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Implementation of the United for Smart Sustainable Cities Initiative

Smart Sustainable Country Profile: Republic of San Marino

Note by the Committee Bureau

Summary

This document contains the Smart Sustainable Country Profile for the Republic of San Marino.

The Committee is invited to welcome the Country Profile and approve it as an official publication in English and Russian, digital and print.

Preface

The Sustainable Smart Country Profile of the Republic of San Marino was developed upon the request of the Government, within the context of a technical assistance project "Strengthening capacity for the implementation of urban related SDGs in San Marino through the development of the Country Profile on Smart Sustainable Urban Development, Housing and Land Management". The project was funded by the Government of the Republic of San Marino and aimed at enhancing the capacity of national and local authorities to develop and implement sustainable, inclusive and evidence-based urban policies and programmes.

The development of the Country Profile was led by the Housing and Land Management Unit of the United Nations Economic Commission for Europe (UNECE) Division of Forests, Land and Housing, working closely with the Ministry of Territory, the Environment, Agriculture and Civil Protection, the main counterpart of UNECE for the project. The Profile provides the outcomes of the country's evaluation against Key Performance Indicators (KPIs) for Smart Sustainable Cities (SSC) along with action-oriented recommendations for the consideration of the Government.

The KPIs for SSC are a public and freely available standard developed by the UNECE and the International Telecommunications Union (ITU) in the context of the United for Smart Sustainable Cities (U4SSC) initiative. U4SSC is coordinated by UNECE, ITU and the United Nations Human Settlements Programme (UN-Habitat) and is supported by 14 other United Nations agencies. ¹

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¹ Up-to-date information on cities under KPI evaluation by UNECE is available at: https://unece.org/housing/sustainable-smart-cities#:~:text=A%20smart%20sustainable%20city%20is, as%20well%20as%20cultural%20aspects.

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The UNECE secretariat would like to express its gratitude for the support of H.E. Mr. Stefano Canti, Minister for the Territory, Environment, Agriculture and Civil Protection of the Republic of San Marino and H.E. Mr. Marcello Beccari, Permanent Representative of the Republic of San Marino to the United Nations Office at Geneva and other international organizations in Switzerland. This publication represents the results of a joint effort and sets the context for deepening UNECE's support of the Republic of San Marino.

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Acronyms and abbreviations

AASS State Autonomous Agency for Public Services

ASSLP State Autonomous Agency for Public Works

EU European Union

EUR Euro

FDI Foreign Direct Investment

GDP Gross Domestic Product

IMF International Monetary Fund

ICT information and communications technology

ITU International Telecommunications Union

KPIs Key Performance Indicators

kWp Kilowatt-Peak

MSMEs Micro and Small and Medium Enterprises

SDGs Sustainable Development Goals

SMEs Small and Medium Enterprises

SSC Smart Sustainable Cities

UNESCO United Nations Educational, Scientific and Cultural Organization

USD United States Dollars

Executive summary

The third smallest microstate in Europe, the Republic of San Marino is a high-income country that has been pursuing an environment-driven approach to development, one that is consistent with its cultural heritage. It has registered an impressive progress in implementing the 2030 Agenda for Sustainable Development (SDGs), capitalizing on its strategic relations with its neighbouring country of Italy and the European Union.

While the lack of data did not allow for evaluating the country's performance against all the KPIs for SSC, the results of the assessment show the country as scoring:

- Strong performance in the areas of employment, water and sanitation and waste management, safety, housing, health and culture and environmental quality
- Moderate performance in information and communications technology (ICT) infrastructure, electricity supply and drainage, public spaces, social inclusion and education.
- Low performance in transport, public sector procurement, air quality and sustainable energy.

The country was able to bounce back from the COVID-19-induced economic crisis. However, its recovery remains fragile owing to the rising energy prices in the wake of the war in Ukraine. The analysis of the national and city-specific policy and institutional set-up underpinning the country's national and urban development suggests that upscaling the Republic of San Marino's progress across the social, economic and environmental pillars of sustainable development requires targeted interventions in the below areas:

- Sustainable energy
- Water management
- Waste management
- Urban mobility
- Enterprise development

Ensuring the successful implementation of these targeted interventions requires further improving:

- The overall urban policy and governance framework
- Development funding
- The national and local monitoring and evaluation framework for strategic planning

The Profile provides action-oriented recommendations for upscaling efforts under each area. The recommendations were developed in consultation with the local and national authorities and will inform UNECE's work in support of the Government's efforts to realize its ambitious vision.

I. Introduction

Covering a total area of 61.2 square kilometres (km²)², the Republic of San Marino is the third smallest microstate³ in Europe after the Holy See and the Principality of Monaco, and the oldest⁴ country in the world. It boasts a high standard of living and is focused on harnessing the full potential of information and communications technology (ICT) to further improve the quality of life of its inhabitants following an environment-driven development agenda.

This Profile is meant to help the Republic of San Marino realize this vision. It was prepared upon the request of the Government, using the United Nations Economic Commission for Europe (UNECE) Key Performance Indicators (KPIs) for Smart Sustainable Cities (SSC), which were developed jointly with the International Telecommunications Union (ITU) and implemented in over 150 cities across the globe.⁵

The KPIs consist of 112 quantifiable performance measurements for evaluating UNECE cities against a common set of benchmarks of excellence, which track progress toward the achievement of the Sustainable Development Goals (SDGs). The indicators are spread across the economic, social and environmental dimensions of the 2030 Agenda for Sustainable Development (2030 Agenda), with information and communications technology (ICT) integrated as a cross-cutting "means of implementation".⁶

The emphasis is on helping city leaders use ICT for improving the quality of life of all inhabitants and bolstering their cities' overall competitiveness in a manner that is consistent with the 2030 Agenda principle of policy coherence. In so doing, the KPIs provide city leaders with a consistent

https://web.archive.org/web/20161112040204/http://www.sanmarino.sm/on-line/home/san-marino/scheda-paese/informazioni-sulla-popolazione.html

For legal definition of a microstate according to EU standards, see: https://data.consilium.europa.eu/doc/document/ST%206655%202008%20INIT/EN/pdf

⁴ The Republic of San Marino was founded in 301 AD.

⁵ The KPIs for SSC were endorsed by the UNECE Committee on Urban Development, Housing and Land Management in 2016 (ECE/HBP/2016/4) to form the basis for the United for Smart Sustainable Cities (U4SSC) initiative. The U4SSC brings together 16 United Nations agencies and supports the evaluation of the performance of cities using the KPIs for SSC and the implementation of SSC solutions through the development of guidelines, studies, city action plans, and capacity-building events (https://u4ssc.itu.int/). The KPIs are detailed in the Collection Methodology for Key Performance Indicators for Smart Sustainable Cities, available at: https://unece.org/housing-and-land-management/publications/collection-methodology-key-performance-indicators-smart

⁶ Established under SDG 17 "Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development", "means of implementation" is to be understood as "the interdependent mix of financial resources, technology development and transfer, capacity-building, inclusive and equitable globalization and trade, regional integration, as well as the creation of a national enabling environment required to implement the new sustainable development agenda, particularly in developing countries". For further details, see UN DESA, Technical Support Team brief. Available at https://sustainabledevelopment.un.org/content/documents/2079Issues%20Brief%20Means%20of%20Implementation%20Final TST 141013.pdf.

and standardised method for collecting data and measuring performance as well as a practical reference framework for an integrated, indivisible and balanced treatment of the SDGs.

This Profile was developed in close consultation with the Government. The preparation of the Profile commenced with an evaluation of the performance of the country's performance against the KPIs for SSC and a desk review of urban development plans and initiatives. This was followed by face-to-face and online interviews with government officials as well as experts in 2022, to gain insights into the country's immediate and strategic, long-term development challenges and priority needs.

The Profile is organized in eight chapters. The introduction is followed, in chapters II and III by an overview of the salient features of the Republic of San Marino, including its topology, urbanization patterns and climate change challenges, and the legal and institutional framework underpinning urban development to set the context for the analysis. The evaluation of the country's performance against the KPIs for SSC is provided in chapter IV. Chapter V looks into the lingering socio, economic and environmental effects of the COVID-19 pandemic, and is followed, in chapter VI, by a discussion of the main challenges on the country's road to achieving smart, sustainable urbanism. The country's sources of development funding are highlighted in chapter VII, leading to action-oriented recommendations in chapter VIII.

II. General overview of the Republic of San Marino

Location, topography and hydrography

The Republic of San Marino is located in Southern Europe, around 39 kilometres (km) away from the Adriatic coast. It lies on the north-eastern side of the Apennine Mountains, and is surrounded by Italy, sharing borders with the regions of Emilia Romagna to the north and east and Marche-Montefeltro to the south and west. The country has a mountainous terrain, with elevation ranges between 53 and 739 meters (m) above sea level⁷.

The country's landscape is shaped by the UNESCO World Heritage-listed Mount Titano⁸, the symbol and highest point of the country. Renowned for its unique silhouette, which features three summits crowned by ancient triple fortifications, Mount Titano peaks at 739 metres (m) above sea level, with most of the landscape found on the mountain's slopes and crests and stretching in an irregular rectangle that runs 13 km in total length from the north-eastern to south-western parts of the country.⁹

⁷ https://www.cbd.int/doc/world/sm/sm-nr-05-en.pdf

⁸ https://whc.unesco.org/en/list/1245/

https://web.archive.org/web/20161112040204/http://www.sanmarino.sm/on-line/home/san-marino/scheda-paese/informazioni-sulla-popolazione.html

The north-eastern parts of the country have a hilly morphology of clay and sand formations, which slope toward the Romagna plain and the Adriatic coast. In contrast, the south-western parts are peppered with mountains, which cropped out of violent earthquakes and are composed of enormous limestone and gypsum boulders with underlying clayey shale (Map 1). These mountains include, in addition to Mount Titano, mounts Carlo (559 m above sea level, a.s.l.), Seghizzo (550 m a.s.l.), Penniciola (543 m a.s.l.), Poggio Castellano (535m a.s.l.), Moganzio (496 m a.s.l.), cerreto (458 m a.s.l.), Deodato (453 m a.s.l.), Montegiardino (340 m a.s.l.), and Cucco (388 m a.s.l.), and Faetano (260 m a.s.l.). Their contrast to the gentle slopes in the north-eastern parts constitute the hallmark of the country's geological formation, known as the "San Marino Formation", a formation that is also renowned for its rich biodiversity. 11

¹⁰ Republic of San Marino (2016). Convention on Biological Diversity: Fifth Nation Report. Available at: https://www.cbd.int/doc/world/sm/sm-nr-05-en.pdf

¹¹ Republic of San Marino (2021). Convention on Biological Diversity: Sixth Nation Report. Available at https://www.cbd.int/doc/nr/nr-06/sm-nr-06-en.pdf.

Chiesanuova

Borgo Maggiore
Domagnano

Fiorentino

Montegiardino

Map 1. Panoramic map of the Republic of San Marino

Source: mapsland.com ¹²

As regard water bodies, these are dominated by rivers, which originate from the country and flow through Italy into the Adriatic Sea. Most notable among these reivers are the San Marino River, the Ausa River, the Fiumicello River and the Marano River, with part of the San Marino River making up the border with Italy (Map 2). To these should be added the numerous streams that punctuate the country's territory, including the Acquaviva, Canepa, Fontevivo, Torsano, Gorgascura, Pozzo Ceci and San Giorgo streams. which also flow into Italy. These rivers and streams cover only 1 per cent of the land surface, and the absence of water reserves and other types of water bodies mean that water scarcity is a salient feature of the country's everyday life.

