



Carrying Capacity Study for Tourism in the Maltese islands

04 July 2022



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The Malta Hotels and Restaurant Association (MHRA)
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San Gwann,
Malta

4 July 2022

Dear Sirs/Mesdames

Carrying Capacity Study for Tourism in the Maltese islands

In connection with our engagement contract dated 19th November 2021 (Contract reference no. MHRA/ESF/01/2021), we enclose our report for a Carrying Capacity Study for Tourism in the Maltese islands.

We draw your attention to the Methodology section in the Annexure in which we refer to the scope of our work, sources of information and the limitation of the work undertaken.

Our work was completed on 11 May 2022 and we have not updated our work since that date.

Our procedures and inquiries do not constitute an audit or a review in accordance with generally accepted auditing standards. In addition, the procedures and inquiries we performed at your request were limited to those required to fulfill the terms of reference of the contract. Accordingly, we make no representation as to the sufficiency of our procedures and inquiries for your purposes.

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Furthermore, because of the importance to our work of information and representations provided to us, by or through you and various external Stakeholders, we are not responsible or liable for any loss, damage, costs, expenses or other consequence (together 'losses') arising from matters on which information material to our work is withheld or concealed from us or misrepresented to us.



Yours faithfully,

Michael Zarb
Director

Deloitte Advisory and Technology Limited

Executive summary

Without action; significant risks of oversupply exist over the next 5 years

Ceteris paribus, sustaining the expected growth in accommodation supply requires extensive tourist arrival growth and raises financial, social and environmental sustainability concerns

- Tourism is one of the most important pillars of the Maltase Islands' economy. Tourism growth has provided direct and indirect financial benefits to a vast array of sectors and provides a significant contribution to employment levels and tax revenues.
- Over the last decades, and peaking in 2019, the increase in tourist arrivals went hand in hand with an increase in private accommodation, many of which are owned by small scale investors and unregulated. In addition to financial benefits, tourism has also had a positive impact on residents' quality of life, as it allowed for the development of recreational, entertainment and commercial options that are unlikely to be otherwise financially feasible without tourism. It has also enabled the establishment of an extensive air-connectivity network that provides considerable benefits to residents.
- The strong growth momentum witnessed pre-covid 19 led to significant supply-side investments that are expected to come online in the coming years. The rapid growth witnessed in recent years together with the extent of expected growth in bed-stock raise concerns over the sustainability of the industry's growth trajectory and growth ambitions.
- The objective of this Tourism Carrying Capacity Study, is to identify the supply side limiting factors for tourism growth and provide recommendations to improve the sector's sustainability.
- During the study we worked closely with MHRA, Gozo Tourism Association (GTA), Malta Tourism Authority (MTA) and Malta International Airport (MIA). We also held interviews with a number of other Stakeholders, including Planning Authority, Heritage Malta, Water Services Corporation, Enemalta, University of Malta, Institute of Tourism Studies, Malta Public Transport, St. Julian's local council and Malta Union of Tourism Guides.
- The most urgent and pressing finding of the study concerns risks of oversupply. Ignoring supply side factors that limit sustainable growth, existing **demand side risks suggest that in the medium-term, arrivals will not be sufficient to sustain the expected growth in available rooms.**

Some residential/ mixed-use space (In Pipeline):

- Corinthia Hal Ferh (162 room 5-star hotel and 25 luxury residences – pending permits)
- Mercury Tower (275 units)
- Shoreline (504 units)
- Fortina
- Jerma
- DB Tower
- Mistra village (pending permits)
- Manoel Island (pending permits, inc. hotel)
- White Rocks (pending permits, inc. hotel)
- Villa Rosa
- Others...

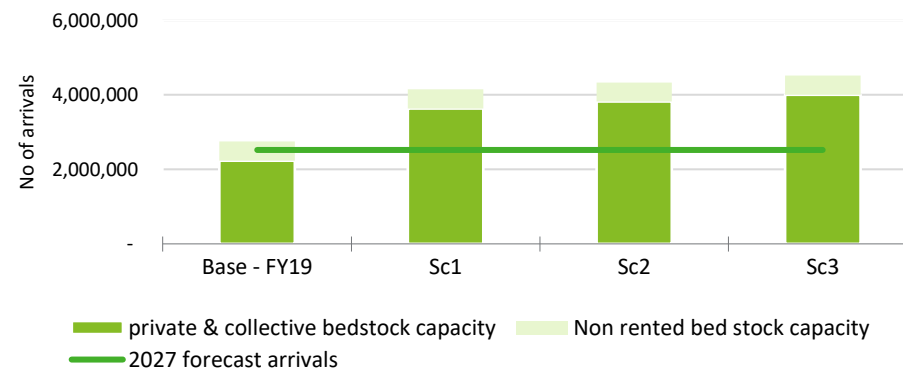
Office space (In Pipeline):

- The Quad (37,300 sqm)
- Pinto Business Centre (3,400 sqm)
- Metropolis (9,700 sqm)
- Trident Parks

Retail space (In Pipeline):

- Mercury (11,000 sqm)
- Shoreline (25,000 sqm)
- Metropolis (3,200 sqm)
- The Quad (6,700sqm)

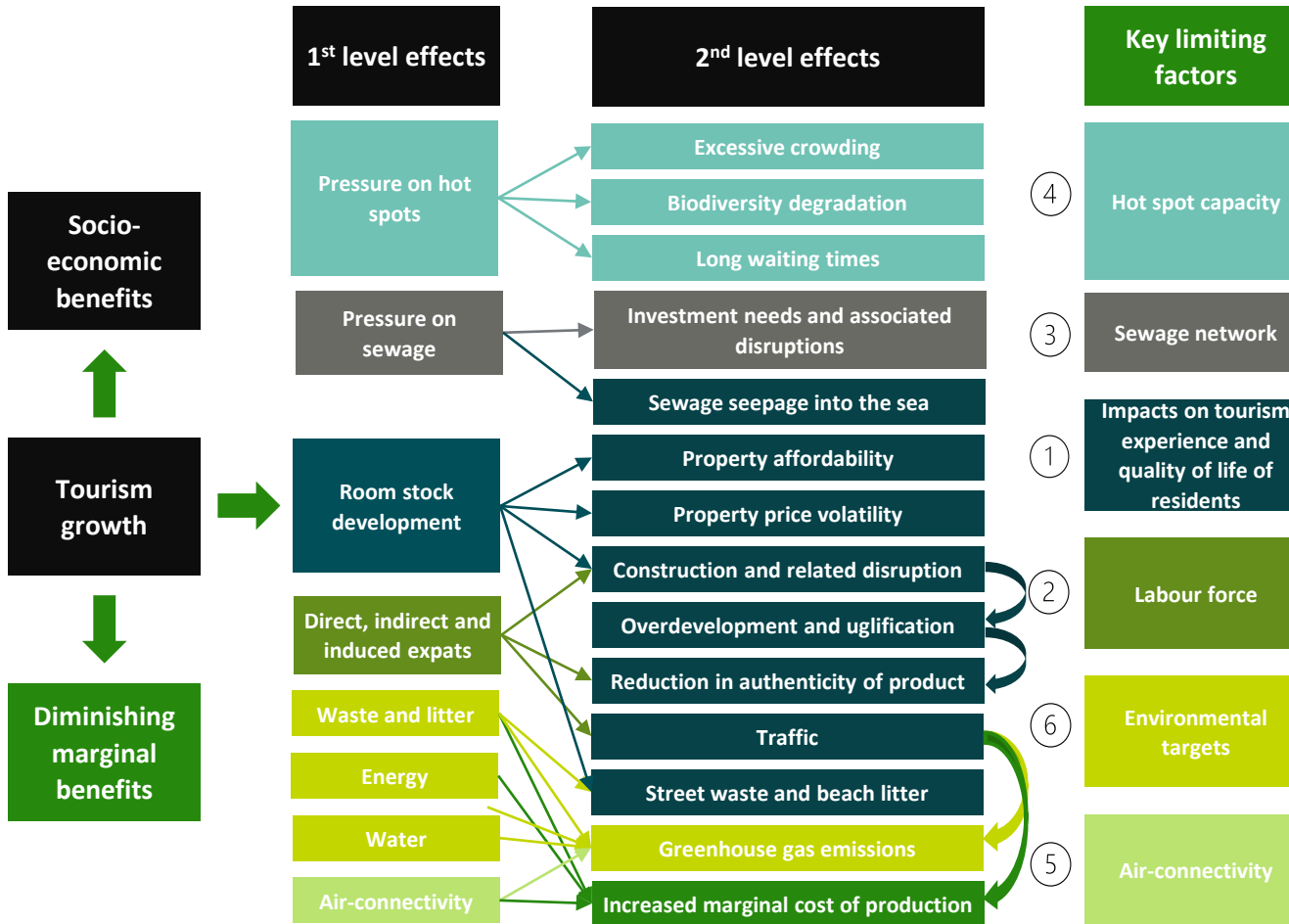
Expected 2027 arrivals vs. existing trend in bedstock capacity



Supply increase scenarios	80%		90%		100%	
	In collective	80%	90%	100%	80%	90%
In private	25%	30%	35%	25%	30%	35%

Sustainable growth in tourist arrivals is constrained by six key limiting factors

Whilst various other issues and limiting factors exist, Stakeholder's concerns centred around six key groups of factors, ranging from declines in visitor experience to concerns over air-connectivity



- The main supply-side limiting factors identified were:
 - The impacts on the tourism experience and quality of life of residents, particularly concerning traffic and parking issues, littering, overdevelopment, noise pollution, tourism encroachment into residential zones, property price inflation and property price volatility
 - The labour force, including the difficulty in recruiting and the loss of the authenticity caused by the lack of Maltese working in the sector;
 - Critical infrastructure, with special emphasis on the sewage network;
 - The physical capacity of Hot spots (mainly key sandy beaches, historical areas and coastal urban areas);
 - Environmental impacts and the ability to meet challenging environmental targets; and
 - Air connectivity, which does not currently limit growth, but does set a barrier for growth expectations and dictates the timing of growth.
- **The arrangement order of issues does not indicate priority but is instead arranged to ease the flow of connected ideas.**

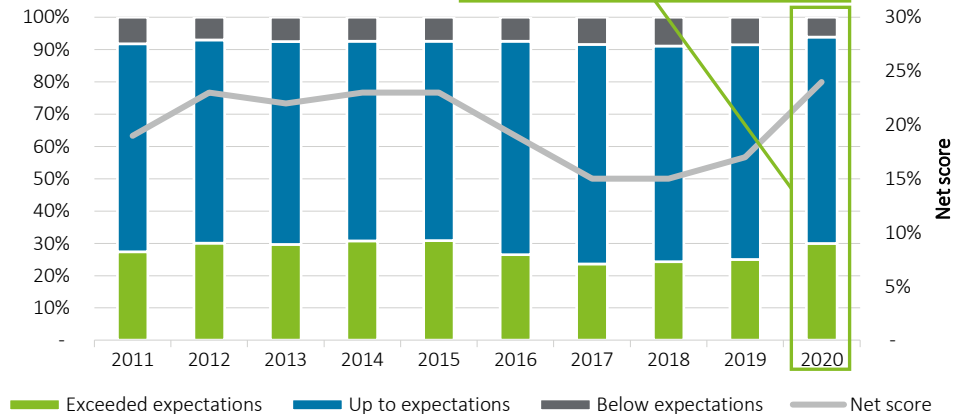
Tourism experience and quality of life of residents

Already at 2019 levels, tourists' and residents' satisfaction were impacted by the volume of tourists. Improved tourism management and focused investments are required to sustain growth.

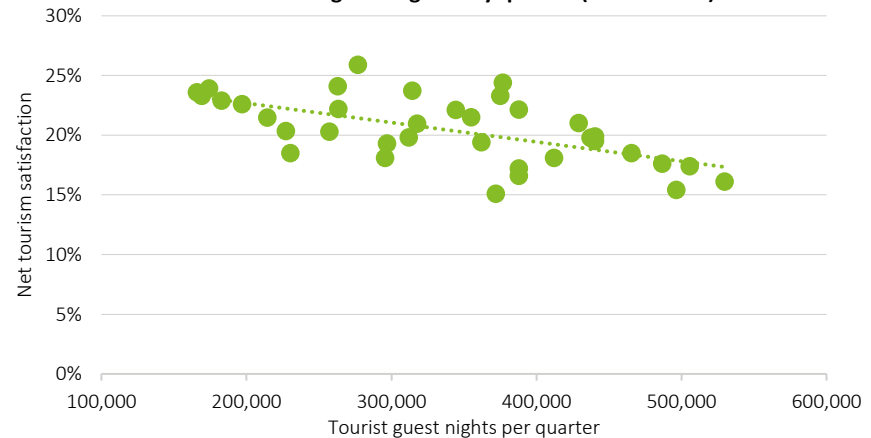
Rapid and excessive growth impacts quality of life and visitor experience

- A clear inverse relationship has been established between declining visitor experience and increases in tourist volumes, and such issues also impact the quality of life of residents. This statement is supported by detailed insights obtained from Stakeholders, as well as through survey data concerning both tourists' and residents' satisfaction levels – for example, studies have shown that support for additional tourism growth is significantly lower in areas highly frequented by tourists in comparison to more rural areas, and that residents do perceive positive but also negative impacts from tourism.
- Key issues impacting both residents and tourists (to varying degrees) include traffic, littering, waste management, poor urban environment (overcrowding, overdevelopment and uglification) and the lack of authenticity of experience. Data limitations prohibited the investigation of a clear link between declining tourism satisfaction scores and the economic performance of tourism.
- Stakeholders nonetheless highlighted evidence that attracting additional volumes is increasingly difficult and results in higher marginal costs. Most notably, the advent of social media has established a more direct link between the individual tourism experience of each visitor and Malta's market positioning.
- Whilst moderate and controlled growth from 2019 levels is unlikely to trigger major issues at the present time, **the magnitude of growth required to adequately sustain the expected increase in bed stock supply does require considerable investments in greatly improving tourism management practices and investments to improve the quality of life** of residents and the quality of the tourism experience – both of which appear to largely be impacted by the same issues.

