www.enapor.cv/en_US/page/estatisticas#. [36]

European Commission (2020), *EU boosts sustainable tourism in Cabo Verde*, https://ec.europa.eu/international-partnerships/news/eu-boosts-sustainable-tourism-cabo-verde_de. [92]

European Commission (2018), *Ex-post and Ex-ante Evaluation Study of the Sustainable Fisheries Partnership Agreement between the European Union and Cabo Verde*, https://doi.org/10.2771/128077. [57]

European Commission (2016), *Report on the operation of Council Regulation (EC) No 1185/2003 on the removal of fins of sharks on board vessels, as amended by Regulation (EU) No 605/2013, and on the international developments in this field*. [60]

FAO (2021), *Cultured Aquatic Species Information Programme*, http://www.fao.org/fishery/culturedspecies/Thunnus_thynnus/en#tcNA008C. [47]

FAO (2020), *Blue Finance Guidance Notes: Impact Investment*, http://www.fao.org/3/ca8740en/CA8740EN.pdf. [110]

FAO (2020), *Fishery and Aquaculture Country Profile Cabo Verde*, http://www.fao.org/fishery/facp/CPV/en#CountrySector-ProductionSector. [39]

FAO (2018), *The state of world fisheries and aquaculture: meeting the sustainable development goals*, https://www.fao.org/3/i9540en/I9540EN.pdf. [43]

FAO Representation to Cabo Verde (2019), *Coparative Evolution of Fishery Landings*. [54]

Ferreira, J. et al. (2021), "Perception of Citizens Regarding Marine Litter Impacts: Collaborative Methodologies in Island Fishing Communities of Cape Verde", *Journal of Marine Science and Engineering*, Vol. 9/3, p. 306, https://doi.org/10.3390/jmse9030306. [62]

Freedom House (2020), *Global Freedom Scores*, https://freedomhouse.org/countries/freedom-world/scores. [119]

G20 (2021), *High-level principles on sustainability-related financial instruments*. [108]

G20 (2020), *Communiqué G20 Finance Ministers and Central Bank Governors Meeting 15 April 2020*, https://g20.org/en/media/Documents/G20_FMCBG_Communiqu%C3%A9_EN%20(2).pdf. [22]

GEF (2018), *Sustainable Energy Access to Manage Water Resources: Addressing the Energy-water Nexus*, https://www.thegef.org/project/sustainable-energy-access-manage-water-resources-addressing-energy-water-nexus. [116]

GFDRR (2021), *ThinkHazard*, https://thinkhazard.org/en/report/47-cape-verde/LS. [66]

GFDRR (2020), *Cabo Verde Emergency Preparedness and Response Diagnostic: Building a Culture of Preparedness*, https://www.gfdrr.org/en/publication/cabo-verde-r2r-report. [65]

GFDRR (2015), *Post Disaster Needs Assessment: Fogo Volcanic Eruption 2014-2015*, https://www.gfdrr.org/en/publication/cabo-verde-post-disaster-needs-assessment. [106]

Government of Cabo Verde (2015), *Post-Disaster Needs Assessment (PDNA): Fogo Volcanic Eruption 2014-2015*. [26]

Government of Canada (2021), *Government of Canada launches international program to track illegal fishing using satellite technology*, https://www.canada.ca/en/fisheries-oceans/news/2021/02/government-of-canada-launches-international-program-to-track-illegal-fishing-using-satellite-technology.html#shr-pg0. [77]

High Level Panel for a Sustainable Ocean Economy (2020), *The Expected Impacts of Climate Change on the Ocean Economy*, https://oceanpanel.org/sites/default/files/2020-09/The%20Expected%20Impacts%20of%20Climate%20Change%20on%20the%20Ocean%20Economy.pdf. [41]

ICCAT (2019), *Questions from CPCs to CPCs and answers*, https://www.iccat.int/com2020/ENG/COC_320_ENG.pdf. [73]

ICCAT (2018), *ICCAT Committee Report on Yellowfin Tuna*, https://www.seafoodsource.com/news/environment-sustainability/iccat-committee-finds-bigeye-tuna-overfished. [72]

IMF (2021), *World Economic Outlook: Managing Divergent Recoveries, April 2021*. [19]

IMF (2020), *Cabo Verde - Request for Disbursement under the Rapid Credit Facility*. [89]

IMF (2020), *Cabo Verde: Second review under the policy coordination instrument and request for modification of targets*. [87]

IMF (2020), *World Economic Outlook database: October 2020*, International Monetary Fund, https://www.imf.org/en/Publications/WEO/weo-database/2020/October/download-entire-database. [21]