¹² https://www.mapsland.com/europe/san-marino/panoramic-map-of-san-marino



Map 2. Main rivers: Republic of San Marino

Source: GIS Geography¹³

If anything, the country's small size and topography pose serious challenges to urban development as follows:

• *Vulnerability to landslides and bradyseismic rise*: The San Marino Formation is vulnerable to landslides caused by the tectonic shifts in the broader surrounding valley of Valmarecchia. ¹⁴ The resulting bad lands are compounded by the dissolution of the

¹³ https://gisgeography.com/wp-content/uploads/2021/07/San-Marino-Map.jpg

¹⁴ The Valmarecchia valley originates from Monte della Zucca (Tuscany, Italy) and covers the southern part of Emilia Romagna as well as the northern part of the Marche. See, Cornamusini, G., P. Conti, F. Bonciani, I. Callegari and L. Martelli (2017) Geology of the 'Coltre della Val Marecchia' (Romagna-Marche Northern Apennines,

calcareous mountains and hills, creating voids in the subsurface, e.g. sinkholes and other types of karst¹⁵, and, thereof, severe damage, property loss, and disruptions to daily life.¹⁶ In addition, some areas are subject to volcanic-related bradyseismic rise (i.e., gradual uplift of the land surface). This is the case of, for example, Mount Titano, where the bradyseismic rise overhangs the buildings in the city capital city of San Marino.¹⁷

- *Vulnerability to Floods*: Even a few hours of heavy rainfall can cause intense floods, which leaves the affected areas with significant damage. ¹⁸
- *Water scarcity*: Only 1 per cent of the territory is covered by water bodies, rendering the Republic of San Marino among the most water stressed countries in the world. ¹⁹ Water scarcity has also meant that the country is heavily reliant on imports, particularly from Italy, to meet local demand. Thus, negative natural disasters and negative shocks emanating from Italy have reverberating effects on the country's water supply, with adverse consequences for communal, industrial and agricultural activities.
- Land scarcity: The small size of the Republic of San Marino, coupled with its mountainous topography and rich natural habitat, limits the areas available for human settlement and economic activities while complicating the task of striking a balance between the population's competing demands and the imperative for environmental preservation. Even a modest increase in the population size and or industrial and agricultural activities poses risks to the country's ecosystem.
- Lack of energy sources: The Republic of San Marino is not endowed with fossil fuel and does not have power plants.

Population and urbanisation trends

The Republic of San Marino has a small population, estimated at 33,763 inhabitants in July 2022, including 5,574 foreigners, which represented 16.5 per cent of the country's population and were

¹⁵ Karst is a topography formed from the dissolution of soluble rocks such as limestone, dolomite, and gypsum.

Italy), Journal of Maps, 13:2, 207-218.

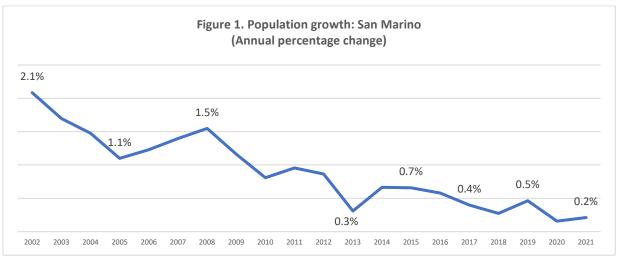
¹⁶ The Republic of San Marino features permanently on Europe's list of areas with marked susceptibility to landslides. See European Landslide Susceptibility Map version 2 (ELSUS v2). Available at: https://esdac.jrc.ec.europa.eu/themes/landslides.

¹⁷For a discussion of bradyseism affected the Republic of San Marino, see, for example, Lima, Annamaria & De Vivo, Benedetto & Spera, Frank & Bodnar, Robert & Milia, Alfonsa & Nunziata, Concettina & Belkin, Harvey & Cannatelli, Claudia. (2009). Thermodynamic model for uplift and deflation episodes (bradyseism) associated with magmatic–hydrothermal activity at the Campi Flegrei (Italy), Earth-Science Reviews 97:44-58

¹⁸ The Government of the Republic of San Marino (2021) Voluntary National Review 2021: San Marino's Implementation of the 2030 Agenda for Sustainable Development. Available at https://sustainabledevelopment.un.org/content/documents/279402021 VNR Report San Marino.pdf.

¹⁹ According to the results of a 2015 analysis by the World Resources Institute. Water stress measures total annual water withdrawals (municipal, industrial, and agricultural) expressed as a percentage of the total annual available blue water. Higher values indicate more competition among users. Detailed information on the analysis is available at: https://www.wri.org/insights/ranking-worlds-most-water-stressed-countries-2040.

predominantly Italian nationals. 20 The country's mountainous typology aside, this small population also reflects the modest population growth over the past decade. As shown in figure 1, annual population growth ranged between 0 and 2 per cent over the past two decades and has been assuming a declining trend since 2009, owing to falling fertility rates. The most recent statistics put the annual fertility rate at 35 per 1000 women of reproductive age (15-14 years old) in 2020, down from 32.16 per 1000 women in 2016.



Source: Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino.

The falling fertility rates has rendered an aging population. As shown in figure 2, Sammarinese belonging to the age group 50-54 years old constituted the largest segment of the population in 2020, whereas in 2010 the largest segment was dominated by those aged between 40 to 44 years. The shift toward an aging population means slower labour force growth and downward pressures on income growth, as working-age inhabitants pay more to support the elderly, and the public budget is strained by increased social spending.

²⁰ In 2022, around 13,370 Sammarinese nationals were residing in the diaspora, mainly in Italy, the United States, France and Argentina. Source: Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino

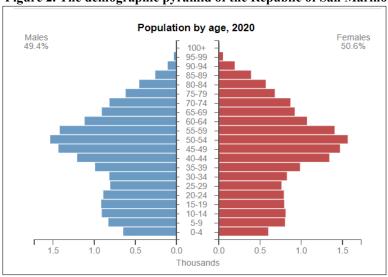


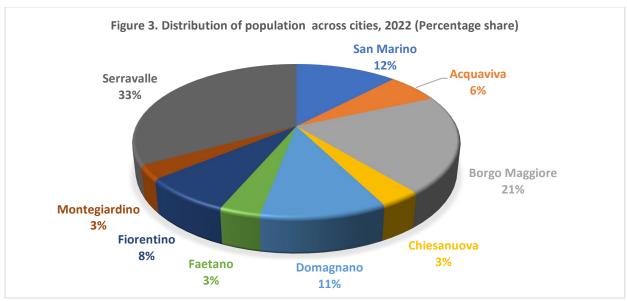
Figure 2. The demographic pyramid of the Republic of San Marino (2020)

Source: Government of the Republic of San Marino²¹

At issue is also the erosive urbanisation trend that have emerged over the past decade. Cities have consistently been home to most of the inhabitants and accommodated 97 per cent of the population in 2021, with the remaining 3 per cent residing in rural areas. Historically, the country's urbanization followed an organized trend whereby human settlement as well as social and economic activities were designed with an eye to preserving the country's biodiversity and cultural heritage. These elements, which define the landscape architecture of the Republic of San Marino's landscape, appear to be undermined by the emergence of spontaneous urban sprawl along the major road routes, particularly the San Marino-Rimini highway.

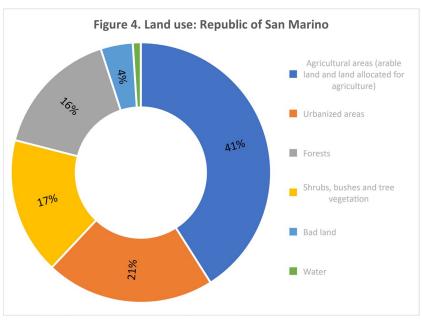
This erosive trend has not only been eating into agricultural land and harming local ecosystems but has also given rise to densely-packed buildings that stand in contrast to the country's cultural heritage. Moreover, this urbanization trend has been underpinned by a disproportionate distribution of the population across the nine administrative districts (*Castelli*), or municipalities, including Montegiardino (3.31 km²); Acquaviva (4.86 km²); Chiesanuova (5.46 km²); Fiorentino (6.56 km²) Domagnano (6.62 km²); San Marino (7.09 km²); Faetano (7.75 km²); Borgo Maggiore (9.01 km²); and Serravalle (10.53 km²) (see Map 1). As shown in Figure 3, Serravalle, the largest city and the country's industrial and agricultural hub, accounted for the lion's share of the population in July 2022 (33 per cent). Borgo Maggiore, the second largest city, and the capital city of San Marino, which together constitute the traditional centre of the country, accounted for a 21 per cent and 12 per cent of the population, respectively.

²¹ Government of San Marino (2022). Provisional Budgets of the State and Public Institutions for the Financial Year 2022 and Multi-Year Financial Statements 2022-2024.



Source: Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino.

Needless to say, the country's urbanization trend puts greater pressure on the infrastructure even as the Republic of San Marino exhibits a relatively low population density (567 inhabitants per km² in 2021),²² thereby rendering it difficult to preserve the natural habitat. As shown in figure 4, 23 urban areas accounted for only 21 per cent of the total land surface, with agricultural areas, predominantly arable land, accounting for 41 per cent in 2021. The remaining land

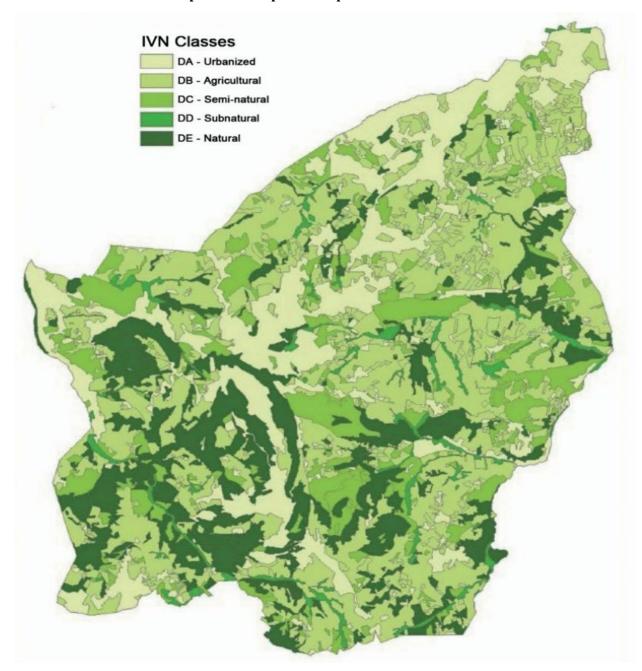


is covered with forests, shrubs and trees, including olive groves, oak, ash, poplar, fir and elm trees and various genera of flower and grass. The predominance of agricultural land and forests reflects the Government's prudent environment-driven land management policy. This policy allowed for

²² The slightly larger microstate of Monaco (75 km²) stands as the most densely populated country in the world (19,497 inhabitants per km² in 2021). See World Bank Open Data at https://data.worldbank.org/indicator/EN.POP.DNST

²³ The Government of the Republic of San Marino (2021) Voluntary National Review 2021: San Marino's Implementation of the 2030 Agenda for Sustainable Development. Available at https://sustainabledevelopment.un.org/content/documents/279402021 VNR Report San Marino.pdf.

limiting bad land to only 4 per cent, and, as shown in map 3, ensured maintaining a large portion of the country's primeval ecosystems.



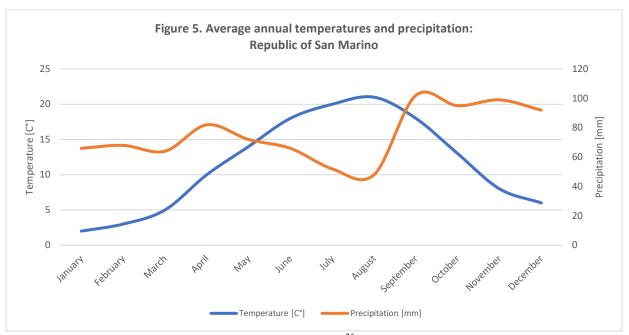
Map 3. Green spaces: Republic of San Marino

Source: Government of the Republic of San Marino²⁴

²⁴ The Government of the Republic of San Marino (2021) Voluntary National Review 2021: San Marino's Implementation of the 2030 Agenda for Sustainable Development. Available at https://sustainabledevelopment.un.org/content/documents/279402021 VNR Report San Marino.pdf.

Climate change impacts

The Republic of San Marino has a varied climate, ranging from temperate, continental to Mediterranean depending on proximity to the sea. The summers are mild, with temperature ranging between 20°C to 30°C, while the winters are marked with stable rainfall and moderate snow precipitation, with the temperate rarely dropping below 6°C (Figure 5).



Source: State Autonomous Agency for Public Services (AASS)²⁵

However, just like other countries around the globe, the country has been affected by climate change, evidenced by the increased frequency of extreme weather events, including periods of heat waves. If this trend continues, the country risks a siphoning away of its terrestrial water storage held in soil, snow and ice, thereby exacerbating its water stress.