Overall tourism satisfaction rating



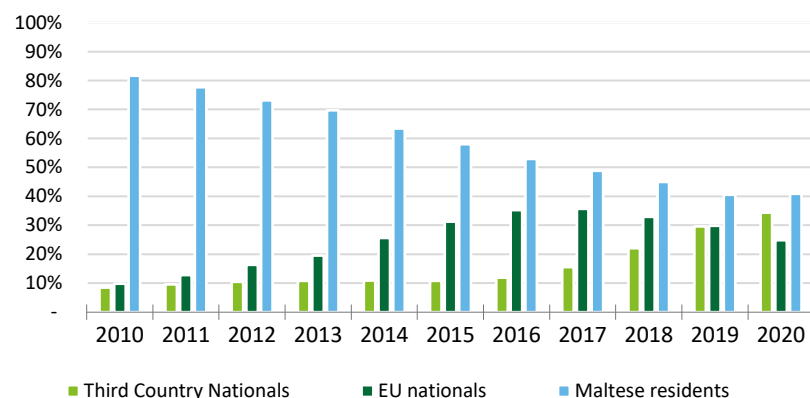
Tourism satisfaction vs. tourist guest nights - by quarter (2009 – 2020)



Labour force

The difficulty in finding interested Maltese workers has made the sector reliant on expats – the key draw back is that population growth aggravates the satisfaction issues noted earlier

Composition of the labour workforce in the tourism sector



Labour & dwellings - scenario analysis

		Base - FY19	Sc1	Sc2	Sc3
FY19 guest nights	000s	19,339	19,339	19,339	19,339
Assumed growth	%	-	60.0%	70.0%	80.0%
Updated guest nights	000s	19,339	31,368	32,989	34,610
Total direct spend	€'m	1,710	2,773	2,917	3,060
Total direct spend per FTE	€'000s	109.2	109.2	109.2	109.2
Direct FTEs	FTEs	15,656	25,394	26,707	28,019
Expat %	%	59%	75%	76%	77%
Indirect and direct FTEs	FTEs	23,012	37,326	39,255	41,184
Expat %	%	23%	23%	23%	23%
Implied residential units (2:1)		7,299	13,815	14,693	15,571
Incremental units		-	6,516	7,394	8,272

Source: NSO, Deloitte Estimates & "A STUDY ON THE BENEFITS AND COSTS OF TOURISM IN Malta", Kurt Muscat, 2019

Keeping all else equal, and considering direct, indirect and induced impacts, an 80% increase in the 2019 workforce is required to sustain the expected growth in bed stock supply

- Whilst tourism growth leads to increases in the work force, locals are becoming less willing to be involved in the sector. This was noted as a trend throughout Europe and not only in Malta and the sector is becoming increasingly reliant on 3rd country nationals. Stakeholders commented that foreign workers lack local context and offer tourists a less authentic experience. The need for a stable core knowledgeable workforce is also acknowledged in the MTA tourism strategy for Malta.
- Foreign workers contribute to population increases, thereby considerably elevating the sector's development footprint. Malta is already one of the most densely populated countries in the world and overdevelopment has been noted as a key issue impacting the satisfaction of both tourists and residents.
- Population increases also add pressure on Malta's infrastructure, which appears stretched in certain areas (e.g. the sewage network, traffic infrastructure and waste management).
- Whilst Stakeholders agree that expatriate workers are vital for the industry, current practices for managing the pace of population growth and residential units needs to be improved in order to **establish a more sustainable vision that;**
 - **fully considers the socio-economic costs and benefits of growth and achieves the right balance;**
 - Considers the holistic impact of development activity;
 - Optimises the form and location of growth in order to minimise negative impacts

Sewage network

Stakeholders, including the Water Services Corporation (“WSC”), explained that already in 2019, sewage seepage into the sea occurs in certain areas due to infrastructural capacity issues

Substantial additional growth before first upgrading the sewage collection network is likely to be detrimental to sea quality

- Discussions with EneMalta and the Water Services Corporation (“WSC”) revealed that large investments in the infrastructural carrying capacity of Malta and Gozo are currently underway and that the required funding is already largely mobilised.
- Stakeholders, including WSC, nonetheless highlighted that particular issues exist in the sewage collection capacity of certain areas as a result of significant increases in load compared to the original installed capacity, coupled with age and deterioration. This is leading to sewage seeping into bay areas near sensitive tourism hot spots. Whilst the quality of Maltese seas remains high, the issue is expected to worsen without additional investment. Additional development in these areas requires careful consideration and such areas include Sliema, St. Julians, Bugibba, St Paul’s Bay, Xemxija and certain areas in Gozo.
- WSC also explained that certain historical sites, such as Valletta, have an aging and highly complex sewage system and that capacity issues in such localities are particularly complex and disruptive to augment.
- Through discussions with WSC and the use of economic input/output models, we estimate that sustaining the expected increase in bed stock supply will entail increasing sewage discharge in such sensitive areas by roughly 50% to 65% in a relatively short period of time.
- WSC is currently working on a national (Malta and Gozo) water and sewer network replacement and rehabilitation programme for implementation in the 2026-2030 period. Work in this area is likely to cause considerable disruptions and the required funds for the program have not yet been secured.

Sewage collection in sensitive areas - scenario analysis

		Sc1	Sc2	Sc3
Additional guest nights	%	60.0%	70.0%	80.0%
Additional guest nights	000s	5,490	6,405	7,320
Estimated water per guest nights	Litres	110	110	110
Estimated consumption in sensitive areas	%	80%	80%	80%
Additions from tourists in sensitive areas	000'm3	483	564	644
Additional expats (total)	000s	65	76	87
Estimated water per expat per day	Litres	100	100	100
Estimated consumption in sensitive areas	%	40%	40%	40%
Additions from expats in sensitive areas	000'm3	944	1,101	1,259
Total additional consumption	000'm3	1,427	1,665	1,903
Discharge %	%	80%	80%	80%
Additional water discharge in sensitive areas	000'm3	1,142	1,332	1,522
Capacity increase in sensitive areas		49%	57%	65%

Source: WSC data, Deloitte Estimates based on input from WSC

Tourism hot spots

Stakeholders agree that improvements to visitor management and control mechanisms are required. Additional volumes appear unsustainable without such controls

Sustaining the expected increase in bed stock requires the introduction of measures to control visitation to key beaches and tourism assets

- When asked to identify tourism assets and areas that are relevant to the national tourism product and that appeared to suffer from significant negative impacts of overtourism, Stakeholders raised concerns over the extensive crowds at:
 - Key beaches (Mellieha, Golden Bay, Ramla Bay, Blue Lagoon and St George's Bay).
 - Key historic centres (Citadella, Mdina, Valletta (including St. John's co-cathedral) and the Three Cities).
 - Key coastal/urban tourism centres (Mainly Paceville, Sliema, St. Julian's, and St Paul's Bay)
- Whilst available data is imperfect, it nonetheless supports Stakeholders' concerns in this regard.
- Peak beach density for Maltese beaches are estimated to exceed the average for Europe (6.8 persons per sqm per day). Blue Lagoon and Golden Bay appear to be under particular stress. Comino is a sensitive biodiversity hot spot and a Natura 2000 site, already at existing visitation rates, visitors have been reported to frequently encroach on protected areas, trampling vegetation and leading to soil degradation & desertification, and increasing litter, noise, dust, and light pollution - all of which undermine biodiversity and deter wildlife. **An unambiguous and enforced visitor management plan for Blue Lagoon appears warranted already at 2019 volume levels.**
- The issue is not limited to beaches. Certain historical sites and tourism zones are estimated to be nearing peak visitor density rates that are similar to Venice and sustaining significant visitation increases without controls, improved management and investments appears problematic.

Beaches	Average visits per day per Hot Spot in August			Size of Hot Spot area ('000 m ²)	Density m ² per visitor				
	2009	2015	2019		2009	2015	2019	Sc1 50%	Sc2 60%
Mellieha	2,855	3,559	4,401	30	10.5	8.4	6.8	4.5	4.3
Golden Bay			3,350	16			4.8	3.2	3.0
Ramla Bay		1,713	2,178	15		8.8	6.9	4.6	4.3
Comino			4,580	4			0.8	0.5	0.5

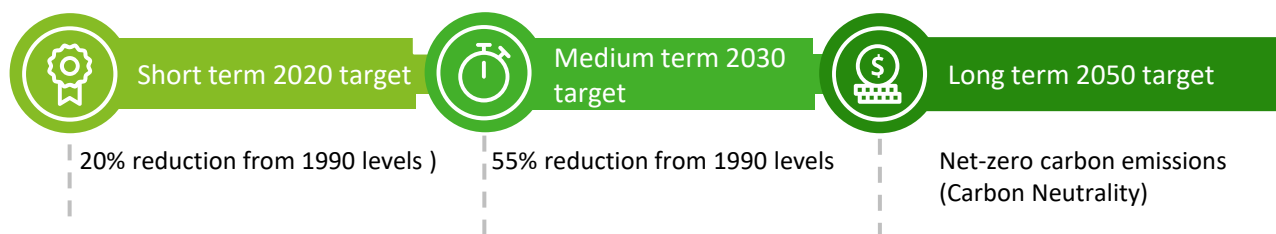
Historical areas	Average visits per day per Hot Spot in August			Size of Hot Spot area ('000 m ²)	Density m ² per visitor				
	2009	2015	2019		2009	2015	2019	Sc1 50%	Sc2 60%
Valletta	6,233	8,672	12,021	429	68.8	49.4	35.7	23.8	22.3
Mdina	4,908	6,772	9,309	120	24.4	17.7	12.8	8.6	8.0
Three Cities	2,272	2,964	5,031	388	170.6	130.8	77.0	51.4	48.2
Citadel / Victoria		4,392	6,323	150		34.1	23.7	15.8	14.8

Urban areas	Average visits per day per Hot Spot in August			Size of Hot Spot area ('000 m ²)	Density m ² per visitor				
	2009	2015	2019		2009	2015	2019	Sc1 50%	Sc2 60%
Sliema	4,530	5,688	6,795	470	103.7	82.6	69.2	46.1	43.2
St Paul's Bay	3,864	4,988	6,187	512	132.6	102.7	82.8	55.2	51.8
St Julians	3,343	4,029	5,007	273	81.7	67.8	54.6	36.4	34.1
Marsaxlokk	3,185	4,278	5,895	132	41.4	30.8	22.4	14.9	14.0
Paceville	1,489	1,688	1,743	177	119.2	105.1	101.8	67.9	63.6

Environmental targets

Achieving environmental targets whilst sustaining rapid tourism growth poses a considerable challenge when considering Malta's current position relative to such targets

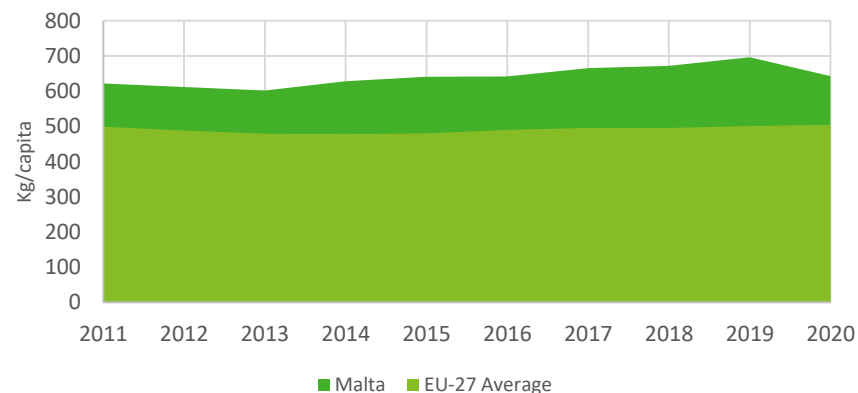
EU Targets



Sustaining the envisaged growth in the supply of bed stock whilst achieving environmental targets may require an acceleration of efforts

- Malta has committed to achieving net-zero emissions by 2050 and a 55% reduction in emissions from 1990 levels by 2030. In comparison, the European Commission forecasts that Malta's domestic emissions are projected to increase by around 41% by 2030.
- Other targets include waste management and recycling and renewable energy investments. Malta does not currently appear on target towards achieving such targets.
- Achieving growth via rapid expansionary measures, such as that implied by the estimated growth in the supply of bed-stock, together with the implied population growth, appears to run contrary to the direction implied by sustainability targets and such a strategy will increase the effort and investment required to achieve targets.
- The Ministry for Environment, Climate Change & Planning (MECP) and the Environment & Resources Authority declined to meet with us and we are therefore unable to assess whether the envisaged supply-side growth scenarios have been catered for in existing strategies and plans.

Annual municipal waste per capita (Malta Vs. EU average)



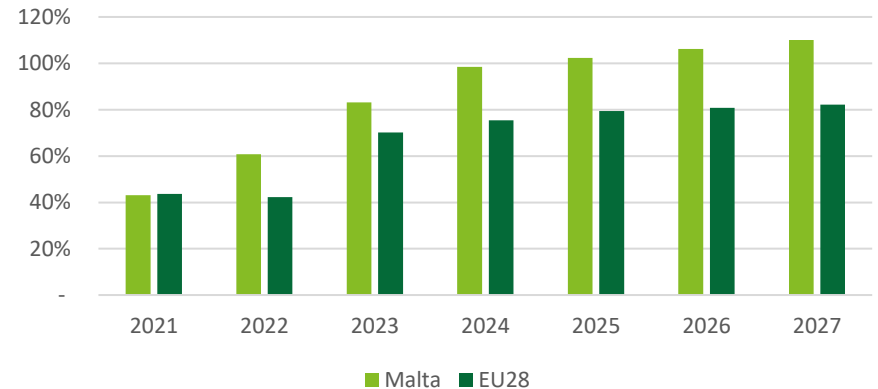
Air-connective network

The disruption caused by Covid-19 to the route network is not easily reversed and could result in prolonged impacts, not only on arrivals, but also on seasonality patterns and spend per arrival

The industry's most immediate challenge concerns incentivising and guiding the restoration of Malta air-connective network

- Restoring air-connectivity is a key challenge for the international tourism industry. Covid-19 loss mitigation measures taken by airlines are not quickly reversed. These include the decommissioning of older aircraft, the conversion of passenger aircraft into light cargo service, cancellation of plane orders, revisions of fleet expansion plans, redundancies and loss of airport slots.
- EUROCONTROL forecasts show that air-traffic to Malta is not expected to return to 2019 levels before FY25 and to only grow moderately thereon.
- Capacity limitations at the Malta international Airport ("MIA") during the peak season are also a key consideration. Stakeholders agree that selling winter flights is only feasible when packaged with a greater number of summer flights and restoring 2019 seasonality patterns itself represents a key challenge in the current market conditions.
- Stakeholders and experts agree that policy makers presently have an insufficient toolset to effectively intervene in such a way to align market forces governing the airline industry to Malta's tourism strategy. **Augmenting policy makers ability to influence the route network is critical to efficiently recover from the disruption caused by Covid-19.**
- MIA is able and willing to invest in growing capacity should the demand exist. Such a process does however take time and whilst capacity investments are currently underway, **such plans do not cater for the level of peak demand required to increase arrivals to the extent required to sustain the expected increase in supply over the next 5 years.**

Forecasted IFR Air Movement relative to FY19 levels



63.9% reduction in flights (Q3'19 vs Q'21)



€1,015m Ryanair losses for FY21 (355m losses in FY22)



-49% Air Malta revenue decrease in FY20



~570 Air Malta employees participated in Voluntary Employee Transfer Scheme in 2022

Recommendations

Finding the right balance to foster sustainable tourism growth

- **Malta needs to find the right balance between economic, societal and environmental perspectives. A cautious approach must be followed in terms of further development to avoid risks of oversupply and overtourism, as both may impact the sector's sustainability.**
- A collaborative approach with a shared vision and strategy amongst Stakeholders and different policy makers is critical for a successful recovery. The strategic restoration of air-connectivity should be prioritised with a view to maximise alignment to Malta's overall tourism strategy.
- Targeted investments in key infrastructure and in digital technologies, accompanied by improved tourism management, can elevate some key overtourism issues impacting tourism satisfaction and the quality of life of residents. Emphasis must also be given to the protection of the natural and built environment, in order to protect biodiversity and the unique characteristics that make the Maltese islands a desired tourism destination.

A. Finding the right balance

Already in 2019 signs of overtourism were present and the burden on society and the environment were becoming problematic. Urgent interventions are needed to address risks of existing imbalances and to guide a sustainable development path for the sector. **Until such interventions are enacted, it is recommended to take a cautious approach towards permitting bed stock growth.**

B. Strategy and collaboration

Establish a **Sustainable Tourism Development Task Force**, bringing policy makers from multiple spheres together to:

- enable the establishment of a common vision for the nation, and thus the tourism product;
- align plans and pace of growth to limiting factors

C. Fine tuning connectivity

Policy makers require an augmented tool set for influencing airlines and to also increase their analysis capabilities in order to **better align the route restoration process to strategic objectives.**

D. Targeted investments

Strategic infrastructure improvements are needed to allow sustainable tourism growth.