IMF (2020), *World Economic Outlook, October 2020: A Long and Difficult Ascent*, International Monetary Fund, https://www.imf.org/en/Publications/WEO/Issues/2020/09/30/world-economic-outlook-october-2020. [18]

IMF (2016), *STAFF REPORT FOR THE 2016 ARTICLE IV CONSULTATION—DEBT SUSTAINABILITY ANALYSIS*. [20]

INDP (2010), *Risk Assessment of the Introduction of Talipia*. [42]

INE (2020), *Relatório da Economia Marítima em Cabo Verde 2014-2017*. [30]

INE (2019), *PIB A PREÇOS DE MERCADO ÓPTICA DO PRODUTO 2017 POR ILHAS (MILHÕES DE ESCUDOS)*, https://ine.cv/quadros/pib-precos-mercado-optica-do-produto-2017-ilhas-milhoes-escudos/ (accessed on 18 May 2022). [122]

INE Cabo Verde (2021), *Contas Nacionais - 2007 a 2017*, http://ine.cv/quadros/contas-nacionais-2007-2017/. [32]

INE Cabo Verde (2020), *Estatísticas do Turismo*, https://ine.cv/wp-content/uploads/2021/04/analiseofertaturistica2020.pdf. [38]

INE Cabo Verde (2020), *Estatísticas do Turismo - Movimentação de Hóspedes, 1 trimestre*, http://ine.cv/publicacoes/estatisticas-do-turismo-movimentacao-hospedes-1o-trimestre-2020/. [24]

INE Cabo Verde (2020), *Estatísticas emprego e mercado de trabalho em Cabo Verde 2019*, http://ine.cv/quadros/estatisticas-emprego-mercado-trabalho-cv-imc-2019/. [33]

INE Cabo Verde (2019), *Tourism Statistics*, https://ine.cv/wp-content/plugins/ine-download-attachments-by-zing-developers/includes/download.php?id=12552. [49]

INE Cabo Verde (2017), *Produto Interno Bruto (PIB) Por ilha*, http://ine.cv/quadros/pib-precos-mercado-optica-do-produto-2017-ilhas-milhoes-escudos/. [14]

INE Cabo Verde (2014), *Conta Satélite de Turismo 2011-2014*, https://ine.cv/wp-content/plugins/ine-download-attachments-by-zing-developers/includes/download.php?id=2216. [34]

Inforpress (2021), *Government praise approval of statute for fisheries inspectors to define career and status of inspector*, https://inforpress.cv/government-praise-approval-of-statute-for-fisheries-inspectors-to-define-career-and-status-of-inspector/ (accessed on 17 May 2022). [59]

IOM (2014), “Cabo Verde Country Profile”, *International Organisation for Migrations*, accessed 2/8/2019, https://www.iom.int/countries/cabo-verde. [6]

IPBES (2019), *The Global Assessment Report on Biodiversity and Ecosystem Services*, https://ipbes.net/sites/default/files/2020-02/ipbes_global_assessment_report_summary_for_policymakers_en.pdf. [75]

IPCC (2021), *Sixth Assessment Report: The Physical Science Bias*. [28]

IPCC (2019), *Special Report on the Ocean and Cryosphere in a Changing Climate*. [2]

IRENA (2020), *Innovation Outlook: Ocean Energy Technologies*, https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2020/Dec/IRENA_Innovation_Outlook_Ocean_Energy_2020.pdf. [102]

ITF (2020), "Navigating Towards Cleaner Maritime Shipping: Lessons From the Nordic Region", *International Transport Forum Policy Papers*, No. 80, OECD Publishing, Paris, https://doi.org/10.1787/ab3d3fbc-en. [103]

IUCN (2021), *The IUCN Red List of Threatened Species*, https://www.iucnredlist.org. [71]

Ministério da Indústria, Comércio e Energia (2021), *Energias Renováveis Cabo Verde*, https://www.energiasrenovaveis.cv/copia-legislacao. [81]

Ministry of Environment and Agriculture of Cabo Verde (2007), *National Adaptation Programme of Action on Climate Change*, https://unfccc.int/resource/docs/napa/cpv01.pdf. [29]

Mirova (2021), *Press release: Mirova, IUCN, TASA, Blue Finance and ministry of Blue Economy of Belize announce their partnership in an innovative blended finance facility to improve the management of Belize's marine protected areas & contribute to its blue economy*, https://www.mirova.com/en/news/mirova-uicn-tasa-blue-finance-ministry-blue-economy-belize-blended-finance-facility-management-mpas. [114]