Economic profile

The Republic of San Marino is a high-income country with per capital gross domestic product (GDP) averaging euro 38,000 (around USD 32, 992) annually over the period 2015-2019,²⁶ low levels of income inequality and a single-digit unemployment rate. The country's Gini coefficient was estimated at 0.292 in 2017-2018, while unemployment stood at 7.3 per cent in 2019, down from 8.6 per cent in 2016.²⁷

The economy is driven by the services sector, which accounted for around 44 per cent of gross value added in 2019, followed by the industrial sector with a 33 per cent share, while the share of

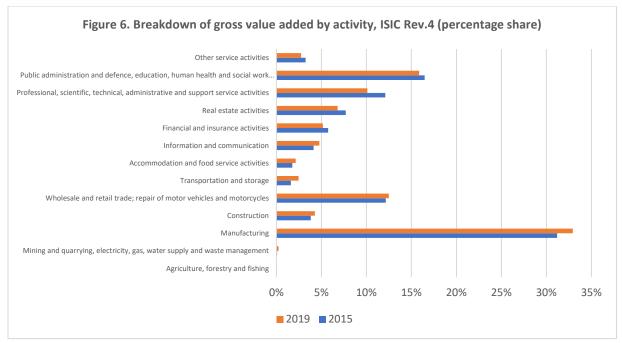
²⁵ Data based on precipitation estimates and rainfall diagrams provided by AASSP.

²⁶ https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=EU

²⁷ Government of the Republic of San Marino (2021). Voluntary National Review. Available at: https://sustainabledevelopment.un.org/content/documents/279402021_VNR_Report_San_Marino.pdf.

agriculture has consistently been less than 1 per cent. A closer examination of the economy's structure, provided in figure 7, reveals that the services sector is dominated by internal trade and professional services, with each accounting for around 12 per cent of services gross value added in 2019. The contribution of Tourism to income growth is modest, with net tourism inflows accounting for 3 percent of GDP in 2019. ²⁸

The industrial sector is dominated by manufacturing, which accounted for 33 per cent of gross value added in 2019 compared to 31 per cent in 2015, with mining and quarrying accounting for less than 1 per cent of gross value added. Figure 6 also highlights another salient feature of the Sammarinese economy, which relates to the public sector's significant role in driving growth, generating 15.9 per cent of the country's gross value added in 2019 compared to a 16.5 per cent share in 2015.



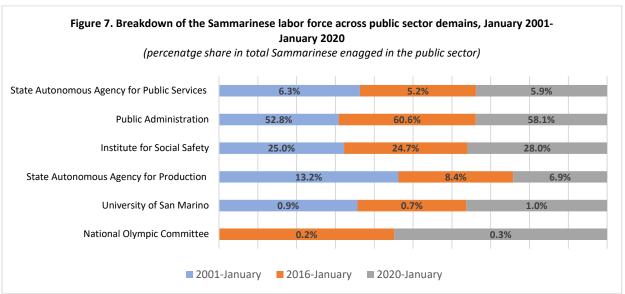
Source: Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino.

The public sector is also a significant contributor to job creation through its various administrative bodies (Chapter III) and Autonomous State Corporations, which are involved in providing public health and utility services. These bodies and corporations appear to have registered productivity gains. While their share in total gross value added decreased by less than one percent, they accounted for 17 per cent of the Sammarinese labour force (i.e., excluding cross-border workers

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See, IMF (2021) for further details on tourism. Available at: https://www.imf.org/-/media/Files/Publications/CR/2021/English/1SMREA2021001.ashx

from neighbouring Italian regions²⁹) in January 2020,³⁰ compared with 24 per cent in January 2001.³¹ As shown in figure 7, around 58 per cent of the Sammarinese engaged in the public sector were civil servants working at the different administrative bodies of the Government. Another 28 per cent worked at the Institute of Social Security (ISS), which is responsible for managing the country's public health and welfare services (including retirement pensions, insurance, and health support to the vulnerable segments of the population).³² Both the public administration and ISS registered a strengthening in their workforce over the past two decades to cater to the increased demand generated by population growth. This was not the case of the remaining Autonomous State Corporations. These were subject to successive reforms,³³ which resulted in scaling down their workforce, and it is this scaling down that stands behind the drop in the public sector's contribution to job creation.



Source: Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino.

Also exhibiting a decreased importance in driving job creation are the manufacturing and construction sectors, with each seeing their share in the total Sammarinese employed in the private sector dropping by 5 per cent over the period January 2001 – January 2020 (Figure 8). The construction sector's share in total employment decreased from 11 per cent in January 2001 to 6 per cent, while that of manufacturing from around 41 per cent to 37 per cent in the case of

²⁹ The number of cross-border workers from neighbouring Italian regions exhibited an increasing trend and ranged between 4,000- and 6,400 over the period January 2001- January 2020. See statistics by the Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino. Available at: https://www.statistica.sm/online/en/home/statistics/employment-and-unemployment.html.

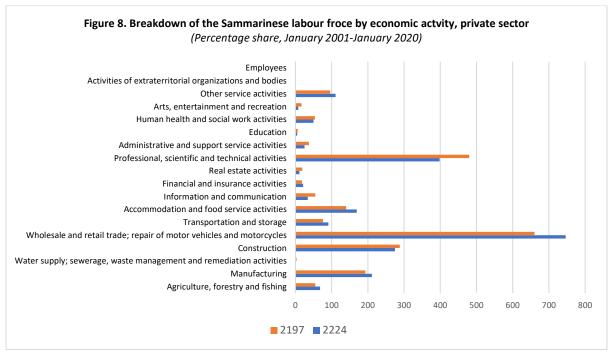
³⁰ The Republic of San Marino reported its first COVID-19 case on 26 February 2020.

³¹ Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino.

³² https://www.iss.sm/on-line/home/chi-siamo.html

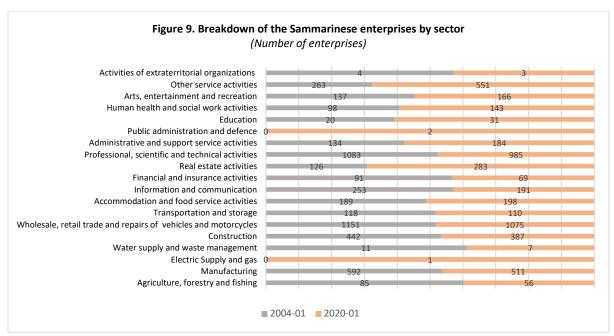
³³ See, for example, https://www.aif.sm/site/en/home/legislation-in-force/documento50060819.html

manufacturing. The declining share of manufacturing in total employment constitutes a positive development in that they signify improved productivity, since they are underpinned by increased shares in total gross value added (Figure 7). The shares of internal trade and financial services registered a slight decrease (less than 1 percent each), while the other sectors increased their contribution in job creation and in the case of information and communications technology (ITC) this increase was underpinned by increased share in gross value added.



Source: Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino.

The above analysis suggests a gradual structural transformation towards increased specialization in economic activities with higher value-added. This is further evidenced from a cursory examination of the Sammarinese enterprise sector, which comprised 4,953 predominately small and medium enterprises in January 2020 up by 3 per cent from 4,797 enterprises in January 2001. As shown in figure 9, this increase was generated by the expansion of the services sector, particularly tourism, real estate and health. In contrast, manufacturing, ICT, construction and internal trade registered a decline in the number of their enterprises over the same period.



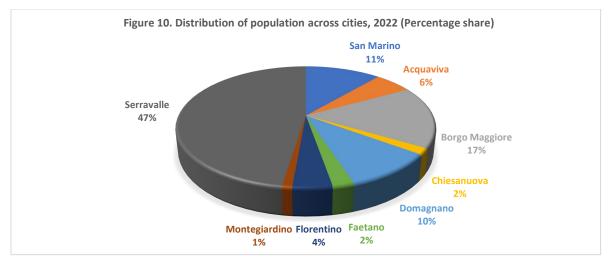
Source: Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino.

Mirroring the urbanization trend, the enterprises are concentrated in Serravalle, Borgo Maggiore and San Marino (Figure 10). Further, they show a heavy reliance on Italy as the main trade partner, a reliance that is born out geographic proximity and common language.³⁴ Italy accounted for around 88 per cent of national exports in 2020, with Switzerland, the United States, France, the Russian Federation, Germany, China, Saudi Arabia, Australia, Spain, and Brazil absorbing the remaining 22 per cent of exports. Italy also stands as the main supply source accounting for 79 per cent of imports in 2020, with China, Germany, Spain, Poland, France, Belgium, Netherlands, Slovenia, Canada and Thailand, accounting for the remaining 31 per cent of imports.³⁵

³⁴ Imports from/exports to the EU, other than Italy, are processed by authorized forwarders following the EU transit procedures and goods are cleared by authorized EU customs offices on behalf of, and for, San Marino. Goods imported from /exported to non-EU countries must undergo the customs formalities at the Italian customs authorized for the Republic of San Marino. Customs clearance formalities are handled by authorized forwarders.

Further details are available at: https://www.agency.sm/en/invest-in-san-marino/key-facts

35 Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino.



Source: Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino

Merchandise trade have consistently generated a positive trade balance. Exports were estimated at about euro 1,1688 million in 2019 vis-à-vis euro 1,561.4 million,³⁶ consisting largely of washing and bottling machines, wine and spirits, other edible preparations (e.g., protein concentrates and textured protein substances), medicine, woodworking machines, and furniture.³⁷ Many of these products are knowledge based with relative comparative advantage (Box 1), lending further evidence to the economy's structural transformation. In contrast, the exports of services appear to consistently lag exports. The resulting deficit has been consistently modest, estimated at euro 14.1 million in 2019. ³⁸

Box 1. The Republic of San Marino: Economic complexity indicators

Most Complex Products by product-complexity index (PCI)³⁹

The highest-complexity exports of the Republic of San Marino, as measured by PCI, are Machining centres, unit construction machines (single station) and multi-station transfer machines for working metal (2.55), Machinery and mechanical appliances; having individual functions, n.e.c. in this chapter (1.95), Electric (electrically heated gas) soldering, brazing, welding machines and apparatus, capable or not of cutting, electric machines and apparatus for hot spraying of metals or sintered carbides (1.78), Lubricating preparations and those used in oil or grease treatment of textile and similar materials; excluding preparations containing 70% or more (by weight) of petroleum or bituminous mineral oils (1.66), and Machine-tools; for deburring, sharpening, grinding, honing, lapping, polishing or otherwise finishing metal, sintered metal carbides or cement by means of grinding stones, abrasives or polishing products (1.63).

³⁶ https://www.imf.org/-/media/Files/Publications/CR/2020/English/1SMREA2020001.ashx

³⁷ Observatory of Economic Complexity at: https://oec.world/en/profile/country/smr

³⁸ https://www.imf.org/-/media/Files/Publications/CR/2020/English/1SMREA2020001.ashx

³⁹ The PCI ranks the diversity and sophistication of the productive know-how that went into manufacturing of individual product. It is used as a proxy for measuring the technical and knowledge intensity of products.

Box 1. The Republic of San Marino: Economic complexity indicators

Most Specialized Products by revealed comparative advantage (RCA)⁴⁰

San Marino has export advantages, measured by RCA in some of top products on the complexity index. Other Non-Knit Clothing Accessories (190), Washing and Bottling Machines (152), Stone Working Machines (108), Carded Wool or Animal Hair Fabric (100), and Woodworking machines (97.8). suggesting weak international competitiveness

Source: Observatory of Economic Complexity⁴¹

The challenge is, therefore, how best to further diversify the Sammarinese economy in a manner that is consistent with the Government's environment-driven development agenda. Linked to this is the further improvement of the ease of doing business⁴². Another challenge relates to improving employment opportunities for the youth and women. Both groups appear to be experiencing difficulties in joining the labour market, evidenced by their higher than national average unemployment rates.⁴³

There is also evidence of increased economic vulnerability at the household level, with 10 per cent of the households describing their living conditions as much worse in 2018 compared to the previous year and another 23.2 per cent drawing attention that their living conditions have slightly worsened. Moreover, around 18 per cent of the households reported assuming new debts in 2018 as compared to 15 per cent, the corresponding figure from the previous year. The households' debt-to-income ratio stood at 34.4 per cent in 2018, signifying over-indebtedness. This is further evidenced by the percentage the households (19 per cent) reporting that they were finding it difficult to make ends meet.⁴⁴

III. Legislative and institutional framework for sustainable development

The oldest country in the world, the constitution of the Republic of San Marino dates to the 16th century. ⁴⁵ It provides for a parliamentary government consisting of a 60-member Grand and

⁴⁰ The RCA indicates whether a country is specializing in products with trade potential. It is based on the idea that if a country exports more than the global average exports of a specific product, then the country has a comparative advantage in that product. If the RCA is higher than 1, then the producer is said to have an RCA in producing a certain good.

⁴¹ https://oec.world/en/profile/country/smr#economic-complexity

⁴² The Republic of San Marino ranked 92 among 190 economies in the ease of doing business, according to the World Bank ratings of 2020. The report is available at:

https://archive.doingbusiness.org/content/dam/doingBusiness/country/s/san-marino/SMR.pdf

⁴³ See unemployment statistics by the Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino at: https://www.statistica.sm/on-line/en/home/statistics/employment-and-unemployment.html#

⁴⁴ Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino, Survey on consumption and lifestyle of San Marino families — 2018.