Digital transformation can also yield improvements in a number of infrastructural areas (e.g. traffic and congestion).

E. Improved tourism management

Dedicated management structures governing key tourism zones will help better manage tourism priorities.

An effective, modernised and enforced **licencing regime is required**, covering both collective and private accommodation.

Digitalisation transformation can help manage tourist flows and better guide the tourism experience.

F. Protect the environment

Tourism operators and operators of tourism assets (including the public sector) should be incentivised to adopt technologies and behaviours that reduce their impact on waste generation, GHG emissions and biodiversity.










Improved visitor management of biodiversity hot spots is recommended.

Recent economic context

Malta at a glance

With a population of over 500,000 and a land mass of just 316 km², Malta is the world's tenth smallest country and fourth most densely populated sovereign country



 Land area 316 km²	 Population ~525,000	 Shoreline 271.2km
 Joined EU 2004	 2009 Guest night/km ² ~ 31	 2019 Guest night/km ² ~ 61
 Currency Euro	 2009 Guest night/capita ~ 24	 2019 Guest night/capita ~ 38

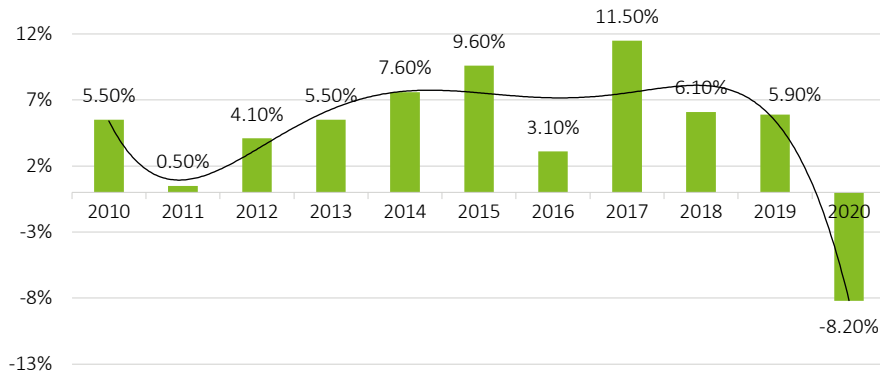
Key indicators	2021 (Q3)	2020 (Q3)	2019 (Q3)
GDP Growth	11.9%	-10%	6.9%
Unemployment	3.2%	4.7%	3.6%
Inflation	2.25%	0.18%	1.41%

Source: National Statistics Office

Malta's economy was booming until Covid-19

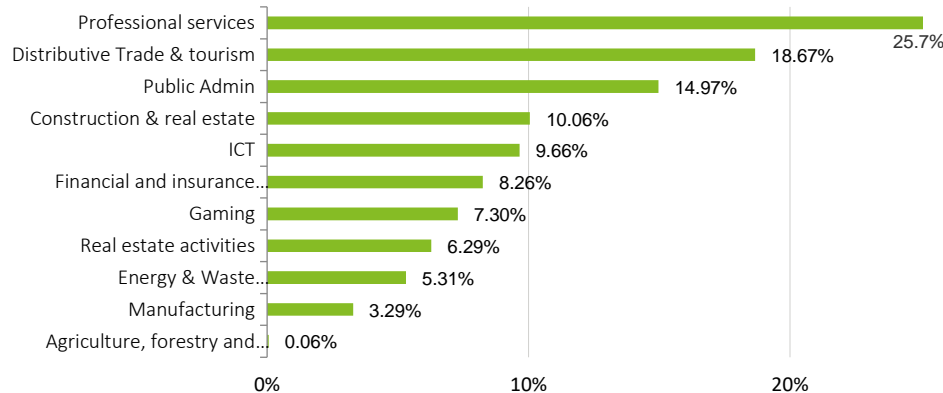
GDP growth averaged 5.9% p.a between 2010 and 2019 driven by professional services, tourism, public sector, construction and real estate

Real GDP growth rate



Source: National Statistics Office

Sectorial Contribution to Growth in GVA (%) from 2010 to 2019

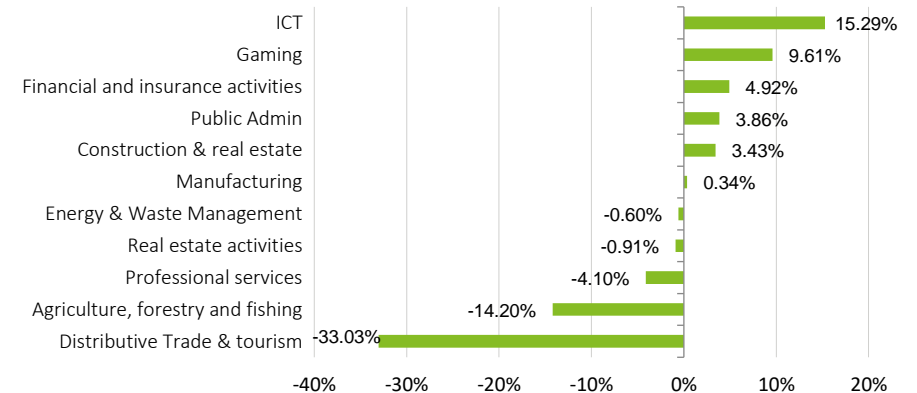


Source: National Statistics Office

Economic overview

- Until the advent of Covid-19, Malta enjoyed a period of strong economic growth covering the preceding 10 years.
- Real GDP between 2010 and 2019 grew at an average rate of 5.9% per annum.
- Professional services, distributive trade & tourism, public administration, construction & real estate and ICT were the highest contributors to growth between 2010 and 2019.
- In 2020, Malta's economy experienced a severe downturn due to the effects of the Covid-19 pandemic and dropped by 8.2%. Distributive Trade, Tourism & Agriculture experienced particularly severe downturns, but ICT & Gaming continued to grow, despite Covid-19.

Sectorial Contribution to Growth in GVA (%) 2020

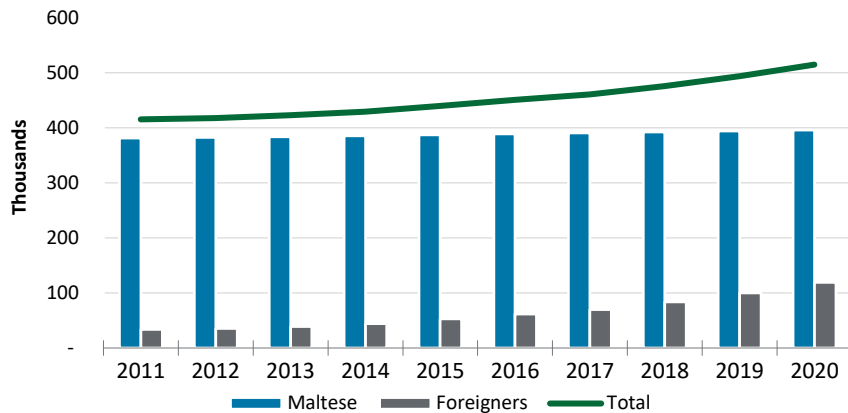


Source: National Statistics Office

Demographic changes

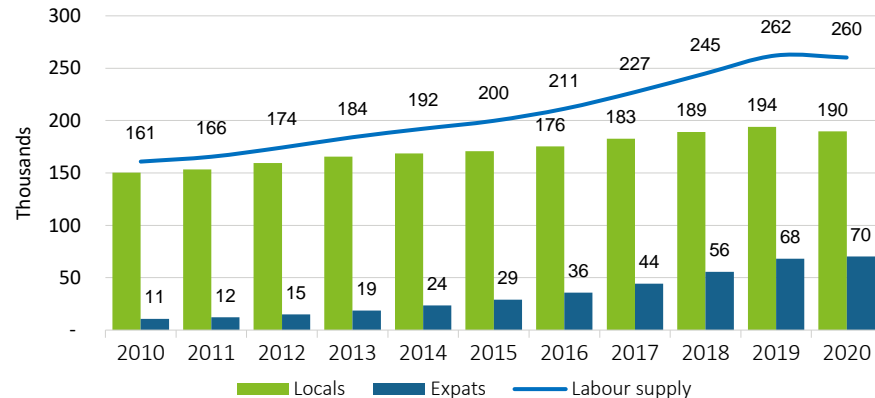
The economic boom was powered by an influx of expat workers and led to significant population growth

Malta's Population



Source: National Statistics Office

Labour Workforce

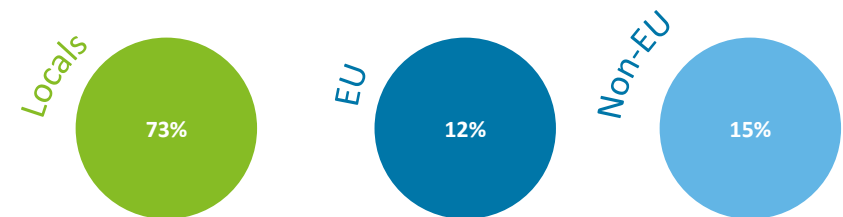


Source: National Statistics Office, Eurostat

The Maltese population has been steadily increasing from 2009 to 2019, growing by circa 22% and reaching over 0.5m people in 2019.

- Growth in the Maltese workforce was largely driven by increased women participation rates, women participation in the workforce increased by c. 85.7% since 2010, however now, this effect appears to have started to plateau.
- The unemployment rate averaged 3.7% between 2017 and 2019 and the Maltese economy required an influx of foreign workers to keep up with growth momentum. Malta's workforce increased by 62% between 2010 and 2020 – 74% of this increase was due to the influx of expatriate workers from the EU and also from third party countries.

Labour market share 2020:

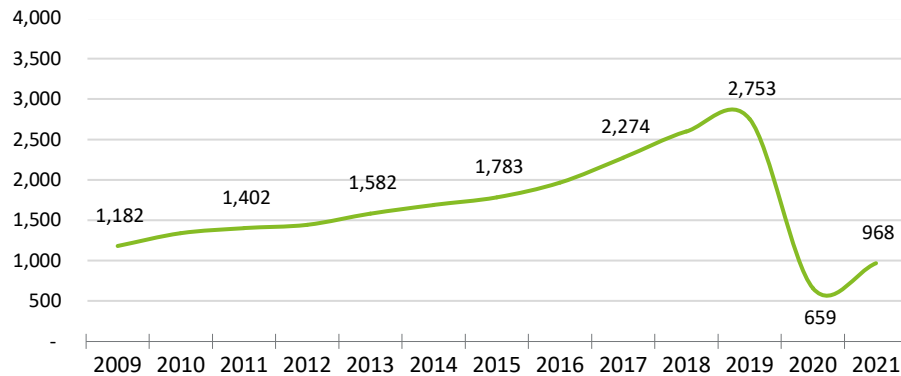


Source: Jobsplus

Tourism has been a key growth pillar over the last decade

Tourist inbound arrivals reached c. 2.7m immediately prior to the Covid-19 outbreak, following a decade of high growth.

Number of tourist arrivals by year (thousands)

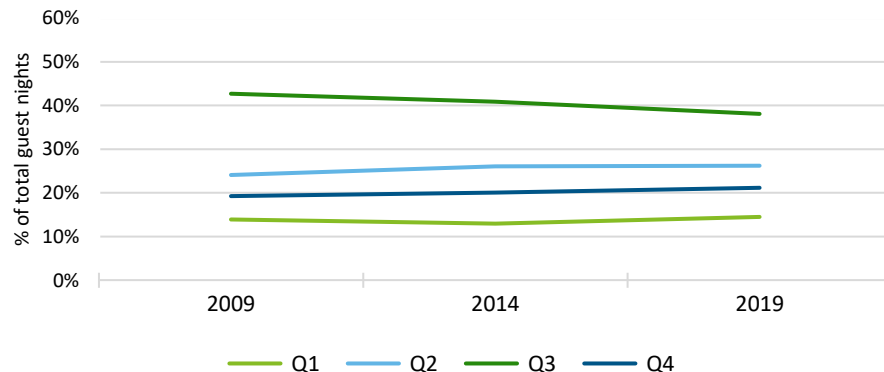


Source: National Statistics Office

Seasonality has improved over the last decade and 36% of guest nights occurred in the Q4-Q1 period in 2019 compared to 33% in 2009

- Between 2009 and 2019, tourist arrivals grew from 1.2m to 2.8m (CAGR of 8.8%).
- Growth in tourist arrivals was supported by increased flight connectivity and an enhanced product offering following existing hotel refurbishments and new builds.
- In 2020 and 2021 the sector was negatively impacted by the travel restrictions resulting from the Covid-19 outbreak.
- Tourist arrivals are largely expected to rebound once travel restrictions are eased and the pre-pandemic flight network is reinstated. Developments in the war in Ukraine nonetheless present down-side risks on demand.
- The fastest growing months over this period were December, November and January, registering a 11.2%, 10.2% and 9.5% CAGR over the period compared to August, September and July, which registered the lowest growth rates at 6.9%, 8.2% and 8.4% respectively.
- Improvements in air linkages and the advent of low-cost airlines were often cited by interviewed stakeholders (“Stakeholders”) as a key driver for growth in tourism arrivals. Stakeholders however, explained that attracting new air linkages in the shoulder months is only possible if airlines are provided good slots and volumes in the summer season. Stakeholders therefore expressed concern over Malta’s ability to continue growing tourism in the shoulder and winter months without also growing tourism in the summer. This is explored further later on in this report.

Guest nights per quarter

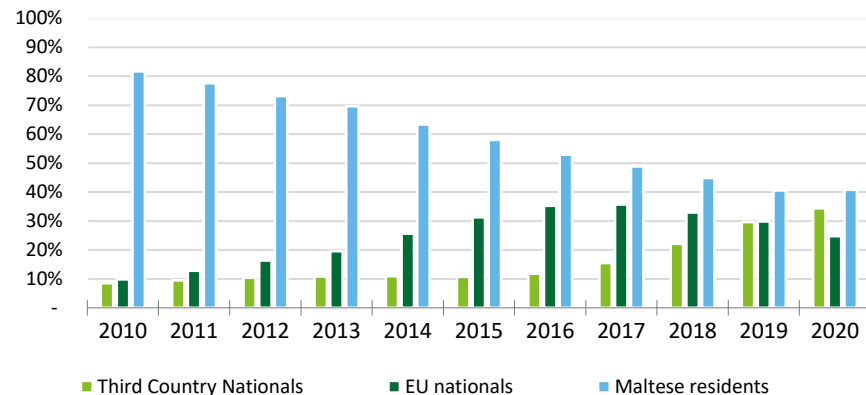


Source: Eurostat, Jobsplus

The growth in the tourism industry has been fuelled by expats

Growth in the number of expatriate (“expat”) workforce more that offset reductions in the absolute number of Maltese working in the the tourism sector between 2009 and 2019

Composition of the labour workforce in the tourism sector



Source: Eurostat, Jobsplus

The amount of Maltese workers in the Tourism sector decreased from representing 82.0% of the tourism labour force in 2009 to 40.6% in 2019.