Moreias, M. et al. (2016), "IUCN Red List assessment of the Cape Verde endemic flora: towards a global strategy for plant conservation in Macaronesia", *Botanical Journal of the Linnean Society*, pp. 413-425, https://doi.org/10.1111/boj.12370. [69]

Morris, R., O. Cattaneo and K. Poensgen (2018), "Cabo Verde Transition Finance Country Pilot", *OECD Development Co-operation Working Papers*, No. 46, OECD Publishing, Paris, https://doi.org/10.1787/1affcac6-en. [16]

Myers, N. (1988), "Threatened biotas: "Hot spots" in tropical forests", *The Environmentalist*, Vol. 8/3, pp. 187-208, https://doi.org/10.1007/bf02240252. [68]

Nordman, E. et al. (2019), "Options for achieving Cape Verde's 100% renewable electricity goal: a review", *Island Studies Journal*, Vol. 14/1, pp. 41-58, https://doi.org/10.24043/isj.73. [99]

Nortuna (2021), *Company website: Projects*, https://www.nortuna.com/projects. [46]

Ocean Health Index (2019), *Cabo Verde Country Scores*, http://www.oceanhealthindex.org/region-scores/scores/cape-verde#data. [79]

Ocean Science Center Mindelo (2017), *`Leaflet for the International Workshop on Marine & Atmospheric Sciences in West Africa*, https://www.oceanblogs.org/capeverde/wp-content/uploads/sites/6/2017/11/17-Nov-2017_Int.-Workshop_Agenda_BlueGrowth-Cabo-Verde-RealityLab.pdf. [44]

OECD (2021), *A new era of digitalisation for ocean sustainability? Prospects, benefits, challenges*, https://doi.org/10.1787/a4734a65-en. [76]

OECD (2021), "Adapting to a changing climate in the management of coastal zones", *OECD Environment Policy Papers*, No. 24, OECD Publishing, Paris, https://doi.org/10.1787/b21083c5-en. [104]

OECD (2021), *Blueprint for improved measurement of the international ocean economy - An exploration of satellite accounting for ocean economic activity*, https://doi.org/10.1787/aff5375b-en. [31]

OECD (2021), "COVID-19 pandemic: Towards a blue recovery in small island developing states", *OECD Policy Responses to Coronavirus (COVID-19)*, Organisation for Economic Co-Operation and Development (OECD), https://doi.org/10.1787/241271b7-en. [5]

OECD (2021), *Creditor Reporting System Database*, https://stats.oecd.org/Index.aspx?DataSetCode=crs1. [84]

OECD (2021), *Scaling up green, social, sustainability and sustainability-linked bond issuances in developing countries*. [107]

OECD (2020), *Blended Finance Guidance & Principles*, https://www.oecd.org/dac/financing-sustainable-development/blended-finance-principles/guidance-and-principles/#principle-2. [117]

OECD (2020), *Sustainable ocean for all: harnessing the benefits of sustainable ocean economies for developing countries*. [3]

OECD (2020), *Sustainable Ocean for All: Harnessing the Benefits for Developing Countries*, The Development Dimension, OECD Publishing, Paris, https://doi.org/10.1787/bede6513-en. [4]

OECD (2018), *Making Development Co-operation Work for Small Island Developing States*, OECD Publishing, Paris, https://doi.org/10.1787/9789264287648-en. [25]

OECD (2017), *Marine Protected Areas*, OECD, https://doi.org/10.1787/9789264276208-en. [93]

OECD (2017), *Marine Protected Areas. Economics, Management and Effective Policy Mixes*, OECD Publishing, Paris, https://www.oecd-ilibrary.org/docserver/9789264276208-en.pdf?expires=1525188936&id=id&accname=ocid84004878&checksum=6CF76FFFBFCE9064BAA1CE92197547D3 (accessed on 1 May 2018). [94]

OECD (forthcoming), *External debt in Small Island Developing States (SIDS): One year into the COVID-19 crisis, where do we stand?*. [91]

OECD (forthcoming), *Managing tourism development for sustainable and inclusive recovery*, OECD Publishing, Paris. [23]

OECD (forthcoming), *Recovering from COVID-19: how to enhance domestic revenue mobilisation in Small Island Developing States*. [90]

OECD/The World Bank (2016), *Climate and Disaster Resilience Financing in Small Island Developing States*, OECD Publishing, Paris, https://doi.org/10.1787/9789264266919-en. [105]