⁴⁵ For further details, see the Constitutional Laws No. 183 and 184 of December 2005 of the Republic of San Marino.

General Council, elected every five years under a proportional representation system. The Council is responsible for the approval of the budget and selects two heads of state every six months, known as Captains Regent, who may not be selected again until three years have elapsed. The Captains Regent serve concurrently as co-head of State (i.e., hold equal powers), preside over meetings of the Council as well as those of the Congress of State (cabinet). The Congress of State is selected by the Council and is composed of 10 State Secretaries, with each responsible for a sectoral department as follows.

- 1. International Relations: The State Secretary for Foreign Affairs, International Economic Cooperation and Telecommunications.
- 2. Public Administration: The State Secretary for Internal Affairs, Public Administration, Institutional Affairs and Relations with the Castle Councils.
- 3. Public Finance: The State Secretary for Finance and Budget.
- 4. Industry and Regulation: The State Secretary for Industry, Crafts and Commerce, Technological Research and Regulatory Simplification.
- 5. Environment: The State Secretary for Territory and the Environment, Agriculture, Civil Protection.
- 6. Public Health: The State Secretary for Health and Social Security, Social Security and Social Affairs, Political Affairs, Equal Opportunities and Technological Innovation.
- 7. Education: The State Secretary for Education and Culture, University and Scientific Research and Youth Policies.
- 8. Justice: The State Secretariat for Justice and Family.
- 9. Labour: The State Secretariat for Labour, Economic Planning, Sport, Information and Relations with the State Autonomous Agency for Public Services (AASS).
- 10. Tourism: The State Secretariat for Tourism, Post, Cooperation and Expo.

Working under the State Secretaries are the Autonomous State Corporations, which are tasked with the practical implementation of policies and initiatives in the areas of basic utility services, energy and economic development as follows.

- 1. Public Services: AASS, which supports and is overseen by the State Secretariat for Labour, Economic Planning, Sport, Information and Relations.
- 2. Public utilities: State Autonomous Agency for Public Works (AASLP)⁴⁶, which supports and is overseen by the State Secretary for Territory and the Environment, Agriculture, Civil Protection.
- 3. Energy: Regulatory Authority for Public Services and Energy (ARSPE).

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⁴⁶ https://www.aaslp.sm/azienda/normative/

The departments and Autonomous State Corporations provide the overall institutional framework for supporting urban development, with the Department for Territory and the Environment, Agriculture, Civil Protection assuming the lead role. The department is responsible for spatial planning and land administration, which it approaches from the prism of environmental protection as stipulated by law (Annex 2) with an emphasis on ensuring an integrated treatment of the three pillars of sustainability.

The environment-driven approach of the Republic of San Marino is further evidenced by, among other things, the Government's active participation in international agreements and protocols on environmental sustainability and climate change (Annex 3); the national disaster risk management approach, as enshrined in Civil Protection Emergency Plan of May 2018, that is subject to periodic reviews⁴⁷; and, the broad-based public- private sector consultations on climate change within the context of the national "Dialogue Form: Climate Change – The Environment and Climate Change". The Government is also seeking to ensure full and complete compliance of national environmental laws and policies with international and EU standards and best practices.

Over the past two decades, the Government has been operating against a background of sweeping reforms, focused on moving the economy away from its heavy dependence on the financial sector. This dependence was born out of the country's longstanding status as an offshore Italian financial centre with tax advantage, with the financial services accounting for 20 per cent of GDP in 2003-4,⁴⁹ which made the economy vulnerable to negative external shocks and created significant pressures on the public purse. These reforms, summarized in box 2, has provided a solid basis for diversifying the economy, enhancing competitiveness and stimulating renewed interest from foreign investors.

Box 2. Key economic reforms: The Republic of San Marino

Monetary policy

• The Republic of San Marino uses euro as the national currency as per the formal arrangement concluded in 2000 with Italy—on behalf of the European Community. The Central Bank of the Republic of San Marino is not a member of the European System of Central Banks, and, as such, has limited lender-of-last resort capacity.

Banking sector

• Law No. 102/2019 on bank resolutions expanded the Government's powers and tools to resolve failing banks, including, among others, early intervention against banks that suffer losses and show limited prospects of meeting the minimum capital requirements. Furthermore, the law protects all but a limited category of uninsured deposits, thereby restricting the scope of bail-in on top of loss

⁴⁷ Available at: https://www.gov.sm/doc/Amministrazione-trasparente/Protezione-civile/Piani-di-Protezione-Civile.html.

⁴⁸ Republic of San Marino. Dialogue Form: Climate Change – The Environment and Climate Change. 2020. Available at: https://www.studioag.sm/forum/.

⁴⁹ The fifth and most recent forum was held virtually from 23-24 October 2020. Further details are available at: https://www.imf.org/external/pubs/ft/scr/2007/cr0794.pdf

Box 2. Key economic reforms: The Republic of San Marino

absorption by shareholders' equity, hybrid capital instruments, and subordinated debt. Protected uninsured deposits can be converted into senior bonds with longer maturity.⁵⁰

Tax harmonization

- The Government has signed 23 agreements against double taxation (Austria, Azerbaijan, Barbados, Belgium, Croatia, Cyprus, Georgia, Greece, Hungary, Italy, Liechtenstein, Luxembourg, Malaysia, Malta, Portugal, Qatar, Romania, Saint Kitts and Nevis, Serbia, Seychelles, Singapore, United Arab Emirates, Vietnam); 30 tax information exchange agreements; and 8 agreements on investment promotion and protection (Albania, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Cyprus, Croatia, Malaysia, Ukraine).
- The Government deposited its instrument of ratification for the Multilateral Convention to Implement
 Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting (Multilateral Convention
 or MLI) with the OECD on 11 March 2020. The MLI will entered into force on 1 July 2020.⁵¹

Enterprise development

- The Institute for Innovation of the Republic of San Marino was established in 2019 as a wholly Stateowned company to provide a conducive environment for innovation, including through facilitating cooperation between local businesses, innovators, public administration, research institutions as well as collaboration with businesses, innovators and research institutions abroad.⁵²
- A sound legislative basis for e-commerce: The "Law on the Use of Electronic Communications and on Electronic Commerce" ⁵³, is based on the United Nations Commission on International Trade Law (UNCITRAL) Model Law.

Trade and regional integration

- Trade with Italy is governed by the "Agreement between the Government of the Republic of San Marino and the Government of the Italian Republic on economic cooperation" of 31 March 2009, which stipulates a free flow of goods between the two countries with no at-the-border formalities (i.e., there are no customs facilities at the Italian-Sammarinese border). Moreover, the two countries use the same postal and courier system.
- Merchandize trade with the EU is exempt from all customs duties and charges having equivalent effect, as per the Agreement on Cooperation and Customs Union between the European Economic Community and the Republic of San Marino (2002). ⁵⁴ The agreement covers all products, except products falling within the scope of the Treaty establishing the European Coal and Steel Community (coal, coke, steel, pig iron, and scrap iron), and commits the Republic of San Marino to applying the EU Common Customs Tariff for imports from third party countries. In trade in agricultural products, the Republic of San Marino undertook to adopt the EU Community acquis

53 http://admin.abc.sm/cms/media/www.anis.sm/law%2058-2013%20e-commerce.pdf

⁵⁰ See, Central Bank of the Republic of San Marino- Annual Report for the year 2020. Available at: https://www.bcsm.sm/site/en/home/publications-and-statistics/summary-reports/documento63377.html

⁵¹https://www.oecd.org/countries/sanmarino/san-marino-deposits-its-instrument-of-ratification-for-the-multilateral-beps-convention.htm

⁵² https://www.agency.sm/en/san-marino-innovation

⁵⁴ See Eur-lex, Agreement on Cooperation and Customs Union between the European Economic Community and the Republic of San Marino—Declarations, Official Journal L 084, 28/03/2022 p. 0043-0052. Available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A22002A0328%2801%29

Box 2. Key economic reforms: The Republic of San Marino

pertaining to veterinary, plant health and quality regulations where necessary for the proper functioning of the Agreement.

• The Republic of San Marino joined the EU Strategy for the Adriatic and Ionian Region (EUSAIR) in February 2022.⁵⁵

SDG implementation

• The Government committing 0.7 per cent of its Gross National Income to support the implementation of the 2030 Agenda for Sustainable Development.⁵⁶

At the local level, urbanism is supported by Townships (municipalities), which are responsible for the management of basic utility services, the promotion and coordination of cultural, recreational or social activities, the maintenance, planning and realisation of public works, parks, and other local development projects. Each municipality is governed a Town Council that is chaired by a Town Capitan, selected by the Council members (councillors). The councillors, whose number vary depending on the size of the municipality, are elected by city inhabitants every 5 years.⁵⁷

IV. KPI evaluation results

The Republic of San Marino reported data on 77 out of 112 indicators. Specifically, the country reported 40 out of 55 economy indicators, 21 out of 28 environment indicators, and 16 out of 29 society and culture indicators (see annex 1 for a complete list of unreported indicators). The results of the KPI evaluation are visualized using the following colour scheme:

- Red is assigned to indicators with values that are 25 per cent below the corresponding benchmarks.
- Orange is assigned to indicators carrying values that are 25 to 75 per cent below the corresponding benchmarks.
- Green is assigned to indicators with values that exceed 75 per cent of the corresponding benchmarks.

As shown in figure 11, the Republic of San Marino scored above the 75 per cent benchmark for 29 indicators; between 25 and 75 percent for 6 indicators; and below 25 percent for 16 indicators. Below is a summary of country performance against the KPIs for SCC.

⁵⁵ https://www.adriatic-ionian.eu/2022/02/14/san-marino-has-officially-been-included-into-eusair/https://www.adriatic-ionian.eu/about-eusair/

⁵⁶ See, the State Congress Resolution of 19 April 2021 om the "Creation of the UN Agenda 2030".

⁵⁷https://www.agency.sm/en/san-marino-today/the-institutions/the-township-councils#:~:text=Today%2C%20thanks%20to%20a%20law,%2C%20Faetano%2C%20Fiorentino%2C%20Montegiardino.

VOTER PARTICIPATION INTEGRATED BMS
IN PUBLIC BUILDINGS PUBLIC BUILDING
SUSTAINABILITY
DRAINAGE
DRAINAGE
RMWATER SYSTEM FIRE SERVICE THEORMAL SETTLEMENTS HOUSING EXPENDITURE BUILDINGS EMPLOTMENT MATERNAL MORTALITY
RATE PHYSICIANS ICT INFRASTRUCTURE SAFETY LIFE EXPECTANCY PATENTS HOUSING IN-PATIENT HOSPITAL BEDS R&D EXPENDITURE HEALTH INSURANCE PUBLIC HEALTH COVERAGE INNOVATION SMES HEALTH ELECTRONIC HEALTH RECORDS E-GOVERNMENT <25% target PUBLIC SECTOR 25%-75% target LOCAL FOOD PRODUCTION OPEN DATA FOOD SECURITY >75% target STUDENT ICT ACCESS no benchmark EDUCATION no data SCHOOL ENROLLMENT **BICYCLE NETWORK** CULTURE DYNAMIC PUBLIC TRANSPORT INFORMATION HIGHER EDUCATION DEGREES TRANSPORT AIR QUALITY ADULT LITERACY INTERSECTION CONTROL ENERGY CULTURAL INFRASTRUCTURE EMN. QUALITY PUBLIC TRANSPORT NETWORK CULTURAL EXPENDITURE PUBLIC TRANSPO NETWORK CONVENSEN ATR POLLUTION SHARED BICYCLES GHG EMISSIONS SHARED VEHICLES TRAFFIC HONTORING TRANSFORTATION WITHER PROTECTED NATURAL PROTECTED NATURAL ASTEWATER COLLECTION FRESHWATER CONSUMPTION WASTEWATER TREATMENT WATER CONSUMPTION

Figure 11. The Republic of San Marino's performance against the KPIs

Source: UNECE.

KPI Evaluation Results: Economy

Of the 55 economy KPIs, the Republic of San Marino reported data for 40 indicators. The evaluation against these indicators revealed strong performance in the sub-areas of employment, water and sanitation and waste management; moderate performance in ICT infrastructure, electricity supply and drainage; and low performance in transport and public sector procurement.

Given the lack of data, the results of the evaluation are considered through the prism of strategic urban development and the associated imperative of gaining an understanding of the main areas that should form the focus of urban development policies and initiatives. Below is the summary of the results.