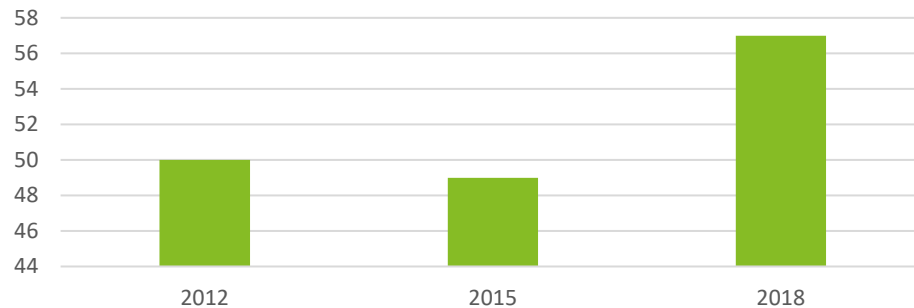
- The tourism sector has had to lean towards foreign workers due to limited availability of locals working within the sector relative to the sector’s growth in the lead up to the pandemic. Stakeholders expressed that this has contributed to issues relating to reduced authenticity of Malta’s tourism product and lower overall skill levels within the sector.
- Such workers require accommodation and the tourism industry’s reliance on expat workers significantly increases the development footprint of the industry.
- The long-term closure of tourism between 2020 and mid-2021, and the repatriation of a substantial number of foreign workers during the pandemic, has led to a short-term disparity between tourism labour demand and supply that has hampered the performance of the industry in 2021, leading to some operators having to keep portions of their hotel closed due to labour shortages.
- It is important to note that in absolute terms, Stakeholders agree that employment figures in the tourism sector are underestimated due to the considerable use of casual labour within the restaurant sector and also due to the increased use of outsourced services in the hotel sector.

Outsourcing arrangements in the hospitality sector have become significantly more popular in recent years and many operators use agencies for a wide array of functions including cleaners, waiters, kitchen staff, maintenance staff, front office staff, etc.

The rapid population increases triggered a construction boom

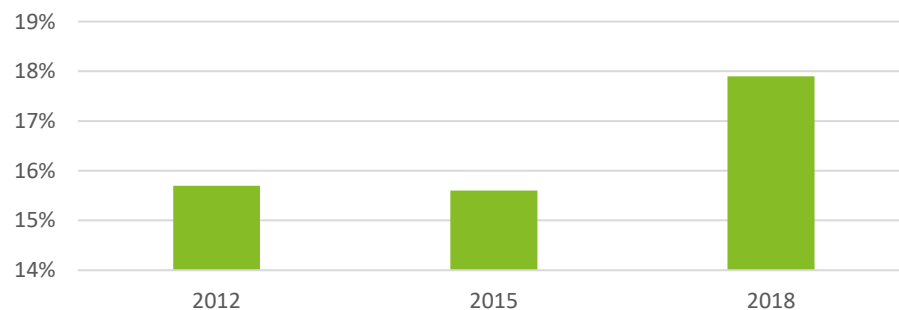
Built-up areas in Malta increased by 14% between 2015 and 2018

Built-up areas (km²)



Source: State of the Environment Report 2018

Land covered by built-up areas

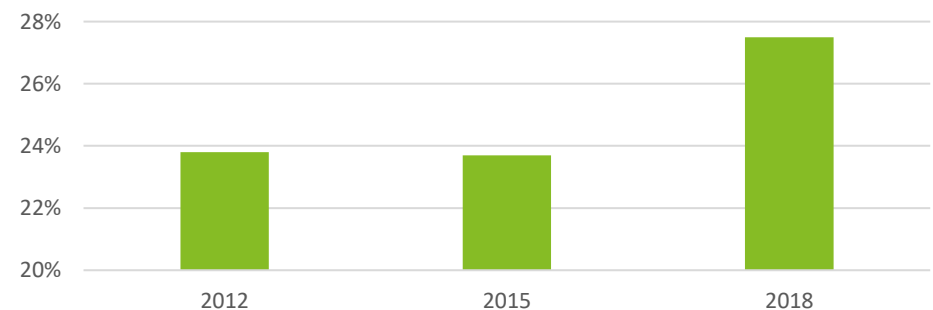


Source: State of the Environment Report 2018

Construction and real estate accounted for 10.06% of GDP growth between 2010 and 2019

- The proportion of built-up area in Malta increased substantially in recent years.
- The construction boom was fuelled by population growth due to immigration, and increased prevalence for the use of private accommodation for tourism purposes, as well as a number of notable large mix-use and commercial developments.

Land covered by artificial surfaces

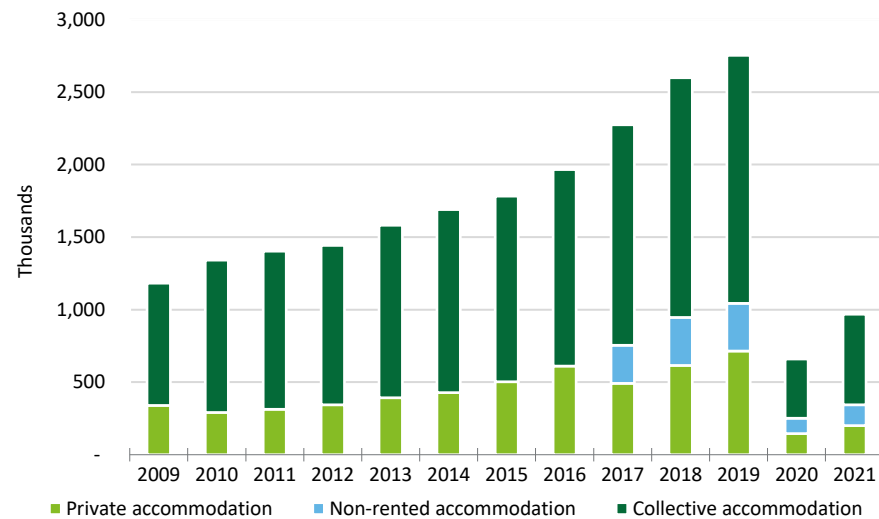


Source: State of the Environment Report 2018

Tourism development has added fuel to the construction boom

A boom in short-let private accommodation and the sector's intensive dependence on expats has also contributed to the construction boom and to elevated property prices

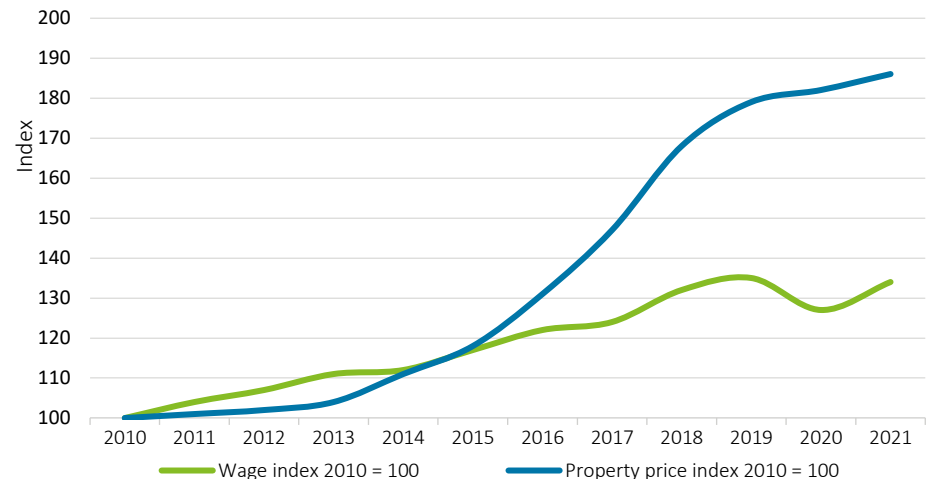
Arrivals by type of accommodation (thousands)



Source: National Statistics Office, MTA

- While tourist arrivals staying at hotels increased in absolute terms over the period under review, the growth observed was below that reported in tourist arrivals.
- The loss in market share registered by collective accommodation was absorbed by private accommodation driven by the rise in popularity of booking platforms such as Airbnb – thereby contributing to a construction boom of private accommodation, many of which are unlicensed.
- A growing expat community attracting family and friends to visit has also absorbed a growing number of tourist arrivals. These began to be tracked by NSO in 2017 and are marked as “Non-rented” accommodation.
- Other factors, such as the Citizenship By Investor Scheme may also have contributed to property price developments and increases.

Affordability analysis (base = 2010)



Source: National Statistics Office, MTA

- Perceived impacts of private accommodation include:
 - Overdevelopment; due to lower bed to dwelling ratio and higher relative returns due to lack of regulation and grey market activity.
 - Tourism management issues spreading to residential areas in relation to noise, waste, public transport and visitor experience management.
 - Property price increases and increased price instability due to the transferability of short-let apartments into residential market.
 - Disruption created within buildings that are primarily residential.
- There is currently no strategy or dedicated licencing regime for hosted types of accommodation (e.g. renting out rooms within homes). Also, permits for property intended for short-lets are approved through an ordinary residential permit and only obtain an MTA licence subsequent to this.

Notable real estate developments within the tourism sector in recent years

Verdala Hotel, Rabat *



Mercury, St Julian's *



Valletta Regeneration, Valletta



Shoreline, Kalkara *

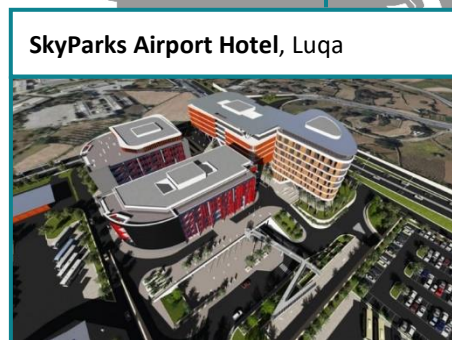


Tigne Point, Sliema

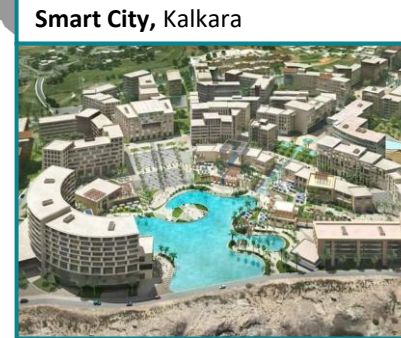
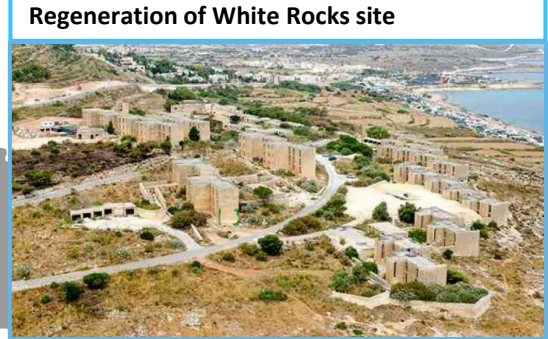


* Under construction

Other notable pipeline of tourism centric real estate projects



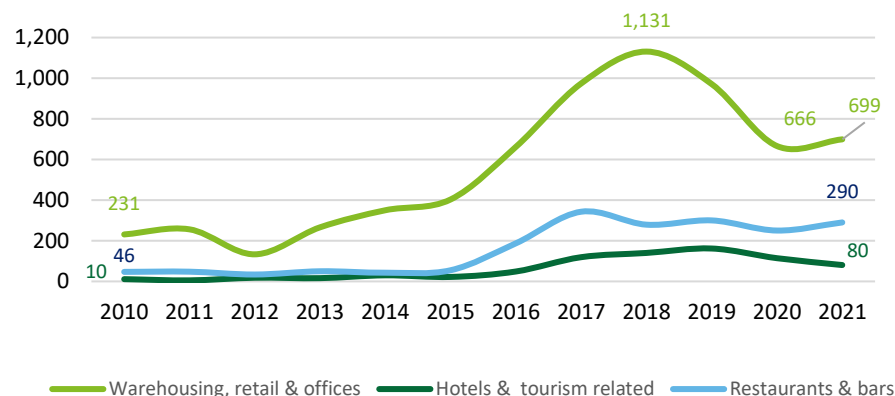
Other notable pipeline of mixed use real estate projects



Malta is carrying significant supply side growth momentum

The number of permits for hotels and other commercials developments has increased significantly since 2015, creating risks for market corrections

Commercial Development Permits



Source: Central Bank of Malta, Planning authority

Residential/ mixed-use space (In Pipeline):

- Corinthia Hal Ferh (162 room 5-star hotel and 25 luxury residences – pending permits)
- Mercury Tower (275 units)
- Shoreline (504 units)
- Fortina
- Jerma
- DB Tower
- Mistra village (pending permits)
- Manoel Island (pending permits, inc. hotel)
- White Rocks (pending permits, inc. hotel)

Office Space (In Pipeline):

- The Quad (37300 sqm)
- Pinto Business Centre (3400 sqm)
- Metropolis (9700 sqm)
- Trident Parks

Retail Space (In Pipeline):

- Mercury (11000 sqm)
- Shoreline (25000 sqm)
- Metropolis (3200 sqm)
- The Quad (6700sqm)

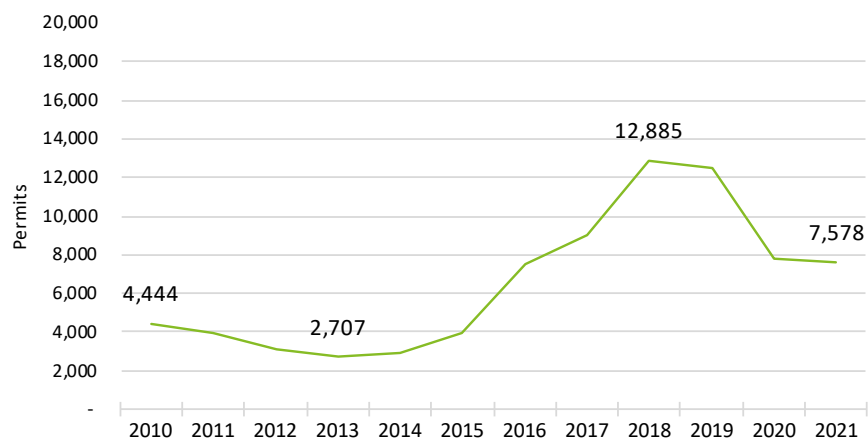
Open permits indicate a development pipeline for collective accommodation representing a potential growth of between 80% to 100% from 2019 levels over the next 4 to 5 years

- Various well informed Stakeholders explained that an extensive amount of developments are planned and underway. We have been informed that an exercise to examine the bed stock increase from approved but not yet built permits has been undertaken by the Planning Authority at the behest of the MTA. This data was however not shared with us.
- Furthermore, Stakeholders also expressed views about a significant amount of permits currently under evaluation and that the momentum for new permit requests remains high. The pace of new permit applications did subside slightly compared to 2019 levels as a result of uncertainty created by Covid-19, however Stakeholders expressed that the pace of new applications remains high relative to historical rates.
- Based on this analysis and Stakeholder consultations, and noting the extent of development projects being considered at the moment, we understand that existing open permits (composed of both approved permits and submitted permits currently under review) indicate a potential increase in the supply of collective accommodation bed stock of circa 35k over a 4 to 6 year construction window.
- Stakeholders further explained that such expectations do not consider permits that have been submitted in recent months and permits that are likely to be submitted in the coming years.
- When pushed to form a consensus over the likely increase in collective accommodation bed stock within the next 4 to 5 years, Stakeholders agreed on an increase scenario ranging between 80% to 100% compared to 2019 levels.