Project Biodiversity (2021), *The Sea Turtles of Cabo Verde*, https://www.projectbiodiversity.org. [78]

Sandin, S. (ed.) (2009), "Estimating the Worldwide Extent of Illegal Fishing", *PLoS ONE*, Vol. 4/2, p. e4570, https://doi.org/10.1371/journal.pone.0004570. [74]

Segurado, R. et al. (2015), "Integrated analysis of energy and water supply in islands. Case study of S. Vicente, Cape Verde", *Energy*, Vol. 92, pp. 639-648, https://doi.org/10.1016/j.energy.2015.02.013. [98]

Technavio Research (2021), *$ 2.79 Billion Growth in Offshore Oil and Gas Pipeline Market During 2020-2024 | 53% Growth to Come From Europe | Technavio*, https://www.businesswire.com/news/home/20210127005462/en/2.79-Billion-Growth-in-Offshore-Oil-and-Gas-Pipeline-Market-During-2020-2024-53-Growth-to-Come-From-Europe-Technavio (accessed on 17 May 2022). [1]

UNCTAD (2021), *Liner Shipping Connectivity Index*, https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=92. [48]

UNCTAD (2018), *Investment Policy Review Cabo Verde*, https://unctad.org/system/files/official-document/diaepcb2018d2_en.pdf. [56]

UNDP (2021), *Towards a Multidimensional Vulnerability Index*. [115]

UNEP FI (2021), *Turning the Tide: How to finance a sustainable ocean recovery - A practical guide for financial institutions*, https://www.unepfi.org/publications/turning-the-tide/. [111]

UNIDO (2016), *Fisheries Value Chain Analysis and Cluster Mapping Cabo Verde*, https://doi.org/10.13140/RG.2.2.23000.29442. [55]

United Nations (2021), *UN Cabo Verde Country Results Report 2020*, https://caboverde.un.org/sites/default/files/2021-04/UN%20Cabo%20Verde%20Country%20Results%20Report%202020_FINAL.pdf. [37]

United Nations Development Program (UNDP) (2018), *Human Development Indices and Indicators: 2018 Statistical Update, Briefing note for countries on the 2018 Statistical Update, Cabo Verde*. [12]

United Nations Development Programme (UNDP) (2013), *Income Gini coefficient, Human Development Reports*. [13]

UNSTATS (2021), *UN Comtrade Database*. [40]

UNWOMEN (2018), *Cabo Verde: Country Gender Profile*, https://www.unwomen.org/en/digital-library/publications/2018/1/country-gender-profile-cabo-verde. [61]

World Bank (2021), *Climate Change Knowledge Portal: Country Profile Cabo Verde*, https://climateknowledgeportal.worldbank.org/country/cape-verde/impacts-water. [67]

World Bank (2021), *International Debt Statistics*, https://datatopics.worldbank.org/debt/ids/. [88]

World Bank (2021), *Migration and Remittances Data*, https://www.knomad.org/sites/default/files/2021-05/Inward%20remittance%20flows%20May.%202021.xlsx. [86]

World Bank (2021), *The World Bank in Cabo Verde*, https://www.worldbank.org/en/country/caboverde/overview. [7]

World Bank (2021), *World Development Indicators*. [10]

World Bank (2020), *Cabo Verde Blue Bond Note*. [109]

World Bank (2019), *Local Sourcing in the Cabo Verde Tourism Supply Chain: Opportunities and Challenges*, https://openknowledge.worldbank.org/bitstream/handle/10986/33183/Local-Sourcing-in-the-Cabo-Verde-Tourism-Food-Supply-Chain-Opportunities-and-Challenges.pdf?sequence=1&isAllowed=y. [45]

World Bank (2018), *Republic of Cabo Verde Adjusting the Development Model to Revive Growth and Strengthen Social Inclusion, SYSTEMATIC COUNTRY DIAGNOSTIC (SCD)*. [11]

World Bank (2017), *Implementation Completion and Results Report on Credits From the International Development Association in the Amount of SDR 9.7 million to the Republic of Cabo Verde*, http://documents1.worldbank.org/curated/en/671791496156189517/pdf/ICR-Main-Document-P106063-2017-05-15-22-01-05252017.pdf. [58]

World Bank Group (2021), *World Bank Data*, https://data.worldbank.org. [15]

World Health Organization (2021), *WHO Covid-19 Dashboard*, https://covid19.who.int/ (accessed on 16 February 2021). [17]

World Travel and Tourism Council (2018), *Travel and Tourism Economic Impact Cape Verde*. [35]