Employment

The Republic of San Marino demonstrated excellent performance, given its success in maintaining a single-digit unemployment even during the pandemic.

Water and sanitation

The Republic of San Marino revealed excellent overall performance. In 2021, all the households (100 per cent) had access to clean drinking water and were connected to piped sewers and septic tanks. The country registered strong performance in reducing water loss, with only 19.16 per cent of supplied water lost in distribution.

However, only 10.61 per cent of installed water meters across the country are qualify as "smart", indicating low performance. Moreover, only 55 per cent of the national stormwater drainage system is equipped with smart monitoring solutions, indicating moderate performance.

ICT Infrastructure

The Republic of San Marino reported 91 public WIFI spots available throughout the territory of the country. However, the country does not have data on percentage of the city served by 3G/4G coverage and wireless broadband subscriptions per 100,000 inhabitants.

Around 78 per cent of households have access to internet. However, this strong performance is overshadowed by low subscriptions, with only 0.16 fixed broadband subscriptions per household.

Electricity supply

The Republic of San Marino demonstrated strong performance with regard to access to electricity, with 100 percent of households enjoying access to electricity in 2021. Moreover, all the electricity meters qualify as "smart" (i.e., capable of recording consumption, voltage levels and current and power). However, the country registered moderate performance with regard to using smart, ICT-based monitoring solutions, with 63.64 per cent of electricity supply systems equipped with smart monitoring solutions.

The evaluation also reveals high incidence of system outage. The evaluation reveals 1.93 electrical interruptions per customer on an annual basis with an average length of 11.27 minutes per interruption. The country also registered low performance with regard to the use of energy demand response programmes. Only 7.52 per cent of users having access to such programmes.

Transport

Even though 90 per cent of the population live within 0.5 km of a public transportation stop/station/terminal, the country exhibited low performance in this sub-area, since these stops are not equipped with real-time information displays. Furthermore, the country lacks traffic monitoring systems as well as adaptive traffic control systems. In addition, only 2.33 per cent of all registered vehicles are classified as low-emission vehicles (PHEV & EV), indicating low performance.

Public sector procurement

The Republic of San Marino demonstrated low performance in this sub-area. The country does not have an online contracting system.

KPI Evaluation Results: Environment

Of the 28 environment KPIs, the Republic of San Marino reported data for 21 indicators. The evaluation against these indicators revealed strong performance in the sub-areas of environmental quality, water and sanitation and waste; moderate performance in the sub-area of public space; and low performance in the sub-areas of air quality and sustainable energy. Below is a summary of the evaluation.

Environment

All mobile network sites (100 per cent) are compliant with electromagnetic fields (EMF) exposure guidelines. However, the country appears to lack monitoring systems to track exposure to noise and other types of pollution.

Water and sanitation

The Republic of San Marino demonstrated excellent performance, with 100 per cent of households covered by audited water safety plans. In addition, 83 per cent of wastewater is subject to primary treatment, indicating strong performance. In 2022, total water consumption amounted to 7,314,685 litres of per day, corresponding to 209.13 l/day in per capita consumption.

Waste management

The Republic of San Marino revealed strong performance, with 100 per cent of households served by regular solid waste collection. However, in 2022, only 42.96 of collected waste was recycled.

Public space and nature

In 2022, there were 129.80 hectares of green areas per 100,000 inhabitants, indicating moderate performance. In addition, around 15.05 per cent of the land surface is classified as protected areas by law.

Air quality

The Republic of San Marino revealed low performance in this sub-area, with the Air Quality Index (AQI) carrying the value 14.7 based on the measurement of particulate matter (PM2.5), indicating weak performance. The country also reported 19.8 in detected MP10 per cubic meter, $20.60\mu g/m^3$ of nitrogen dioxide (NO₂) and $71.5\mu g/m^3$ of ozone (O₃).

The Republic of San Marino also showed low performance with regard to annual greenhouse gas emissions (GHG), with 8.2 tonnes of CO₂ emissions per capita.

Energy

The Republic of San Marino revealed low performance in the energy sub-area. Per capita electricity consumption is estimated at 7,753 kilowatts per year, indicating substantial need for improvement. Moreover, only 5.23 per cent of consumed energy (271,157,724 kilowatts per year) is generated from renewable sources.

KPI Evaluation Results: Society and Culture

Of the 29 society and culture KPIs, the Republic of San Marino reported data for 16 indicators. The evaluation against these indicators revealed strong performance in the sub-areas of safety, housing, health and culture and moderate performance in the sub-areas of social inclusion and education. Below is a summary of the evaluation.

<u>Safety</u>

The Republic of San Marino scores high in the area of safety. The country did not witness any violent crimes in 2021 and experienced only 2 traffic fatalities. The safety is maintained by 197 full-time police officers spread throughout the country, indicating strong performance.

Housing

The Republic of San Marino revealed strong performance, with 0 per cent of the total population living in slums, informal settlements or inadequate housing conditions. The country also showed strong performance when it comes to housing affordability, with housing costs (rent /mortgage payments) accounting for 17 per cent of the households' monthly expenses.

Health

The Republic of San Marino demonstrated excellent overall performance. It has 172 registered general and specialized physicians, or 491.89 physicians per 100,000 inhabitants, and 119 beds, or

340.23 beds per 100,000 inhabitants. The year 2021 did not witness any maternal deaths and life expectancy is 86.77 years.

Education

The Republic of San Marino revealed strong performance in terms of school enrolment and ICT facilities, with 92.69 per cent of the school-aged youth registered in primary and secondary schools with full access to ICT facilities. The adult literacy rate was 77.41 per cent, indicating strong performance. Weaker performance was noted in terms of higher education, with 13,069 holders of higher education degrees per 100,000 inhabitants in 2021.

Social inclusion

The Republic of San Marino demonstrated moderate performance in this sub-area. Around 41.06 per cent of citizens eligible to vote exercising this right over the previous two years, indicating moderate overall performance. Further, 28.71 per cent of pre-school-aged children have access to public and private day-care centres, indicating moderate performance.

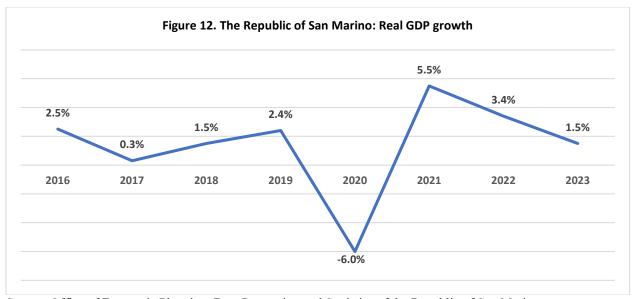
V. Socio-economic impact of the COVID-19 pandemic

The outbreak of the COVID-19 pandemic dealt a strong blow to the Sammarinese economy, which had to labour under the weight the nationwide lockdown and other in-country health protection measures in March pursuant to the WHO guidelines. The lockdown and health protection measures in the partner countries of the Republic of San Marino constituted another channel for the pandemic's effects. Reflecting the high degree of global inter-dependence, these measures disrupted supply chains and tourism, thereby setting in motion adverse dynamics with negative ripple effects on livelihoods.

The economic fallout was deeper than during the 2008 global financial crisis, with real GDP plummeting by 6 per cent year-over-year in 2020 (Figure 12). The ripple effects of the fallout were softened by the Government's rigorous vaccination campaign⁵⁸, which limited the losses in life⁵⁹ as well as the sweeping relief measures and targeted support to enterprise development through targeted lending schemes. These involved the expansion of the supplemental wage mechanism for temporary lay-offs related to the lockdown and virus containment measures; the postponement of payments of taxes, utility bills, sanctions and other administrative; and the temporary reduction of the public sector's wage bill to allow for increasing resources to the health sector (Annex 4). In addition, some commercial banks granted temporary suspension of mortgage and loan payments to further support the liquidity of families and firms.

⁵⁸ See, the national Anti-COVID-19 Vaccination Campaign "My health for the health of all" ("*Il mio bene per la salute di tutti*"). Available at: https://vaccinocovid.iss.sm/#moduli.

⁵⁹ The Republic of San Marino reported 20,552 confirmed cases of COVID-19 with 118 deaths over the period 3 January 2020 to 16 September 2022. As of 22 May 2022, a total of 69,338 vaccine doses have been administered. https://covid19.who.int/region/euro/country/sm



Source: Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino.

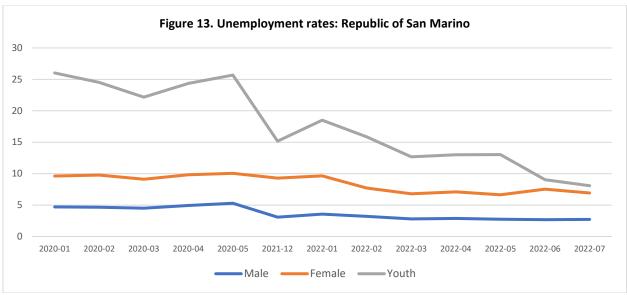
The economy registered full recovery in 2021, with real GDP growing by 5.5 per cent in 2021 (Figure xx). This remarkable record was stimulated by exports, particularly manufacturing, which were quick to pick up steam upon in late 2020 upon the easing of the pandemic-related health safety measures in the Republic of San Marino and in partner countries. Merchandise exports, which declined by 6 per cent in 2020 year-over-year from around euro 1.5 billion to euro 1.4 billion, surpassed their pre-pandemic level, reaching around 1.7 billion in 2021.⁶⁰

However, the past few years have seen a drop in the share of gross fixed capital formation (GFCF) in GDP from the record high level of 23 per cent in 2019 to 19 per cent in 2020.⁶¹ This has further undermined the exports' contribution to income generation, which has exhibited a declining trend over the past few years with the share of exports of goods and services in GDP reaching 164 per cent in 2020 down from 174 per cent in 2015.⁶² Furthermore, although consistently registering a single-digit rate and was estimated at 4.8 per cent in July 2022, unemployment, is more severe among youth (Figure 13).

⁶⁰ Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino. Data available at: https://www.statistica.sm/on-line/en/home/national-summary-data-page.html.

⁶¹ https://data.worldbank.org/indicator/NE.GDI.FTOT.ZS?locations=SM

⁶² https://data.worldbank.org/indicator/NE.EXP.GNFS.ZS?locations=SM



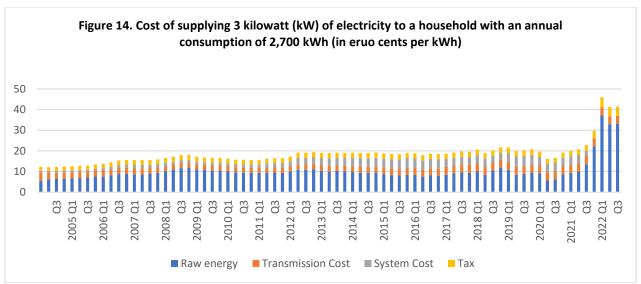
Source: Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino.

The above trends point to the need for upscaling GFCF as well as efforts to integrate the youth into the employed labour force. The year 2022 have registered important steps in this direction, including the creation of 111 companies by June 2022. Most of the newly established start-ups were engaged in professional, scientific and technical activities (+41 new enterprises), followed by those belonging to internal trade and repair of motor vehicles and motorcycles (19), education (11) and real estate activities (13).⁶³ However, maintaining this trend as well as the overall income growth are challenged by the high energy prices. The Republic of San Marino sources gas and electricity from Italy, which has been registering increased energy production costs in light of the war in Ukraine (Figure 14). ⁶⁴

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⁶³ Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino (2022) Statistics Bulletin II quarter 2022. Available at: https://www.statistica.sm/on-line/home/articolo14015989.html

⁶⁴ Data available at https://www.arera.it/it/dati/eep35.htm. Disaggregate data for visualization. See also: https://bolletta-energia.it/comparazione/arera-tariffe; https://luce-gas.it/guida/mercato/arera/tariffe



Source: The Italian Regulatory Authority for Energy, Networks and Environment (ARERA)⁶⁵

The rising energy costs has been driving up gas and electricity costs, with the consequence of exacerbating price pressures as reflected in the spike in consumer prices (Table 1). These conditions risk increasing the households' debt burden. While their debts accounted for only 14 percent of the banking sector's non-performing loans (NPLs) in 2020⁶⁶, the households' failure to ensure timely loan repayments will negatively impact the banking system. At the same time, the Government is struggling with mounting financial pressures, which are fueled by the Government's sizeable public transfers and the lingering weaknesses in the national banking system, which are reflected in, among others, the high NPLs (Chapter VII).