Estimating potential growth in private accommodation supply

The lag between project planning and realisation suggests that construction momentum may continue despite potential demand-side risks

Development permits relating to residential dwellings



Estimating unlicensed private accommodation

		August 2019
Total private accommodation guest nights	000s	1,278
Estimated non-rented guest nights	000s	(328)
Estimated host families at 100% occupancy	000s	(135)
Remaining private accommodation nights (A)	000s	815
Licensed beds in august	No	18,550
Occupancy assumption	%	77%
Licensed bednights in august (B)	000s	443
Licensed % of remaining private accommodation bednight (B/A)	%	54%
Untraced bednights (C)	000s	372
Unlicensed % of remaining private accommodation bednight (C/A)	%	46%

Source: Deloitte Analysis based on NSO data, AirDna data, and MTA data

- Apart from commercial development projects, Malta has also experienced a significant increase in the number of residential units over the last 5 years.
- Stakeholders explained that the change in the accommodation mix towards cheaper private accommodation, together with the rise in the expat workforce, is thought to have contributed to this increase in development demand for residential units.
- Based on NSO data, in August 2019 there were 1,278k private accommodation bed nights, amounting to 44% of the total August 2019 bed-nights, compared to 525k bed-nights in August 2009 (29% of total August 2009 bed-nights). Removing non-rented bed-nights and an estimate for host-family bed-nights results in an estimate of 815k “other private accommodation” bed-nights in August 2019. In comparison, MTA data suggests that, at a 77% occupancy rate (in line with AirDNA data for August 2019), licenced self-catering apartments are likely to only account for circa 443k bed-nights - i.e. only 54% of the total remaining private accommodation bed-nights in August 2019, after accounting for host families and non-rented accommodation.
- We note a significant amount of residential permits have been issued in recent years. Whilst it is impossible to estimate the proportion of permits that are intended for the tourism industry, a 5% annual increase does not appear unreasonable as a conservative estimate, considering the pace of permit applications and past growth trends in private accommodation guest nights.

Stakeholders anticipate that available beds will increase by up to 70%

The growth required to utilise the potential increase in supply suggests a strong and urgent need for carrying capacity considerations

Supply of bed stock - scenario analysis

		Base - FY19	Sc1	Sc2	Sc3
Collective accommodation					
FY19 licenced bed stock	<i>Beds</i>	38,000	38,000	38,000	38,000
Assumed growth	<i>%</i>	-	80%	90%	100%
Updated supply of bed stock	<i>Beds</i>	38,000	68,400	72,200	76,000
Implied number of available guest nights	<i>Nights</i>	13,870,000	24,966,000	26,353,000	27,740,000
% occupancy required	<i>%</i>	76.7%	76.7%	76.7%	76.7%
Implied demand required	<i>Nights</i>	10,639,085	19,150,354	20,214,262	21,278,171
Private accommodation					
Estimaed FY19 annualised bed stock ¹	<i>Beds</i>	23,502	23,502	23,502	23,502
Assumed growth	<i>%</i>	-	25%	30%	35%
Updated supply of bed stock	<i>Beds</i>	23,502	29,378	30,553	31,728
Implied number of available guest nights	<i>Nights</i>	8,578,261	10,722,826	11,151,739	11,580,652
% occupancy required	<i>%</i>	59.3%	59.3%	59.3%	59.3%
Implied demand required	<i>Nights</i>	5,089,972	6,362,466	6,616,964	6,871,463
Total implied demand required	<i>Nights</i>	15,729,058	25,512,819	26,831,227	28,149,634
Average length of stay	<i>Nights</i>	7	7	7	7
Total implied demand required	<i>arrivals</i>	2,239,319	3,632,216	3,819,916	4,007,615
Implied increase from FY19	<i>%</i>	n/a	62%	71%	79%

Note 1: excludes non-rented accommodation and is calculated based on the average annual Airdna occupancy data for FY19

Source: Deloitte Analysis based on National Statistics Office and MTA and stakeholder consultations

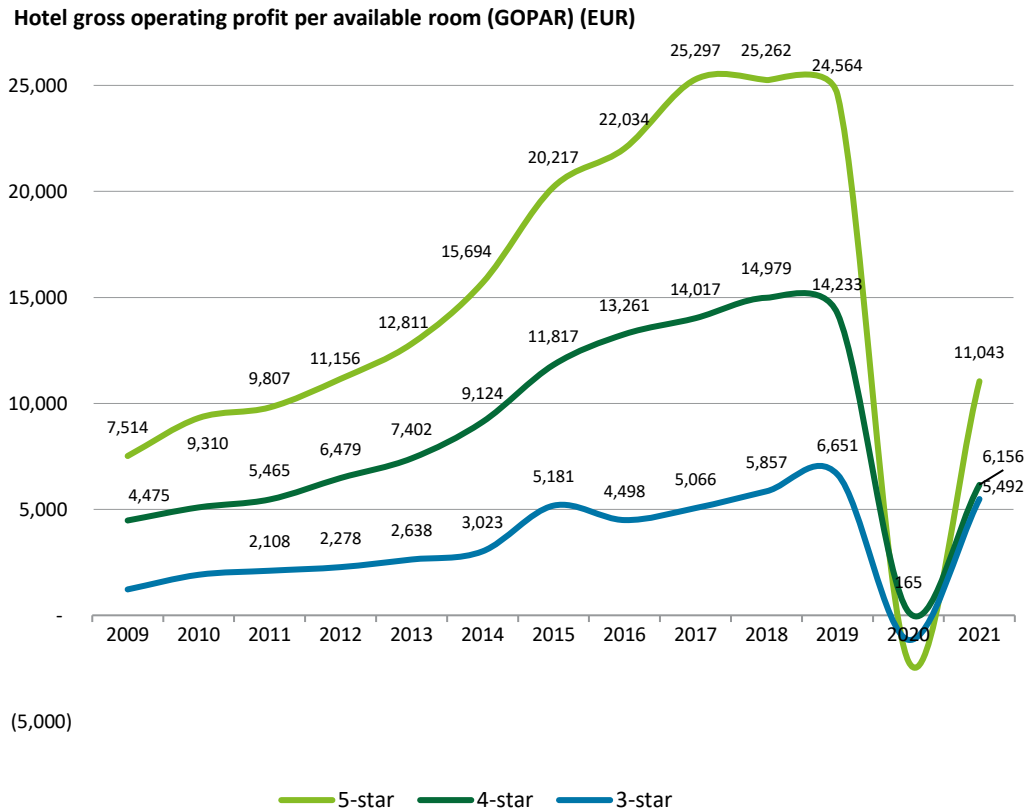
The level of growth required to satisfy potential supply increases frames the carry capacity study

- Whilst it is difficult to estimate the extent of supply increases implied by approved permits it is important to stress that the scenarios depicted alongside have been discussed and validated with various Stakeholders, including entities who are consulted when permits for collective accommodation establishments are granted.
- It is likely that a significant portion of developments may be naturally delayed or cancelled as a result of demand uncertainties created by the advent of Covid-19 and Russia's war against Ukraine. In particular, recent commodity and shipping cost increases have materially impacted construction costs.
- Nonetheless, the analysis provides a useful indication about the level of growth being targeted and this frames this carrying capacity study and the range of growth scenarios that need to be tested for sustainability against the present and future state of key carrying capacity limiting factors.

Key demand-side and connectivity considerations

Covid-19 has had a dramatic impact on the tourism sector

Whilst government has managed to soften the blow through the wage supplement scheme, the tourism industry, and Malta at large, has suffered an exodus of expat workers



Source: MHRA Survey

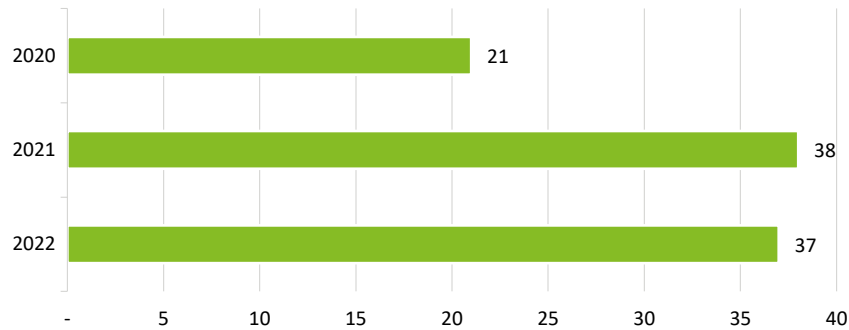
Hotel profitability had already stalled in 2019, despite record tourism arrivals

- Most hotels registered losses in 2020 as a result of Covid-19 despite the wage supplement scheme. 2021 and 2022 yielded better results, however, GOPAR is still significantly lower than 2019 levels.
- Banks have so far been supportive of the sector and the Malta Development Bank has provided soft loan support to help withstand the shock of Covid-19. According to data obtained from the Central Bank of Malta (“CBM”), the proportion of Core Banks’ collective loan book that relates to accommodation and food services increased from 2.77% in Q4’19 to 3.44% in Q4’21.
- Stakeholders have also explained that banks have increased their supervision of the sector and placed a number of accounts on “watch-lists”. Per CBM data, the “Nonperforming loans net of provisions to capital” ratio increased from 15.23 in Q4’19 to 20.25 in Q4’21.
- Stakeholders also explained that labour shortages in 2021 and 2022 have rendered it difficult to operate, despite the lower occupancy rates. The reported reason for this is that many expatriates left the island due to Covid-19.
- According to NSO statistics, EU expats in the sector dropped by 24% in 2020 whilst third country expats actually increased by 7%. Stakeholders cast doubt about the accuracy of these numbers and explained that the industry was induced to regularise casual workers in order to claim support from the Covid-19 wage supplement scheme and that this led to an artificial increase in fulltime and part-time labour irrespective of the fact that the sector was not operating to its full capacity.

Tourism demand can not be taken for granted

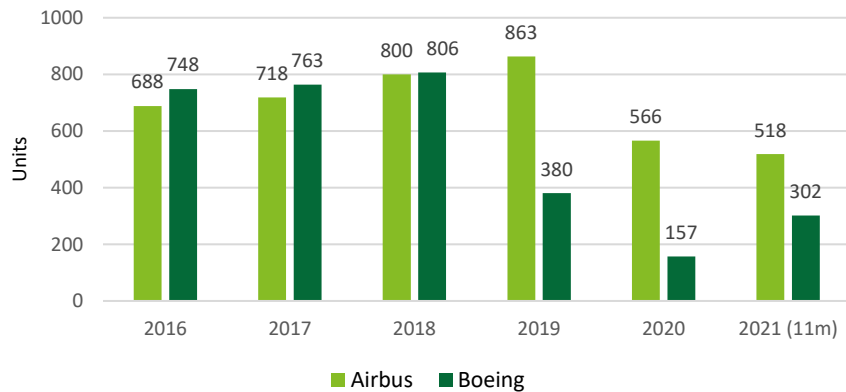
Lingering impacts of Covid-19, the war in Ukraine, and air-connectivity issues pose significant down-side risks in the short-term

Travel Sentiment Scores - Europe (YTD March'22)



Source: UNWTO Tourism Recovery Dashboard

Global Aircraft Deliveries



Source: Mordor Intelligence

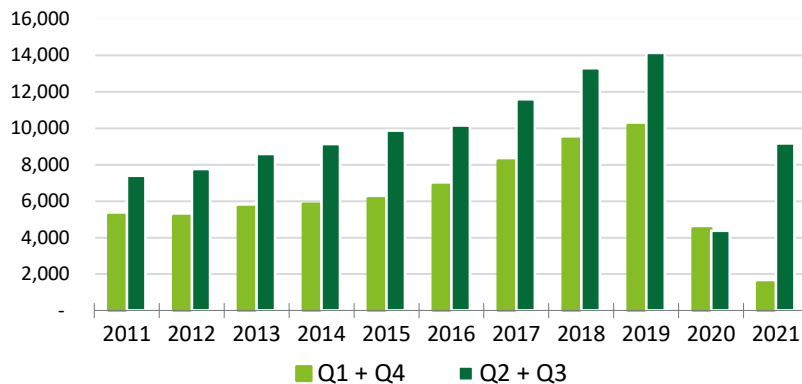
Real wages in Italy are expected to drop by 2.5% between 2022 and 2026 and inflation in the UK is expected to reach 6.4% in 2022 (EIU)

- Disposable income in Malta's key markets have been impacted by Covid-19 and this could lead to reduced tourism demand. Covid-19 has also brought about increased interest and appetite, and at times also incentives, for domestic tourism in key source markets.
- Russia's recent war against Ukraine has triggered inflation concerns throughout Europe. According to the Economics Intelligence Unit (EIU), consumer inflation in Italy and the UK (the top two source markets for Malta) are expected to amount to 4.2% and 6.4% respectively in 2022, and in 2023 - 1.9% and 3.6% respectively.
- Risks of wider escalation exist and the war has already had an impact on UNWTO's travel sentiment results. As can be seen in the table alongside, travel sentiments so far in 2022 have reduced from 2021 levels.
- The airline industry has been particularly badly hit by Covid-19. Restoring route connectivity requires airlines to re-hire staff and at times, lease back aircrafts for which leases were allowed to expire. The airline sector was further hit by a sharp rise in fuel costs which remains a major concern at the time of writing this report. The reduced growth expectations of the airline industry going forward are illustrated through both a cancellation of new plane deliveries and a reduction in new orders.

Connectivity has been a major source of growth in recent years

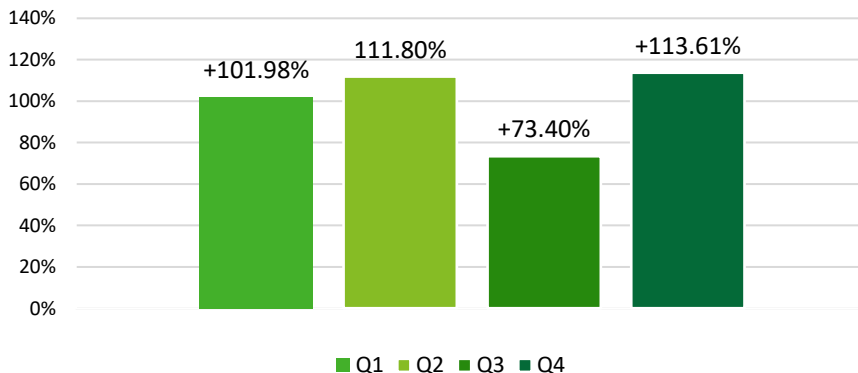
Malta's tourism industry is particularly dependant on air-connectivity and growth thereon, especially in the non-peak season, and this has been a fundamental pillar for recent growth

Total Flights



Source: Malta International Airport

% Growth in arrivals by quarter - 2009 vs 2019



Source: Malta International Airport

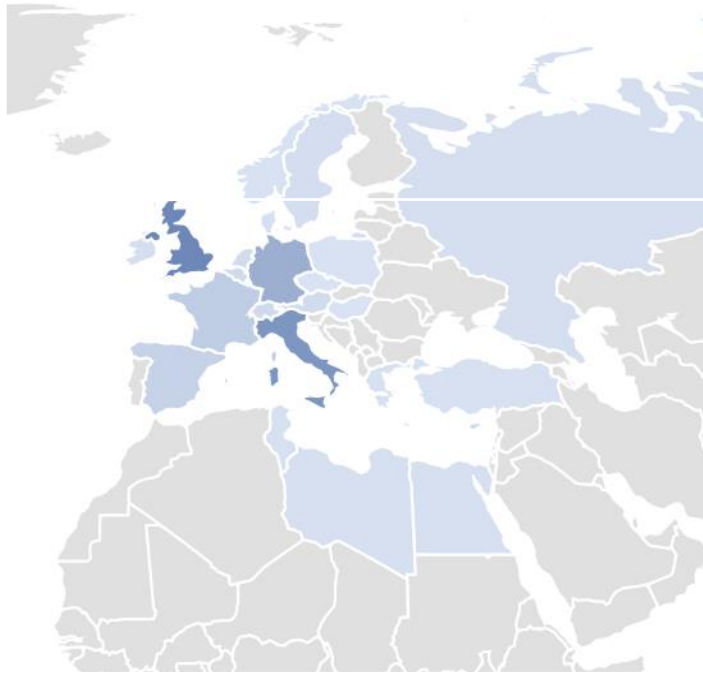
98.1% of inbound tourists in 2019 travelled by air whilst 1.9% visited the island by sea

- Improvements in connectivity have been a key growth driver over the last decade. The number of airports connected to the Malta International Airport increased from 69 in 2011 to 120 in 2019.
- This was made possible through concerted and coordinated efforts of key Stakeholders, together with other industry Stakeholders, in order to incentivise and convince airlines to add routes. This included the provision of financial incentives and marketing support, as well as active solicitation in terms of the provision of market reports and detailed data and related assistance associated with evaluating the feasibility of new routes.
- In 2009, 43% of tourist arrivals to Malta travelled in the summer period (Quarter 3) which, in the airline industry, is considered to begin on the last Sunday of March and end on the last Saturday of October. In 2019, this decreased to 38% and this significant improvement in seasonality could not have happened without painstaking efforts to increase flights in the winter season.
- Flights in winter (Q1 & Q4) increased from 5.2k in 2011 to 10.2k in 2019 (94% increase) compared to 14.1k flights in the summer of 2019 up from 7.4k flights in 2009 (91% increase).

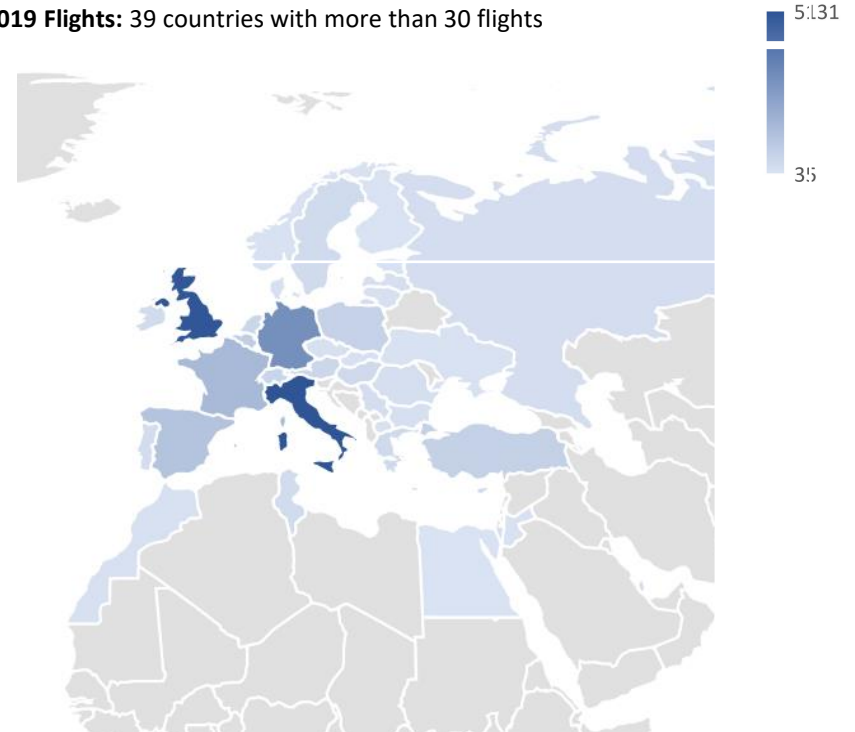
Further connectivity induced growth may be difficult

The recent MTA Tourism strategy notes that in 2019, Malta was already connected to nearly all primary and secondary short haul hubs and that further connectivity growth is difficult

2011 Flights: 25 countries with more than 30 flights



2019 Flights: 39 countries with more than 30 flights

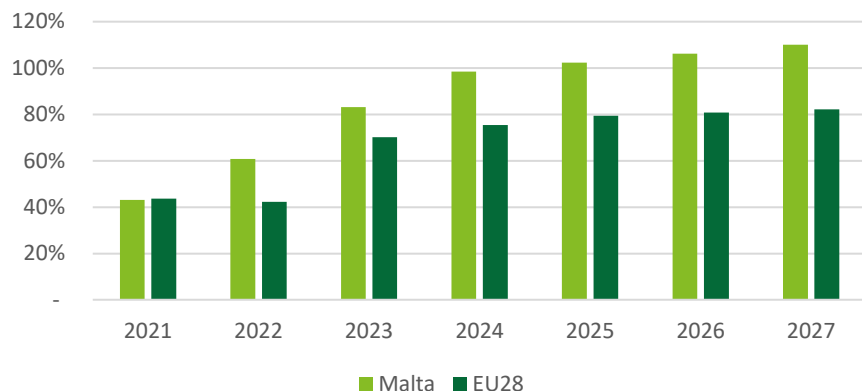


Capacity limitations at the Malta international Airport during the peak season are also a key consideration. The airport's summer capacity is of vital importance for the industry and seasonality improvements through new winter routes beyond 2019 levels will be difficult to achieve. Stakeholders have explained that connectivity growth in the winter months was possible due to strong demand conditions that allowed the MIA and MTA to negotiate the sale of winter slots as a condition to purchase prime summer slots. The summer flight to winter flight ratio in 2019 amounted to 1.7x. All Stakeholders agreed that the need to provide at the least 3 summer slots for every 2 winter slots renders it near impossible to expect a long-term summer to winter flight ratio of less than circa 1.5x.

Covid-19 has had a severe impact on air-connectivity in Malta

It has also placed considerable financial strain on Malta's major airline partners, including Air Malta, and led to large reductions in the order book of new aircrafts

Forecasted IFR Air Movement relative to FY19 levels



Source: Eurocontrol forecast, CAPA Centre for Aviation



63.9% reduction in flights (Q3'19 vs Q'21)



€1,015m Ryanair losses for FY21 (355m losses in FY22)



-49% Air Malta revenue decrease in FY20



~570 Air Malta employees participated in Voluntary Employee Transfer Scheme (2021 – 2022)

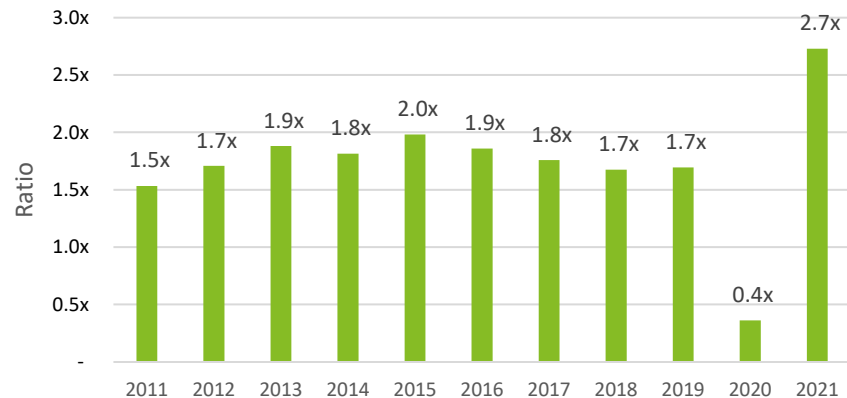
- Restoring air-connectivity is a key challenge for the international tourism industry.
- Loss mitigation measures taken by airlines are not quickly reversed. These include the decommissioning of older aircraft, the conversion of passenger aircraft into light cargo service, cancellation of plan orders, revisions of fleet expansion plans, redundancies and loss of airport slots.
- Lufthansa, which traditionally carries around 5% of travellers to Malta, engaged in a significant restructuring of its fleet which is expected to reduce its fleet by 100 aircrafts throughout the crisis (from ~760).

- Air Malta, which in 2019 carried c. 32% of passengers to Malta, is reported to have let go of 69 pilots in 2020 and perform an extensive Voluntary Employee Transfer Scheme between 2021 and 2022.
- Ryanair, which today is fundamental carrier for Malta, recorded a total of €1.4m of losses in FY21 and FY22.
- A number of other airlines have filed for bankruptcy.
- EUROCONTROL forecasts show that air-traffic to Malta is not expected to return to 2019 levels before FY25 and to only grow moderately thereon.

Stakeholders do not anticipate major seasonality improvements beyond 2019 levels

Current market forces have diluted Malta's bargaining power as all airports around the world are trying to rebuild their connectivity network and competing for airline custom

Total flights: Q3:Q1 ratio

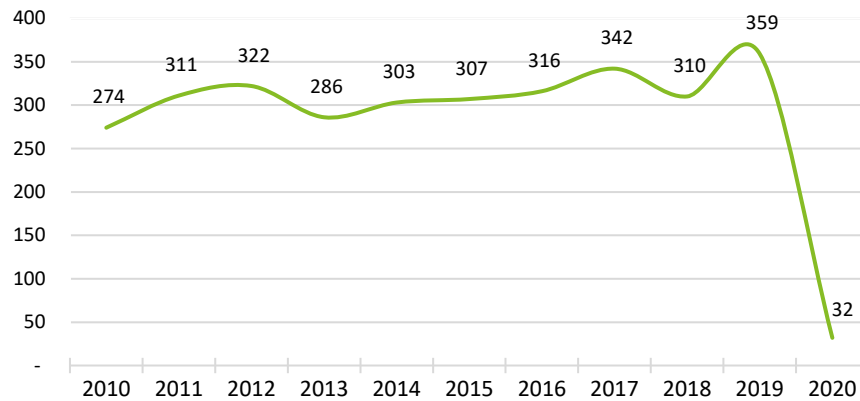


- Prior to 2015, the MIA's growth in connectivity was concentrated during the summer period.
- Marketing efforts and excess demand due to both internal and external factors allowed for the development of new routes during the winter period and therefore the summer to winter ratio improved to 1.7 in 2019.
- As discussed earlier, Covid-19 created significant disruptions, leading to a reduction in the number of operating aircrafts in the region and airports suffering from low occupancy, with connectivity slots still available at many prime and secondary airports. Stakeholders described a "buyer's market", where airlines currently have considerable buying power relative to airports and destinations.
- Going forward, Stakeholders have highlighted that reaching connectivity levels similar to 2019 levels will take both time and greater active promotional efforts relative to past years, and that improving the seasonality ratio between summer and winter beyond 2:1 is deemed to be unlikely in the current market conditions.

The cruise line industry has also been severely impacted by Covid-19

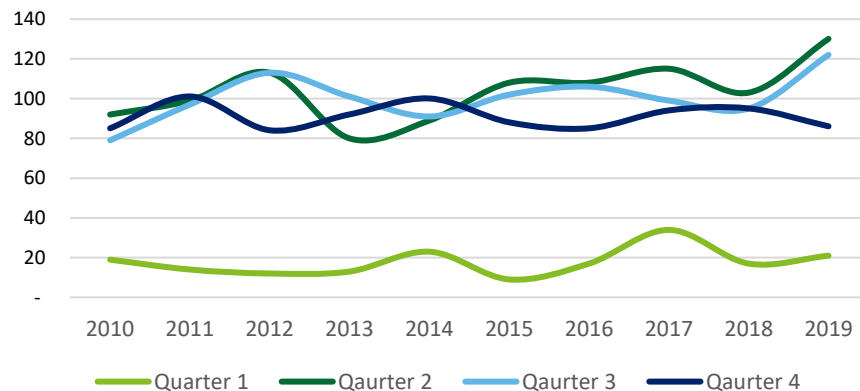
Cruise liner business has grown in importance in recent years and has played a particularly important role in sustaining the vibrant level of activity in Valletta in shoulder months

Number of cruise liner calls in Malta per year



Source: National Statistics Office

Number of cruise liner calls in Malta - seasonality



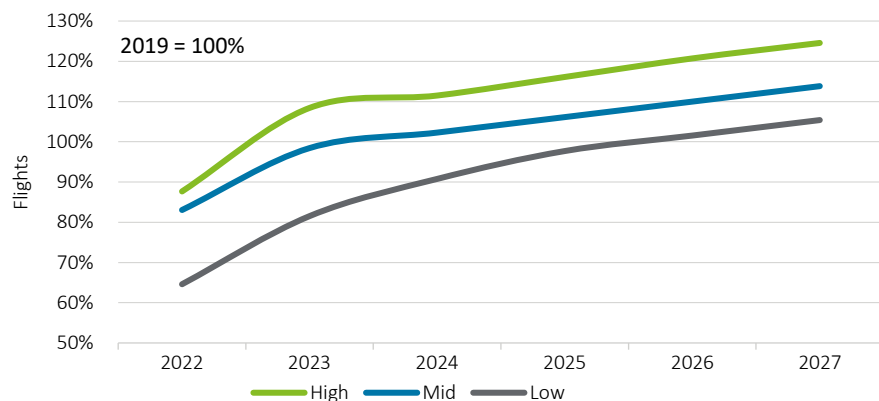
Source: National Statistics Office

- Due to the impact of the Covid-19 pandemic on travel and tourism, the number of cruise liner calls in Malta fell sharply in 2020 compared to the previous year. Overall, cruise liners called at Malta only 32 times in 2020, while ports in Malta recorded 359 cruise calls in 2019.
- As is the case for airlines, the cruise liner industry undertook a variety of structural changes to limit losses which will slow the pace of recovery.
- As part of the Malta Tourism Strategy 2030, Malta aims to restore to FY19 levels and to further increase the economic value of the cruise market by increasing the ratio of home porting to port of call business.
- It is important to note that concerns were raised by various Stakeholders concerning the high visitor density levels affecting areas most frequented by cruise line visitors – i.e. mainly Valletta, the 3 cities and to a lesser extent, Citadella in Gozo.
- Stakeholders highlighted that going forward, it is vital to establish the carrying capacities of such areas and to undertake a cost-benefit analysis exercise to rationalise market priorities, especially in the background of the average spend of cruise passengers.