Table 1. Consumer price index: Republic of San Marino

Item	2019	Jun-22	Percentage change
General	112.48	121.64	8%
Food and beverages	138.23	162.22	17%
Alcohol drinks and tobacco	111.46	115.75	4%
Cloths and footwear	113.78	116.77	3%
Residence, water, electricity	110.77	117.64	6%
Furniture and home maintenance	112.95	120.2	6%
Sanitary and health	110.96	112.16	1%
Transport	104.3	119.81	15%
Communication	74.18	73.75	-1%
Recreation	109.3	114.69	5%
Education	109.11	108	-1%

⁶⁵ https://www.arera.it/it/dati/eep35.htm

⁶⁶ https://www.imf.org/-/media/Files/Publications/CR/2020/English/1SMREA2020001.ashx

Item	2019	Jun-22	Percentage change
Shopping and travel	109.63	116.84	7%
Miscellaneous	105.48	108.21	3%

Source: Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino.

The manufacturing sector's situation is also fragile. The public utility company has secured a long-term financial hedge to curb the increase in natural gas prices as well as a short-term hedge to fix electricity prices in 2023. However, there remains the risk whereby energy supply is rationed as natural gas supplies have not yet been secured for 2023. Such a situation will deal a blow to the manufacturing sector, which accounts for around a third of GDP (Chapter II).

VI. Development priorities and challenges

Drawing on the analysis provided in the previous chapters, and the feedback from Government officials, this chapter outlines the main urban development challenges by priority area.

Spatial planning and urban policy

The basic configuration of the Republic of San Marino, coupled with its small size, dictates an extremely close relationship between spatial planning, land use and environmental management. Fostering this relation is at the core of the Government's reform and development efforts, which is anchored in an environment-drive approach focused on ensuring a simultaneous addressing of the three dimensions of sustainability. This approach finds its strongest expression in the Government's focus on achieving energy sustainability, sustainable water management and improving urban mobility.

Sustainable water management

The Republic of San Marino lacks sufficient water resources, with internal sources accounting for 12-15 per cent of water supply. Under such conditions, the country is dependent on sourcing water from abroad, namely from Italy, a dependency that further exacerbates its vulnerability. Transitioning into a greater degree of self-sufficiency ranks high on the development agenda of the Government, evidenced by the numerous studies it has commissioned over the years to explore the possibility of establishing artificial reservoirs for storing water from precipitation, storm water runoff, groundwater and rivers. ⁶⁷

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⁶⁷ See , for example, Balistrocchi, Moretti, Orlandini (2021) "Uso Sostenibile delle Risorse Idrichee Sicurezza Idraulica nella Repubblica di San Marino", Universita degli studi della Repubblica di San Marino, 15 febbraio 2021.

Given the direct impact that water reservoirs carry for the ecosystems and the country's cultural heritage, implementing the recommendations emerging from the studies has been challenging. Furthermore, the implementation of any project is subject to extensive consultations with the public, the majority of which are against projects that negatively impact the country's landscape. In 2022, the Government was considering the establishment of a weir (i.e., low dam barrier) across the San Marino River for water storage and electricity generation purposes (Box 3).

Box 3. Construction of weir across the San Marino

Expected start date: 2023

Expected end date: and completion of activities: 2030.

Estimated costs: euro 35 million

The project draws on a feasibility study that was commissioned by the State Congress and carried out by the University of San Marino, working closely with the Department of Territory and the Environment, Agriculture, Civil Protection and AASS. The envisioned weir, which is expected to hold a volume of 1.5 million m³, will be used for ensuring a continuous supply of drinking water as well as water for irrigation and industrial use. Moreover, in-pipe hydropower will be used for generating electricity.

Another element in the Government efforts relates to instilling the sustainable use of water resources as an integral element of the national values through awareness raising campaigns. These campaigns take the form of educational programmes and study tours to the country's rivers and streams.

The above efforts are guided by the national Integrated Water Resources Management strategy. Established in 1992, the strategy defines integrated water management as "a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems".⁶⁸

This definition is in line with the United Nations conceptualization of integrated water resources management, which is based on the premise that water resources are an integral component of the ecosystem, is a natural resource, and a social and economic good. This conceptualization, which is used to measure the countries' progress in implementing SDG 6 (clean water and sanitation for all)⁶⁹, involves the following four action points:

- Integrating domestic, agricultural, industrial, and environmental needs into water catchment management.
- Encouraging participatory processes that include all groups of water users.
- Emphasizing the role of women in water management.
- Balancing economic efficiency, ecosystem sustainability, and social equity.

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⁶⁸ Government of the Republic of San Marino (2021). Voluntary National Review. Available at: https://sustainabledevelopment.un.org/content/documents/279402021_VNR_Report_San_Marino.pdf.

⁶⁹ https://www.sdg6data.org/country-or-area/San%20Marino#anchor 6.5.1

As shown in figure 15, the Republic of San Marino scores medium to high⁷⁰ across the four action-points, with institutions and participation registering the lowest score. Management instruments received a score of 68 per cent, reflecting the need for strengthening existing monitoring systems with smart solutions (Chapter IV).

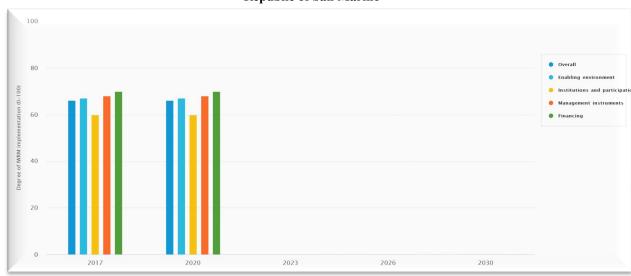


Figure 15. Degree of integrated water resources management implementation by dimension: Republic of San Marino

Source: United Nations Environment Programme⁷¹

Sustainable energy

Lacking energy resources, the Republic of San Marino is heavily dependent on imports for meeting local demand. Italy stood as the main supplier of gas, fossil fuel and electricity, with the latter sourced through the Italian national grid, within the context of on-site exchange system, which allows the Republic of San Marino to store electricity.⁷²

Consistent with its environment-driven approach, the Government considers transitioning to renewable energy as the natural path to follow for ensuring viable energy sources.⁷³ Efforts have focused on promoting solar thermal power systems, photovoltaic (PV) panels and biomass energy

⁷⁰ The benchmarks are: Very low (0-10); Low (11-30); Medium-low (31-50); Medium-high (51-70); High (71-90); Very high (91-100). For details see: https://www.sdg6data.org/country-or-area/San%20Marino#anchor 6.5.1

⁷¹ https://www.sdg6data.org/country-or-area/San%20Marino#anchor 6.5.1

⁷² Gestore Servizi Energetici (GSE). *Scambio sul posto* ("on-site exchange"), Services, Photovolatics (Italian). 2022. Available at https://www.gse.it/servizi-per-te/fotovoltaico/scambio-sul-posto#:~:text=Il%20servizio%20di%20Scambio%20sul,in%20cui%20avviene%20la%20produzione.

⁷³ See the national Energy Plan of the Republic of San Marino 2018-2021. Available at: https://www.consigliograndeegenerale.sm/on-line/home/lavori-consiliari/consultazione-archivi/documento17100173.html

through legislative reforms (Box 4) and financial incentives, particularly feed-in tariffs, ⁷⁴ for promoting investment in renewable energy sources. ⁷⁵

Box 4. Key legislative basis for sustainable energy: Republic of San Marino

- The distribution and sale of electricity and gas in San Marino fall under the Regulatory Authority for Public Services and Energy, guided by the principles of ensuring access to all the population at affordable prices pursuant to Law No. 120 of 20 November 2001
- Law No. 72/2008 redefined the competences and functions of the Regulatory Authority for Public Services and Energy. This Law was implemented through the following Delegated Decrees (D.D):
 - The climatic characteristics of the territory (D.D. No. 88 of 25 June 2009).
 - The feed-in of electricity from RES (D.D. No. 89 of 25 June 2009).
 - The establishment of the Energy Desk (D.D. No. 91 of 25 June 2009).
 - The establishment of the Feed-in Tariff (D.D. No. 92 of 25 June 2009, subsequently
 - amended by D.D. no. 20 of 6 March 2012).
 - The definition of energy performance classes of buildings (D.D. No. 126 of 17 September 2009).
 - The establishment of the Energy Certifiers' Register and the organization of the Service for the Management of Energy Procedures (D.D. No. 127 of 21 September 2009).
 - The encouragement of energy interventions (D.D. No. 128 of 21 September 2009).
 - The energy audit requirement for large users (D.D. No. 129 of 21 September 2009).
 - The provisions implementing and amending Law No. 72 of 7 May 2008 (D.D. No. 84 of 17 July 2012).

Source: Government of the Republic of San Marino (2021). 76

As of 2022, the country had an embryonic biomass energy source. These were predominantly small-scale gasification plants (no more than 100 kWp), since they can be easily installed in small and medium-sized enterprises as well as in farms at a low cost without harming the environmental. The country has also registered an increase in installed PV capacity from 24 Kilowatt-Peak (kWp) in 2010 to 11,204 kWp in 2020, which accounted for 4.4 per cent of renewable energy as of September 2020.

Efforts to achieve sustainable energy have also focused on reducing the energy demand. Recent initiatives include the *Ecobonus* scheme, which provides homeowners with a 110 per cent tax credit for renovations that increase their buildings' energy efficiency. To qualify, homeowners must carry out at least one project, such as enhancing thermal insulation. ⁷⁷ For a country where

⁷⁴ Delegated Decree No. 92 As of 31 July 2020. According to estimates made by the Public Utilities Autonomous State Corporation, the total share of photovoltaic production as of 14 September 2020 was 4.4 per cent.

⁷⁵ AASS. Available at: https://www.aass.sm/site/home/elettricita/energie-rinnovabili/produzione-fotovoltaica-nella-repubblica-di-san-marino.html.

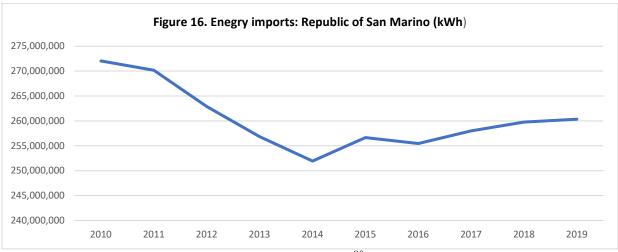
⁷⁶ Government of the Republic of San Marino (2021). Voluntary National Review. Available at: https://sustainabledevelopment.un.org/content/documents/279402021 VNR Report San Marino.pdf.

⁷⁷ Government of the Republic of San Marino (2021). Voluntary National Review. Available at: https://sustainabledevelopment.un.org/content/documents/279402021_VNR_Report_San_Marino.pdf.

around 77.6 per cent of the households are homeowners, ⁷⁸ this scheme provides a powerful tool for engaging the population in the achievement of sustainable energy. Yet another initiative is the online blockchain system, "Low Carbon Ecosystem" ⁷⁹, which provides users, including inhabitants and tourists, with carbon credit tokens if they:

- Use private electric mobility.
- Use innovative mobility solutions (car sharing, carpooling, etc.).
- Use public transport.
- Reduce energy and water consumption.
- Use photovoltaic installation.
- Adopt proper waste recycling and management.
- Properly recycle expired medicines.

The challenge is how best to upscale efforts to accommodate the growing demand. This is demonstrated in figure 16, which shows energy imports as picking up steam in 2014 following to reverse declining trend registered in the previous year. In 2022, the Government was exploring the possibility becoming a primary shareholder in an offshore wind farm that will be created in the neighbouring Italian region Emilia-Romagna. The Government was also considering sourcing wind energy from the neighbouring region, should the first option prove to be less cost-effective.



Source: Government of the Republic of San Marino (2021). 80

Waste Management

As in the case of energy and water consumption, San Marino is highly dependent on Italy for waste disposal, with all waste destined for solid landfills transferred to the neighbouring region of Emilia

⁷⁸ Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino, Survey on consumption and lifestyle of San Marino families — 2018.

⁷⁹ Government of the Republic of San Marino (2021). Voluntary National Review. Available at: https://sustainabledevelopment.un.org/content/documents/279402021_VNR_Report_San_Marino.pdf.

⁸⁰ Government of the Republic of San Marino (2021). Voluntary National Review. Available at: https://sustainabledevelopment.un.org/content/documents/279402021 VNR_Report_San_Marino.pdf.

Romagna. A notable exception is organic waste, which is recycled in the country without posing risks to human health and the environment.⁸¹ Thus, incineration is forbidden. Yet, data obtained from AASS as part of the KPI evaluation shows that only 43 per cent of waste collected was recycled in 2022, indicating the need for further developing the country's waste management capacity.

Recent initiatives to achieve this goal involved awareness raising campaigns (e.g., San Marino Plastic Free campaign that was launched in 2019) and consolidating the legal framework to promote waste management. An example is the Great and General Council decision of 2019 banning the sale of single-use plastics as of 2021⁸². In addition, in 2022, the government was planning to create a waste disposal centre, which will be financed from the public purse at estimated cost of euro 1.8 million.

Urban mobility

San Marino does not have a railway, harbour or an airport. Therefore, commercial and civil transport is carried out by road, with the national road network covering 4 per cent of the country's surface area, as well as cable car. Cars figure out as the mobility mode of preference for the majority, with around 87 per cent of the inhabitants owning private cars. Only 7 singled out public transport and cable car as their preferred mode.

Congestion is, therefore, common, with the travel time index⁸³ estimated at 1.33, meaning that it takes 33 per cent longer to make a trip during a peak period compared to the time required to make the same period at free flow speed. The heavy use of cars is aggravated by tourists from the neighbouring regions of Italy, with the majority traveling by car for single-day visits. ⁸⁴ The resulting negative impacts on the environment and human health is compounded by noise pollution, which the Government is addressing by promoting the use of public transport. ⁸⁵

To address the above challenges, the Government has earmarked euro 150,000 in 2022 for upgrading the main national highway with a view to improve road safety. It is also focused on supporting electrification (including public transport) by creating charging stations, and using e-buses. ⁸⁶ Furthermore, to reduce the car traffic associated with inbound tourists and facilitate access to the country, the Government is planning to re-establish the rail connection between Borgo

⁸¹ Delegated Decree No. 44 of 27 April 2012

⁸² https://www.sanmarinoliberadallaplastica.com/.

⁸³ This index measures the ratio of average travel time in peak hours to the time required to make the same trip at free-flow speed.

⁸⁴ Chamber of Commerce. See Office for Information Technology, Data and Statistics of the Republic of San Marino for statistics on tourists' arrivals. Available at:

https://www.statistica.sm/contents/instance15/files/document/14133101Tav_Afflusso_tur.pdf

⁸⁵ https://europe-cities.com/2022/07/20/san-marino-a-survey-dedicated-to-the-future-of-public-transport/

⁸⁶ See, This Third National Energy Plan of the Republic of San Marino; AASS, "E-way: San Marino is moving differently". Available at: https://eway.sm/en/

Maggiore and San Marino.⁸⁷ It has also allocated euro 3.5 million for extending the airfield in 2020, so that it can be used for short flights. ⁸⁸

VII. Funding and financial framework

Reflecting the economic crisis that engulfed the Republic of San Marino in 2020, the Government experienced a dwindling of its tax revenues⁸⁹, causing their share in GDP to decrease from around 22.9 per cent in 2019 to 21.6 per cent in 2020, amidst projections to record a further decline to around 20.5 per cent in 2021.⁹⁰ The impact of the revenue losses was compounded by growing public expenditures, as the Government reallocated funds⁹¹ to finance its COVID-19 emergency response package for supporting the health sector and the most vulnerable segments of the population (Annex 4).

Public expenditures accounted for 59.1 per cent in 2020 up from 21.4 per cent of GDP in 2019, with direct transfers accounting for the lion's share (Table 2), continuing a historic trend. Under such conditions, public debt saw its share in GDP jump from 32 per cent of GDP in 2019 to 77.9 per cent in 2020. This share is projected to register a slight decrease in 2021 to around 75 per cent in 2021 as the Government is still struggling with mounting financial pressures caused by the banking system's low liquidity, NPLs, and large recapitalization needs, which require re-current state support. Despite recent improvements, NPLs remain high, accounting for 63 per cent of gross loans in the third quarter of 2021. The government is preparing to reduce NPLs through securitisation, with implementation slated for the second quarter of 2023. 92

Table 2. Breakdown of public expenditures: Republic of San Marino (percentage shares)

Area	2019	2020
Education	8.9%	6.6%
Health	14.3%	14.9%
Social protection	41.2%	42.0%
Debt service	0.7%	1.2%
Infrastructure development	1.3%	1.3%

Source: Government financial statistics for the years 2019-2020

⁸⁷ Refer to Guidelines on the Recovery and Redevelopment of the Borgo-Maggiore-San Marino Railway Route (AASLP, 2021).

⁸⁸ See Article 31 of Law No. 94 of 24 June 2022.

⁸⁹ As of 2022, the Republic of San Marino maintains a progressive income tax rate of 9 to 35 per cent for earners reporting more than 80,000 in gross earnings, compared to Italy (23 to 43 per cent) and the EEA average of 46.9 per cent. The tax on the imports of goods is called "monofase" and is set at 17 per cent.

⁹⁰ https://www.imf.org/-/media/Files/Publications/CR/2021/English/1SMREA2021001.ashx

⁹¹ Pursuant to Article 18 of Decree-Law no. 91 of 26 May 2020, the Government introduced an expenditure chapter to the State Budget 1-3-2390, titled "Extraordinary fund to support the economy's recovery", to finance its COVID-19 emergency response package.

⁹² https://www.imf.org/-/media/Files/Publications/CR/2021/English/1SMREA2021001.ashx

The Government's weak fiscal position was compounded by its limited financing options. Historically, the Government depended on domestic sources, including government deposits and funding from banks, so that it has a limited policy space in the face of adverse economic conditions. This is all the more so in view of the persistent weaknesses within the Sammarinese banking sector and the low level of development of the domestic bond market, which, despite improvements, continue to constrain the liquidity buffers of the Central Bank of San Marino (CBSM). This situation changed in February 2021, when the Government resorted to the international bond market by issuing a three-year euro 340 million note with a 3.25 per cent coupon, equivalent to 36.75 per cent of the projected public revenues (net of clearing entries) for the same year.

In addition, the Republic of San Marino now stands to benefits from international and European financial institutions. In June 2019, it became the 70th shareholder of the European Bank for Reconstruction and Development, with euro 2 million in capital subscription as of June 2022. The Republic of San Marino also benefits from the Council of Europe Development Bank, which, in 2020, approved a euro 10 million loan with a 15-year maturity to support the Government's COVID-19 emergency response package.

The Government sees external loans as a measure of last resort and is focused on developing the financial market and improving its fiscal position. In this respect, it is working closely with the International Monetary Fund to gradually rebuild fiscal buffers, including by restricting state support to the banking system; implementing an ambitious fiscal adjustment that relies on both revenue the reduction of expenditures; and enhancing the national debt and cash management capacity. 93

Most recently, and with a view to minimize its rent bill, it has allocated euro 2 million for building new Government offices. ⁹⁴ Moreover, the Government is keen on exploring the use of Public-private partnerships (PPPs), which fall under the responsibility of the Economic Development Agency-Chamber of Commerce of the Republic of San Marino. ⁹⁵ PPPs were used all but once for financing the construction of a multi-storey public car park for public in the 1990s.

VIII. Recommendations

Below are proposed recommendations for the consideration of the government of the Republic of San Marino. The recommendations are organised by priority area and are sequenced along a timeframe, which spans from short-term (0-2 years) to medium (2-5 years) and long-term (>5 years).

⁹³ See, International Monetary Fund, different staff reports. Available at: https://www.imf.org/en/Countries/SMR

⁹⁴ See, article 31 of Law No. 94 of 24 June 2022. In addition, and pursuant to Article 2 of the said law, up to euro 15.9 million were earmarked for acquiring real estate for accommodating Government buildings, State-owned enterprises and international organisations.

⁹⁵ https://www.agency.sm/area-news-generica/2021/12/20/ase-cc-una-partnershipo-pubblico-privata-al-servizio-del-sistema-paese

1. Urban policy and governance framework

- 1.1. Strengthen the municipalities as an important element in the localisation of national development plans. In particular:
 - Consider delegating additional decision-making powers to the municipalities, so as to accord them the required flexibility to address localise national development plans and address emerging needs (Short-term).
 - Equip the municipalities with additional financial resources and expertise skills (Short-term).
- 1.2. **Leverage inter-city collaboration** by establishing a coordination mechanism (in the form of, for example, an association), so as to enable the municipalities to pool efforts and scale up consultations with the central Government (**Medium-term**).

2. Sustainable water management

- 2.1. Accord priority to exploring, protecting and sustainably using groundwater as a critical element for solving water scarcity and adapting to climate change (Short/mediumterm).
- 2.2. **Establish a draught management strategy**. In this respect, the EU Water Framework Directive ⁹⁶ provides a useful reference framework for developing such a strategy. The Directive emphasizes the need to promotes sustainable water use based on a long-term protection of available water resources; emphasizes mitigating the effects of floods and droughts and the need for sustainable balanced and equitable water use (Article 1) and provides in article 8, guidelines for the development and implementation of monitoring programs (**Short-term**).
- 2.3. Further develop the country's water monitoring system, as a pre-requisite for ensuring the successful implementation of the national integrated water resource management approach. In this respect:
 - Accord priority to installing smart water meters across the country (Short/medium-term).
 - Accord priority to equipping the entire stormwater drainage system with smart monitoring solutions (Short/medium-term).

3. Sustainable energy

3.1. Consider upscaling the Ecobonus scheme. This could be done by expanding the incentive systems, so that households are encouraged to go for deeper renovations that reduce reliance on gas and electricity (Short/medium-term).

⁹⁶ https://ec.europa.eu/environment/water/water-framework/index en.html

- 3.2. Launch demand side response schemes to promote intelligent energy use. This will enable households and businesses to be paid in tokens for curtailing power usage during periods of peak demand or high electricity prices (Short/medium-term). Such schemes could involve, among other things: 97
 - Expert advice on customized load-shedding strategies
 - Curtailment strategies such as cycling air conditioning or heating and shifting the use of light or heavy machinery to off-peak times
 - Enhanced metering to provide real-time visibility and analytics of energy use
- 3.3. Accord priority to upscaling composting and/or anaerobic digestion for producing renewable energy. Given that the Republic of San Marino is resource-constrained, composting and anaerobic digestion constitute simpler and cost-effective methods for producing compost, bio-gas, heat, bio-fertilisers and other products (Short/medium-term).
- 3.4. Further develop the electricity distribution infrastructure by, for example: upgrading commissioning new systems that rely (at least in part) on renewable thermal energy (supported by technologies such as heat pumps and energy storage systems); and installing more electric vehicle charging stations, including some that deliver 100 per cent renewable electricity (Medium/long-term).

4. Waste management

- 4.1. **Establish recycling points** across the cities for collecting plastic and glass bottles, disposable cups, etc.
- 4.2. **Establish recycling** centres to provide households and enterprises to bring materials that can be reused to one location (**Short-term**).
- 4.3 Establish deconstruction plants to facilitate re-use (Medium-term).
- 4.4. Create a knowledge base that makes it easier for enterprises to incorporate material recovery and reuse into their production models (Medium/long-term).

5. Urban Mobility

5.1. **Develop local pavement management systems (PMS).** This is important for improving walkability and ensuring continuous monitoring of the local road networks serviceability. In this respect, the PMS of the city of Fano⁹⁸ (Italy), developed jointly by the University of San Marino, the Territorial Information System, AASLP and the Public Works of the city of Fano in 2016-2019, provides a useful example to follow **(Short/medium-term)**.

⁹⁷ See for example, https://control.ee.ethz.ch/research/energy/demand-response-methods.html

⁹⁸ The PMS was developed over the period 2016-2019. Further details are available at: https://www.siteb.it/wp-content/uploads/2021/01/04-Pavement-management-system.pdf.

5.2. Consider establishing of low-emission zones and city-level restrictions on harmful fossil fuel/vehicles. Such policies will have positive have implications for transitioning to renewable energy (Medium/long-term).

6. Enterprise development

6.2. Consolidate a conducive framework for income diversification.

- Develop training programmes, including online courses, on international standards implementation, particularly the new International Organization for Standardization (ISO) Circular economy standard (ISO/TC 323), which covers all aspects of a circular economy including production and distribution, end of life, public procurement as well as wider areas such as behavioural change (Short/medium-term).
- Launch targeted credit schemes for enabling the manufacturing enterprises to adopt circular production methods (Short/medium-term).
- Launch targeted support programmes for developing the ICT industry, with a special emphasis on linking them with regional and international ICT enterprises and specialized ICT research and training institutions (Short/medium-term).
- Address the skills mismatch in the labour market:
 - Strengthen vocational training institutions with resources to develop targeted training for: (i) existing MSMEs' employees to improve their skill sets within their areas of work; and (ii) unemployed individuals whose skills could be upgraded to the specific requirements of their jobs. The emphasis should be on supporting workers engaged in both labour-intensive and technology-intensive activities, as a pre-requisite for improving productivity at the enterprise level (Short/mediumterm).
 - Develop advanced, forward-looking curricula and programmes within the higher education institutions, which tailor both the content and approaches to circular production methods and the services sector needs (Short/Medium-term).
 - Establish a national skills-matching strategy (or sectoral/ field-specific matching strategies) for guiding the above (Short/Medium-term).