Demand forecast

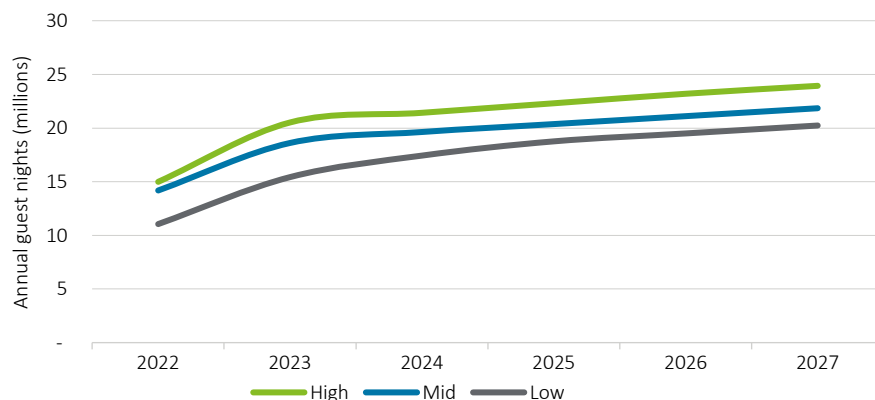
Based on available data and extensive Stakeholder consultation and industry reports, 2019 levels of demand are not forecast to return before 2024 at the earliest

Estimated flights based on EUROCONTROL TFI forecast



Source: Eurocontrol

Guest night forecast



Source: Eurocontrol

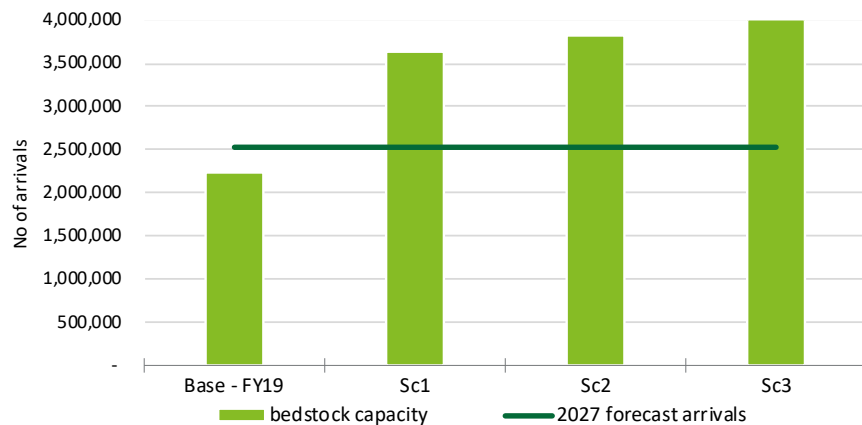
Flight connectivity is not in policy makers' direct control

- The restoration of air-connectivity to Malta is dependant on a number of factors that are both beyond Malta's shores and outside of the control of policy makers.
- Stakeholders explained that Airlines will respond to demand signals in an incremental fashion and based on profit maximisation principals across their covered territory and having regard to flight synergies.
- Restoring direct connections to Malta is not enough and other considerations include, frequency, seasonality, and load factors.
- The dynamics underpinning these variables range from aspects such as bargaining power of airports versus airlines, the overall reach of hubs in terms of their wider supporting connections, and the pace at which airlines are able to rehire staff and remobilise resources. A key insight from Stakeholders in this regards is that summer flights will need to peak-out first before an effective and concerted drive to restore winter connectivity to previous levels becomes feasible. To this extent we also note that length of stay varies by season, with summer holidays tending to be longer than short winter city breaks – thus, flight seasonality will also influence the average length of stay.
- The forecast presented overleaf is based on the following principals:
 - Flights relative to 2019 are modelled based on Eurocontrol TFI forecasts.
 - Load factors, seasonality and length of stay are estimated based on matching the number of flights to historical data. For example, total flights in 2022 are forecast to resemble quantities last seen in 2016. Hence load factor, seasonality and length of stay for 2022 are forecast based on such parameters in 2016.

There is a notable gap between forecast arrivals and expected bed stock supply

A significant risk of oversupply of bed stock exists and this may jeopardise the financial sustainability of the accommodation sector, particularly for more highly leveraged hotels

Expected 2027 arrivals vs. existing trend in bedstock capacity



Under all scenarios, the implied demand that is required reflects the expected increase in the supply over the next 4 to 5 years (assuming the same occupancy level of 2019).

- Sc1 assumes an 80% increase in collective accommodation bed stock and a 25% increase in private accommodation
- Sc2 assumes an 90% increase in collective accommodation bed stock and a 30% increase in private accommodation
- Sc3 assumes an 100% increase in collective accommodation bed stock and a 35% increase in private accommodation

Further detailed workings are provided overleaf.

In the short-term, demand limitations prevail and this, when coupled with supply-side growth momentum, suggests oversupply is looming

- The table opposite indicates the demand that would be required under 3 alternative supply growth scenarios to maintain the 2019 occupancy level. This is compared to the 2027 demand forecast discussed earlier.
- The 3 alternative scenarios are based on the expected increase in supply discussed previously and reflect the Stakeholder's insights in regards to expected developments over the next 4 to 5 years.
- Whilst acknowledging that unexpected events may alter current trends in supply growth and delay construction work, the analysis alongside clearly highlights that, without policy intervention, there exists a considerable risk of oversupply which could in turn, result in detrimental sectorial and macro-economic impacts.
- Oversupply is highly likely to result in reductions in the price of accommodation. This may in turn lead to longer-term reductions in tourism spend and to reductions in the average profitability of both collective and private accommodation.
- Hotels are naturally capital intensive projects and the traditional quality of collateral offered by such assets encourages a significant degree of leverage to be utilised to fund such operations. Financial leverage normally peaks in the first years of new developments, rendering newer establishments more susceptible to demand side risks.

2027 demand forecasts are insufficient to cater for upcoming developments

Left unchecked, rapid supply side growth threatens the financial sustainability of the sector

Short-term supply and demand considerations

		Base - FY19	Sc1	Sc2	Sc3
Collective accommodation					
FY19 bed stock	<i>Beds</i>	38,000	38,000	38,000	38,000
Assumed growth	%	-	80%	90%	100%
Updated supply of bed stock	<i>Beds</i>	38,000	68,400	72,200	76,000
Updated supply of bed nights	<i>000s</i>	13,870	24,966	26,353	27,740
Base 2027 guest night forecast	<i>000s</i>	13,489	13,489	13,489	13,489
Implied average occupancy	%	97%	54%	51%	49%
Private accommodation					
FY19 bed stock	<i>Beds</i>	23,502	23,502	23,502	23,502
Assumed growth	%	-	25%	30%	35%
Updated supply of bed stock	<i>Beds</i>	23,502	29,378	30,553	31,728
Updated supply of bed nights	<i>000s</i>	8,578	10,723	11,152	11,581
Base 2027 guest night forecast	<i>000s</i>	4,222	4,222	4,222	4,222
Implied average occupancy	%	49%	39%	38%	36%

Source: Deloitte illustrative Estimates

The above analysis is based on apportioning the guest night forecast introduced earlier between collective establishments and private accommodation based on the estimated market share of each sector in 2019. Results in 2020 and 2021 suggest that returning tourists have a greater preference for collective accommodation than in the past, presumably due to the Covid-19 counter measures provided in such facilities. The above analysis assumes that this trend is reversed in the longer term and that visitor preferences return to 2019 trends.

Left unchecked, the average occupancy of hotels in the near future is forecast to drop to financially unsustainable levels

- Potential oversupply risks may also impact the property market as short-let private accommodation is easily transferable to the residential market and a significant volume of vacant property may lead to property price corrections in the more severe scenarios.
- The Maltese banking and capital market system are in-turn significantly invested in both the property markets and in the tourism industry. As at Q4'21 both sectors combined (but excluding Air Malta plc) accounted for 40% of core banks' loan book (Central Bank of Malta).
- As will be discussed in more detail later, Stakeholders have raised significant concerns about overdevelopment and the uglification of the Maltese islands. Such concerns are supported by tourism satisfaction surveys conducted by the MTA. Worsening the situation with underutilised bed stock appears counter productive and runs contrary to MTA's stated strategy for targeting improvements in the quality of the Maltese tourism offering.

The impact of growth and key limiting factors

Tourism is a fundamental pillar underlying the standard of living in Malta

The industry generates business across most economic sectors and generates the base demand for key services that would otherwise not be feasible in Malta, at least not to the current extent

Historical estimate of expat workers induced by tourism expenditure

		2017	2018	2019
Arrivals	000s	2,274	2,599	2,753
Average length of stay	Days	7.3	7.1	7.0
Spend per guest night at 2019 prices	EUR	121.8	114.9	114.8
Implied direct expenditure	EUR'000	2,010,914	2,133,913	2,220,625
Type 2 output multiplier		2.5	2.5	2.5
Direct, Indirect, and induced output	EUR'000	4,941,488	5,243,739	5,456,819
Economic output per guest night	EUR/night	299.3	282.4	282.2
Total expats used & induced		10,462	11,102	11,553
Total expat residential units used & induced		5,231	5,551	5,776

Source: NSO, MTA, Deloitte Estimates & "A STUDY ON THE BENEFITS AND COSTS OF TOURISM IN Malta", Kurt Muscat, 2019

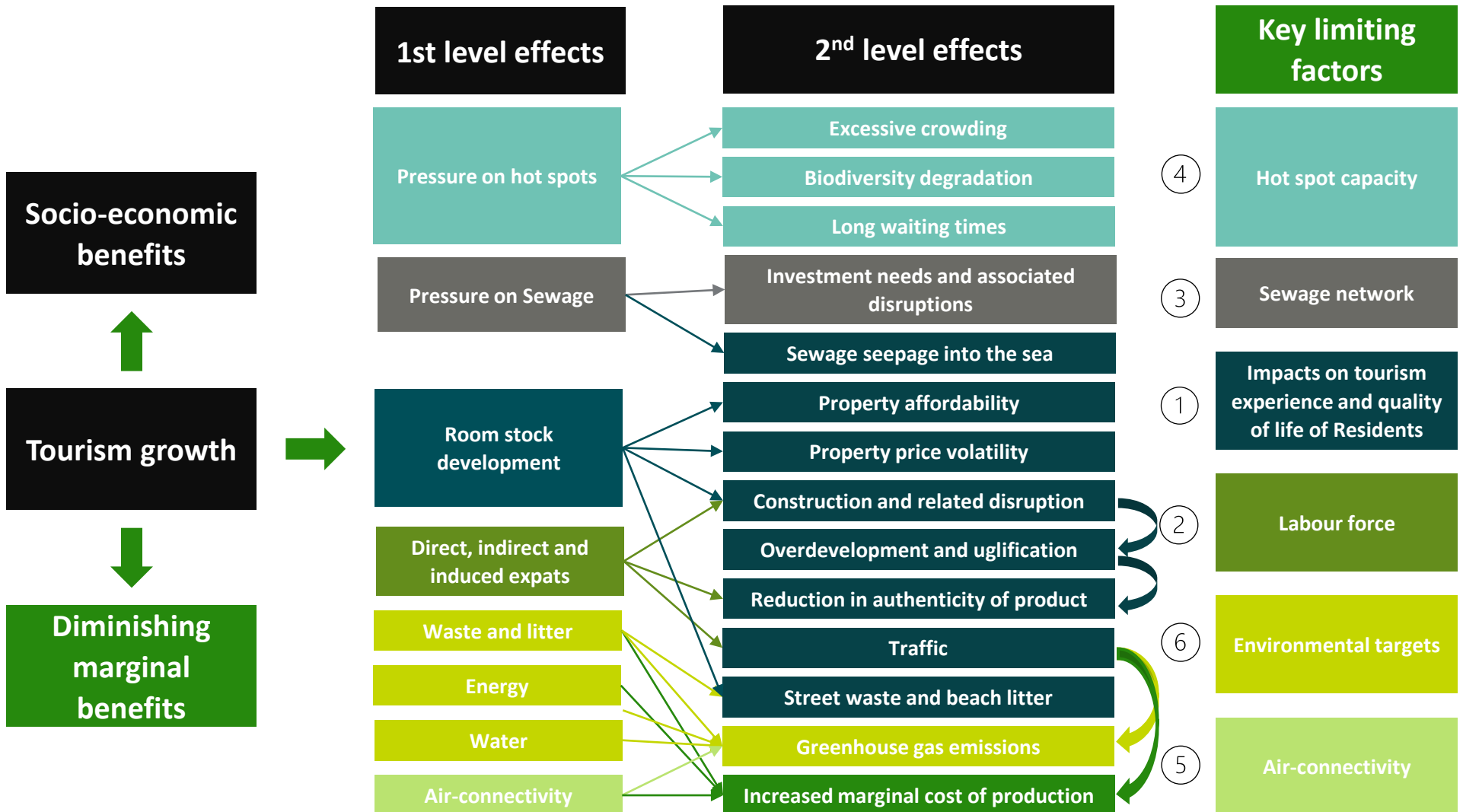
Despite the benefits that the sector provides, further growth entails increasing the utilisation of key limiting factors and is likely to yield diminishing marginal benefits

- The tourism industry is connected to almost every sector in Malta. Hotels and restaurants demand a wide array of services from the rest of the economy and tourists consume a variety of other products whilst on the island. The industry is also a key export for the country which results in an inflow of income that, as a result, induces further domestic consumption and thus output.
- Given that Malta has been near full employment for a number of years, growth in the tourism industry also entails population growth through immigration. This naturally increases the socio-economic and environmental impacts that range from increased infrastructural needs, including public schooling and health services, to additional consumption of land and increases in population density.
- Assessing the carrying capacity of tourism in Malta at present also involves macro-considerations that are seldom dealt with in other destination carrying capacity studies.

- In this context, it is not possible to avoid concepts that question the benefit of additional growth versus the marginal socio-economic and environmental cost. There exists a point where increasing tourism will result in a reduction in overall welfare of residents.
- This section highlights key trends within the tourism industry in Malta which can help evaluate the marginal benefits and costs of continuing on the growth path experienced before Covid-19 whilst also highlighting key resource limiting factors that can prevent or slow growth.
- The selection of issues to consider stems from a thorough literature review process, investigative open ended interviews, and two 4 hour workshops with key Stakeholders which firstly examined causality and casual loops between issues, and secondly prioritised key issues. Only the most material issues and findings are highlighted in this final report and these are listed overleaf.
- It is nonetheless important to note the following key limitations:
 - Whilst no concerns over power generation capacity have been noted, Stakeholders nonetheless raised potential concerns over the electrical distribution network given also plans to electrify the fleet. EneMalta representatives did not agree with this statement and explained that investment plans are sufficient and in-line with projected population and supply growth.
 - WasteServ representatives did not reply to our request to meet and our analysis was thus limited to public information. The evaluation of landfill capacity and of the planned incinerator was not possible as a result.

Tourism carrying capacity limitations in Malta are concentrated in 6 key areas

Key limiting factors include the carrying capacity of hot spots, sewage network, residents' quality of life and visitor experience, labour force, environmental targets and air-connectivity



Stakeholder interviews highlighted concerns over the quality of the tourism product

Without fail, every Stakeholder mentioned traffic as a key issue impacting tourism product quality

Top five issues raised:

1. **Traffic**
2. **Litter and waste management**
3. **Poor urban environment**
4. **Lack of authenticity**
5. **Overdevelopment and uglification**

Specific insights:

Waste	Tourists in private accommodation frequently dispose of rubbish outside of waste collection schedule system. Small food outlets at times dump waste in corners. Too many commercial waste trucks.
Urban Environment	No or poor pavements mentioned frequently by Stakeholders. Also, depleted street furniture, overflowing bins and litter.
Lack of authenticity	Various Stakeholders linked the increased use of expats with a reduction in the authenticity of the tourism product.
Uglification	Frequent mention of: <ol style="list-style-type: none">1. too many colour, style and height variations.2. destruction of authentic feel to town centres (traditional baroque church engulfed by concrete apartments)3. Pencil developments4. Lack of open spaces.
Construction	Poor construction practices and frequency of construction activity.