6.2. Further develop the construction sector to support transition to green building.

• Establish support programmes to help enable construction enterprises acquire green certification, for example in accordance the EU zero-energy buildings (NZEB) requirements ⁹⁹. Such programmes could involve, among others, training on green building methodologies and online applications (Short/Medium-term).

⁹⁹ See the EU Energy Performance Directive, which requires new buildings to have high energy performance through the use from renewable sources. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583922805643&uri=CELEX:02010L0031-20181224

• Launch targeted credit schemes for financing the construction enterprises' adoption of green building methodologies (Short/Medium-term).

6. Development funding

- 6.1 Establish the legal framework for supporting the use of PPP. In this respect, UNECE recommendations on PPP are of particular relevance (Short/medium-term).
- 6.2 Equip the Economic Development Agency-Chamber of Commerce of the Republic of San Marino with the required expertise skills and management systems so that it can promote PPPs (Short/medium-term).

7. Monitoring and evaluation system for strategic planning

7.1. Upscale data collection efforts for supporting the localization of SDGs. In this respect, the UNECE KPIs provide a starting point for achieving this, with the central and municipal authorities pool efforts with the Office of Economic Planning, Data Processing and Statistics of the Republic of San Marino to develop surveys and supplementary indicators (short-term).

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Annex 1. Unreported KPI indicators for SSC

Economy dimension

- Wireless Broadband Subscriptions
- Wireless Broadband Coverage (3G/4G)
- e-Government
- Public Sector e-procurement
- Research and Development (R&D) expenditure
- Patents
- Small and Medium-Sized Enterprises
- Transportation Mode Share
- Shared Vehicles
- Public Building Sustainability
- Integrated Building Management Systems in Public Buildings

Environment dimension

- Solid Waste Treatment
- Noise Exposure
- Green Area Accessibility
- Recreational Facilities
- Public Building Energy Consumption

Society and Culture dimension

- Electronic Heath Records
- Cultural Infrastructure
- Housing Expenditure
- Gender Income Equity
- Gini Coefficient
- Poverty
- Natural Disaster Related Deaths
- Natural Disaster Related Economic Losses
- Resilience Plans
- Population Living in Disaster Prone Areas
- Emergency Services Response Time
- Fire Service
- Local Food Production

Annex 2. Key legislation for spatial planning

- General Town Plan Law 7/1992 and subsequent amendments The new General Town Plan is currently under consideration.
- Consolidated law of urban planning and building laws Law 14 December 2017 n.140.
- Framework law for the protection of the environment and the safeguarding of the landscape, vegetation and flora Law no. 126 of 16 November 1995.
- Protection of wildlife in the Republic of San Marino Law no.137 of 19 July 2021.
- Environmental Code Delegated Decree 44 of April 27, 2012, and subsequent amendments.
- Law 10 June 1919 n.17 "On the protection and conservation of monuments, museums, excavations and objects of Antiquity and Art".
- Law 103 of 18 September 1990 "Protection of buildings of significant historical, environmental and cultural interest".

Annex 3. The Republic of San Marino: Memberships in international agreements and protocols on environmental sustainability and climate change

- Protocol relating to the 1973 International Convention for the Prevention of Pollution from Ships
- Vienna Convention for the Protection of the Ozone Layer
- Montreal Protocol on Substances that Deplete the Ozone
- Framework Convention on Climate Change
- Kyoto Protocol to the United Nations Framework Convention on Climate Change,
- Doha Amendment to the Kyoto Protocol
- Paris Agreement
- United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa
- Convention on Biological Diversity
- International Convention for the Regulation of Whaling
- Protocol Amending the International Convention for the Regulation of Whaling
- Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- Agreement on the Conservation of Populations of European Bats (EUROBATS)
- European Landscape Convention

Annex 4. COVID-19 emergency response measures: Republic of San Marino

Measures	Description
Financial aid to local businesses in the form of, for example, co-financed bank loans, one-time cash injections, grants, etc.	 Liquidity measures in the form of State-guaranteed loans for economic operators (from April 2020 to June 2021 - Article 20 of Decree-Law no. 91 of 26 May 2020 and Article 16ter of Decree-Law no. 6/2021; extended by Article 11 of Law no. 223 of 23 December 2020). Suspension of payment of principal of bank mortgages and loans for economic operators (from March 2021 to March 2023 - Article 2 of Decree-Law no. 55/2020, Article 24 of Decree-Law no. 66/2020, Article 4 of Delegated Decree no. 60/2021 and Article 1 of Delegated Decree no. 52 of 23 March 2022). Issuance of State guarantee on financing linked to payment of rent payable for economic operators (throughout 2021 - Article 1 letter c) and Article 5 of Delegated Decree no. 60/2021). Non-repayable grant in the form of payment of a sum of money for economic operators with significant losses of turnover in 2020 compared to 2019 (grant paid in 2021 - Article 1 letter h) of Delegated Decree no. 60/2021). Non-repayable grant, for travel and tourism agencies and tour operators, up to a maximum amount of Euro 20,000.00, equal to 80% of the amount of the costs incurred and documented for the production or purchase of materials used in their specific activity (grant paid in 2022 - Delegated Decree no. 4 of 17
Temporary pausing of rent payments for affected local businesses, social and cultural institutions	 January 2022). Suspension until 31/12/2020 and deferral of payment of rent payable on State-owned real estate over 24 months from 01/01/2021 to 31/12/2022 (throughout 2020 - Paragraph 4 of Article 8 of Decree-Law no. 91/2020). Suspension and deferral of payment of rent payables on State-owned real estate from 01/01/2022 in two instalments expiring on 30 June and 31 December 2022 (throughout 2021 - Paragraph 2 of Article 3 of Decree-Law no. 95/2021).

Measures	Description
	• Tax credit equal to 60% of rent payables for the months of March and April 2020 (tax credit to be used in tax returns for the years 2019, 2020, 2021 and 2022 - Article 8 of Decree-Law no. 91/2020).
Tax reduction for affected local businesses, social and cultural institutions	 Tax losses carry-forward in subsequent tax periods without time or amount limits (for tax losses incurred in tax year 2020 - Paragraph 8 of Article 6 of Decree-Law 91/2020). Extension for one year of the benefits for new activities
	under Article 73 of Law no. 166/2013 and Article 4 of Law no. 178/2015 (tax period 2020 - Paragraph 9 of Article 6 of Decree-Law no. 91/2020).
	• 10% tax deduction for share capital increase in 2020 and 2021, paid with capital held abroad (tax period 2020 and 2021 - Article 11 of Decree-Law no. 91/2020).
	• 50% Tax credit for the purchase of protective devices to contain the spread of COVID-19 in workplaces up to a maximum amount of € 10,000.00 (tax period 2020 to be used in 2020/2021 - Article 20-bis of Decree-Law no. 91/2020).
	• Reduction in import tax rate for goods necessary to reduce the spread of COVID-19 (from November 2020 to June 2021 - Article 5 of Law no. 196/2020).
	• For economic operators carrying out their activities in the school sector, reduction of registration tax on contracts signed for the school year 2021-2022 (school year 2021/2022 - Article 2 of Decree-Law no. 161/2021).
Temporary tax exemptions	• Exemption from payment of special income tax
for affected local businesses, social and cultural	(minimum tax) (for 2020 - Paragraph 6 of Article 6 of Decree-Law no. 91/2020).
institutions	• Deferral of payment for debts registered on tax bills issued after 1 January 2018. No interest and penalty fees shall be charged for tax bills issued from 1 January 2020 to 31 December 2021 (tax period 2020 and 2021 - Article 7 of Decree-Law no. 91/2020, Article 65 of Law

Measures	Description
	 no. 223/2020 and Article 13 of Delegated Decree no. 60/2021). Non-repayable grant on the amount of the tax on the occupation of publicly owned property (throughout 2021 - Article 1 letter b) of Delegated Decree no. 60/2021). Non-repayable grant on the amount of the annual licence fee (throughout 2021 - Article 1 letter d) of Delegated Decree no. 60/2021).
Support schemes for the elderly and other vulnerable groups	 Suspension of payment of rent for subsidised housing - 30% rent reduction (from May to December 2020 - Article 3 of Decree-Law no. 91/2020 and Congress of State Decision no. 10 of 17 March 2020). Liquidity measures in the form of State-guaranteed loans for households (from April 2020 to June 2021 - Article 19 of Decree-Law no. 91 of 26 May 2020 and Article 16bis of Decree-Law no. 6/2021; extended by Article 11 of Law no. 223 of 23 December 2020). Suspension of payment of principal of bank mortgages and loans for households (from March 2021 to March 2023 - Article 1 of Decree-Law no. 55/2020, Article 23 of Decree-Law no. 66/2020, Article 4bis of Delegated Decree no. 60/2021, Article 4 of Delegated Decree no. 95/2021 and Article 2 of Delegated Decree no. 52 of 23 March 2022). Suspension of payment of public and private nursery school fees (throughout 2020 - Article 16 of Decree-Law no. 66/2020). Minimum Monthly Family Income (from March 2020 to present - Article 1 of Decree-Law no. 91/2020, extended by Article 17 of Law no. 223 of 23 December 2020, amended by Article 1 of Delegated Decree no. 95 of 25 May 2021). Early leave from work for pregnant women (employees, sole proprietors, and professionals) from the date of ascertainment of the state of pregnancy, with 100% economic allowance (for the period March 2020 to

Measures	Description
	December 2021, extended until 31 March 2022 end of the health emergency - Article 5 of Decree-Law no. 62/2020 and Article 10 of Decree-Law no. 14 of 29 January 2021, Article 19 of Decree-Law no. 208/2021; extended by Article 25 of Decree-Law no. 6 of 21 January 2022). Remuneration of the parent assisting a child or non-self-sufficient person with disability in quarantine (in case of quarantine - Article 24 of Decree-Law no. 6 of 21 January 2022 and Article 19 of Decree-Law no. 208 of 22 December 2021; Article 21 of Decree-Law no. 55 of 29 March 2022).
Other measures/initiatives	 Extension of tax deadlines for both tax returns and payments with the possibility of deferral. Extension and deferral of payment deadlines for social security contributions. Extension and deferral of payment deadlines for bills relating to the integrated water, natural gas, and electricity services. Reduction in social security contributions by sole proprietorships and self-employed workers (for tax period 2020 - Paragraph 8 of Article 6 of Decree-Law no. 91/2020) 60% reduction of minimum contributory income under certain conditions, not combinable with other relevant incentives, for self-employed workers (for tax period 2021 - Article 14 of Decree-Law no. 6/2021). Non-repayable grant on the fixed and variable shares of the Autonomous Public Utilities Corporation turnover for utilities, to different extents according to the reduction in turnover incurred in the financial year 2020 compared to the financial year 2019 (financial year 2021 - Article 1 letter e) of Delegated Decree no. 60/2021). Non-repayable grant on the minimum income contribution rate for sole proprietorships and self-

Measures	Description
	reduction in turnover incurred in the financial year 2020 compared to the financial year 2019 (financial year 2021 - Article 1 letter f) of Delegated Decree no. 60/2021).
	 Non-repayable grant on the SSI and FONDISS contributions for the employees by the employer, to different extents according to the reduction in turnover incurred in the financial year 2020 compared to the financial year 2019 (financial year 2021 - Article 1 letter g) of Delegated Decree no. 60/2021). For accommodation facilities, the San Marino holiday voucher has been provided. The voucher covers three nights: 1 night is paid for by the State, 1 night is paid for by the hotel and 1 night is paid for by the customer (from 31 May 2021 to 9 January 2022 and again from spring 2022 to 31 March 2023 - Decree-Law n.220/2020, Regulation n.12/2020 and Regulation n.2/2022).
	• Wage Supplementation Fund due to reduction of activity caused by the risk of infection from COVID - 19 or the effects of its spread (from March 2020 to
	December 2022) and due to the state of extraordinary crisis due to COVID -19 (from January 2021 to December 2021).

Source: Provided by the Finance and Budget Department of the Republic of San Marino.