Most Stakeholder observations are supported by MTA tourism satisfaction surveys

However, sea quality and hospitality remain strong areas of performance despite concerns raised

Satisfaction scores - top half

	2011	2015	2019	2020	Pre-Covid trend
Hospitality of the local people	1.62	1.62	1.71	1.67	
Cathedrals/churches	1.79	1.76	1.6	1.56	
Archeological sites/temples			1.74	1.67	
Sea quality	1.83	1.85	1.68	1.55	
Historical buildings	1.87	1.79	1.63	1.57	
Museums	1.91	1.85	1.8	1.77	
Malta International Airport	1.88	1.92	1.81	1.71	
Cultural events/festivals			1.87	1.85	
Gozo ferry	2.04	1.91	1.75	1.64	
Accommodation	2	1.93	1.84	1.7	
Guided tours	1.92	1.89	1.95	1.85	
Child-friendly			1.96	1.87	
Restaurants	2.08	1.96	1.95	1.87	
Nature			1.97	1.81	
Air quality	2.12	2.12	1.96	1.74	
Theatre/performing arts	2.13	2.01	2.13	1.98	
Rocky beaches			2.12	1.95	
Taxi service	2.24	2.18	1.94	1.85	
Public transport	2.47	2.2	2.04	1.82	

Source: Malta International Airport , National Statistics Office

Satisfaction scores - bottom half

	2011	2015	2019	2020	Pre-Covid trend
Tourist information			2.19	2.06	
LGBT-friendly			2.09	2.06	
Art/craft sites			2.21	2.12	
Wi-fi service			2.22	2.05	
Retail outlets	2.27	2.2	2.39	2.31	
Vehicle hire	2.32	2.35	2.25	2.22	
Entertainment	2.49	2.33	2.25	2.18	
Agro-experiences			2.34	2.31	
Souvenir offer			2.38	2.3	
Sports facilities	2.54	2.36	2.31	2.28	
Beaches	2.53	2.41			
Sandy beaches			2.55	2.37	
Public conveniences	2.77	2.71	2.59	2.48	
Level of cleanliness	2.72	2.7	2.63	2.49	
Disabled-access friendly			2.91	2.7	
Road signs	3.02	2.96	2.86	2.75	
Roads	3.29	3.23	3.12	2.99	
Park	3.26	3.34	3.29	3.03	
Traffic	3.24	3.38	3.39	3.12	

Source: Malta International Airport , National Statistics Office

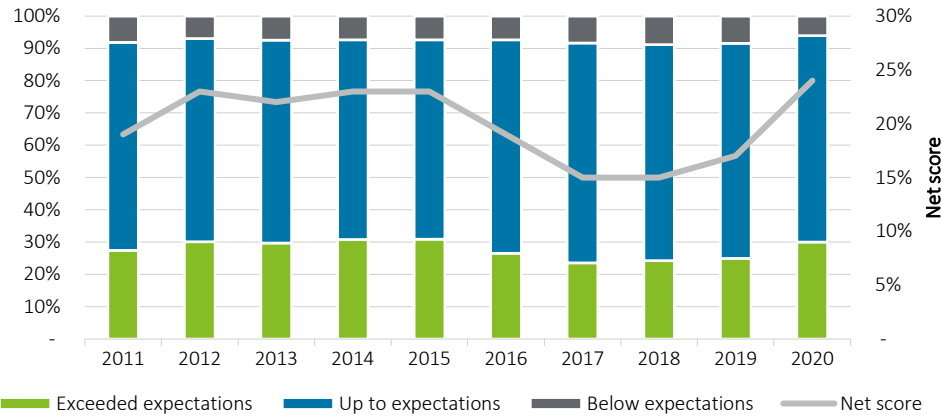
- Despite concerns over the lack of authenticity of service, hospitality scores remain high and have only degraded slightly in the last decade.
- Despite concerns raised by Stakeholders concerning fish farm waste and sewage seepage, tourists rate Malta's sea quality highly and this satisfaction category has noted improvement over the last decade.

- Traffic and parking significantly impact tourism satisfaction. This was confirmed through both Stakeholder consultation and survey data.
- Similarly, issues raised by Stakeholders concerning the urban environment, waste and accessibility, as well as the intensity of coastline use (i.e. crowded beaches) are confirmed by survey results.

Tourism sentiments have worsened between 2011 and 2019

2020 registered a strong rebound and tourism satisfaction appears to be impacted by volume

Overall tourism satisfaction rating

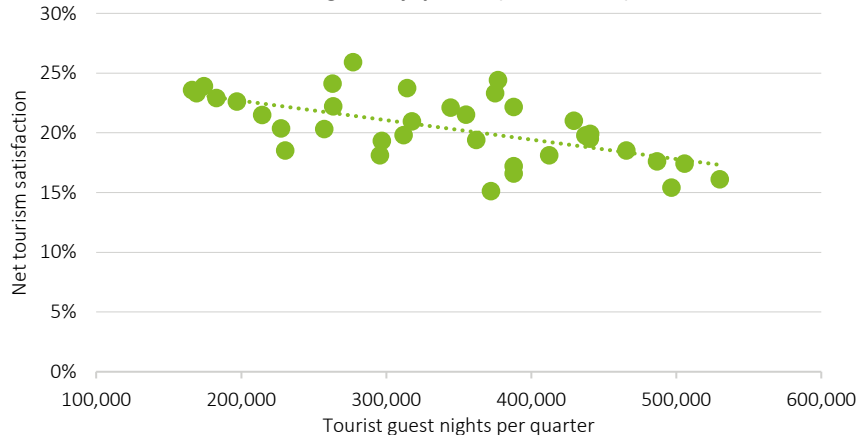


Source: MHRA Survey

The economic impact of lower tourism satisfaction scores is not clear

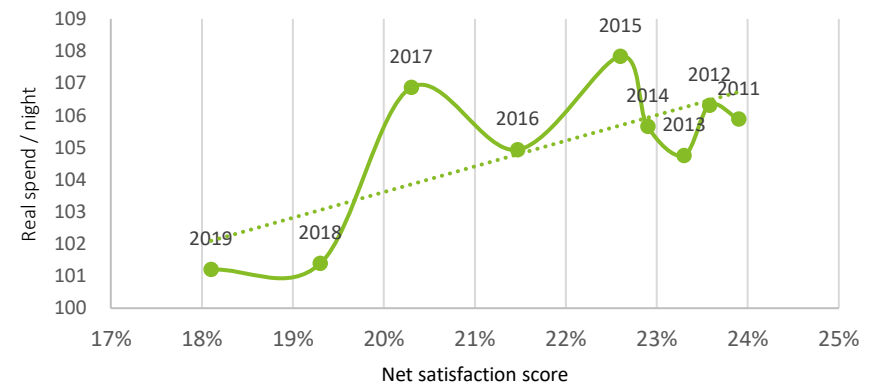
- As seen from the two figures alongside, tourism satisfaction has decreased between 2015 and 2019, which were periods of high growth, and quarterly analysis of data between 2011 and 2019 suggests satisfaction scores are inversely related to volumes.
- As seen from the figure below, there appears to be a correlation between satisfaction scores and real spend per guest night. However correlation does not mean causation and Stakeholders mentioned a number of other influencing factors ranging from international trends for shorter and less expensive but more frequent holidays, to active efforts to attract short city breaks in winter.

Tourism satisfaction vs. tourist guest by quarter (2009 – 2020)



Source: MHRA Survey

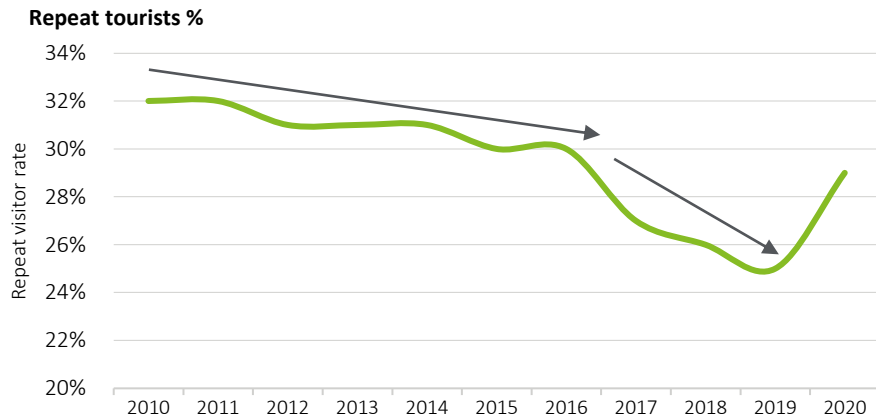
Real spend / night vs net satisfaction scores



Source: MHRA Survey

Year-on-year growth in past years renders the analysis of repeat visits difficult

Repeat visitors fell drastically between the 2015 and 2019 period though this is natural given year-on-year growth, and it is unclear whether lower satisfaction scores impacted repeat visits



Source: MTA survey data

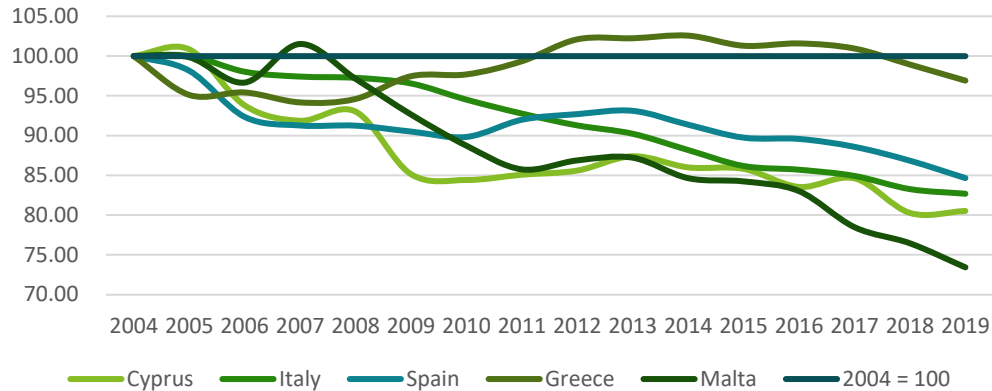
The sharp reduction in repeat visitor rates between 2015 and 2019 period nonetheless deserves attention through a detailed cohort analysis approach

- The year-on-year growth leading up to 2019 results in a natural dilution of the repeat visitor rate and the absolute number of repeat visitors has not decreased. Investigating whether a link exists between tourism satisfaction rates and repeat tourists requires a cohort analysis, whereby the rate of repeat visits from each year's arrival cohort is calculated and monitored across time. Such analysis was not possible due to data and scope limitations.
- Stakeholders also noted various other factors that impact repeat visitor rates, including:
 - Malta's traditionally high repeat visitor rate is bolstered by strong historical ties with the UK market that are largely associated with WW2 veterans stationed in Malta. Natural attrition rates to this cohort result in a declining trend.
 - The UK market in general is considered to have a strong repeat visitor rate and the market sourced from the UK has decreased considerably in recent years as a result of growth from other source markets.
 - International trends to increase the diversification of holidaying destinations.
 - Lower proportionate share of "family and friends" visitors due to more rapid growth in other areas.
- Whilst the significant acceleration of the rate of decline in repeat visitor rates between 2015 and 2019 remains noteworthy, more detailed research is required before any conclusions may be drawn from this data.

Our existing strategy for increasing arrivals may yield diminishing marginal benefits

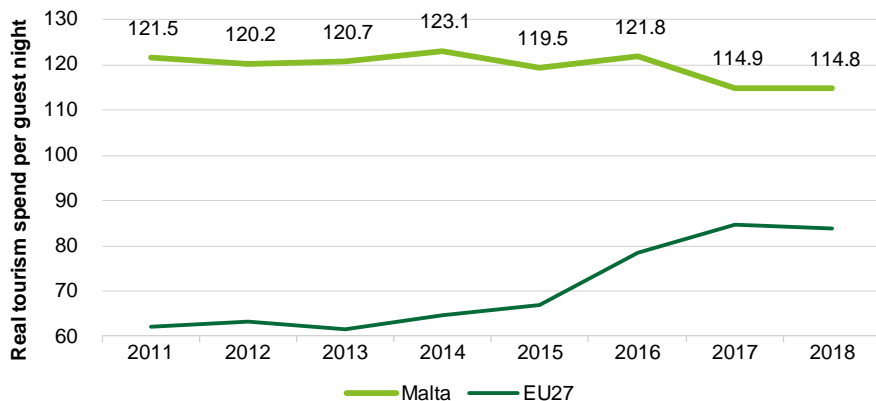
Average length of stay and real tourism expenditure per night have decreased in recent years

Average length of stay



Source: Eurostat

Real tourism spend per guest night at 2019 prices



Source: Eurostat

Average length of stay in Malta has decreased by far more than in other Mediterranean destinations

- The average length of stay per tourist has declined materially between 2009 and 2019.
- The decline has been driven by a preference for shorter stays by new tourist arrivals. This has been supported by cheaper flights and a growing availability of city hotels which generally target shorter stays when compared to resort hotels.
- Nonetheless, the average length of stay for Malta declined faster than destinations that were subjected to similar forces and MTA has also actively promoted additional events, particularly in the winter period, in order to increase arrivals. Stakeholders explained that event based tourists generally have shorter stays.

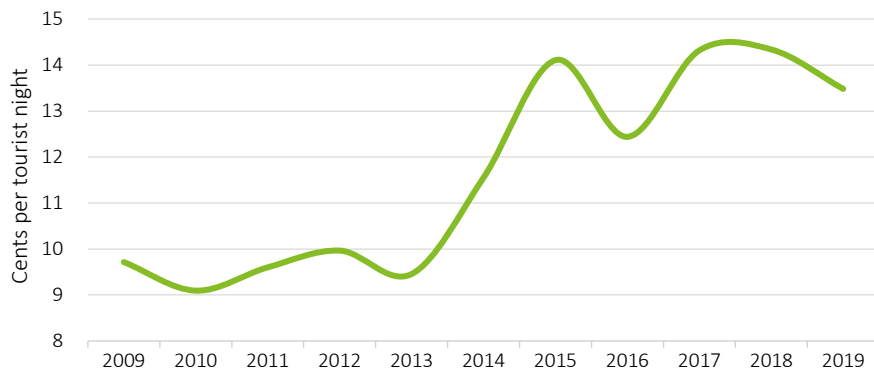
Efforts to increase volumes through events has often attracted younger and less affluent visitors

- Spend per guest night in Malta, in real terms, has reduced in recent years, particularly in 2018 and 2019 and this runs contrary to trends in the rest of the EU.
- This does not however automatically link to lower tourism satisfaction scores and industry Stakeholders, including the MTA, commented that efforts to increase volumes by organising events (e.g. the Lost and Found and Isle of MTV events) often attracted younger and less affluent visitors.
- The change in the accommodation mix towards cheaper private accommodation and reductions in the cost of air travel through increased availability of low cost carrier connectivity also impacted average spend per arrival in Malta.

Driving additional volumes requires increasingly costly active efforts

Less positive tourism satisfaction scores could result in increasing customer acquisition costs

Gov. spend in recreation, culture and region per guest night



Source: Eurostat

Stakeholders explained that the pre-covid growth in volumes was achieved through sustained active and costly efforts by Stakeholders (inc. MTA)

- Stakeholders highlighted that the volume gains achieved in recent years required significant active solicitation, product development and marketing activity.
- Some Stakeholders also commented about the need to rationalise activities and differentiate between events that impact locals versus tourism-oriented events, though they did all agreed that it is becoming increasingly hard and costly to attract ever growing volumes of arrivals.
- Support lent to airlines, particularly in regard to opening new routes and increasing flights in winter months, is a chief area of escalating costs.
- Higher volumes also increase asset wear and tear resulting in higher cleaning, maintenance and restoration costs.
- Stakeholders have highlighted that carrying capacity considerations revolve not just on the quantity of tourism but also in terms of the pace of change, as in the short-term, increasing supply often entails using less efficient factors of production. To this extent Stakeholders noted that in the short-to-medium term, higher marginal costs of production are likely to also be exhibited in other areas of the economy, including energy and water production.
- Stakeholders also stressed that the advent of social media has rendered tourism advocacy and tourism satisfaction a key priority as it now has a more direct link to the destinations' market positioning. Hence lower tourism satisfaction scores may result in higher customer acquisition costs due to the impact of the negative publicity stemming from related social media posts.

Residents have a very positive overall perception of tourism in Malta but negative tourism impacts are noted and residents in tourism areas are less keen for growth

Only 58% of residents in the St. Julians area support further tourism growth compared to 86.7% in rural areas

- A study in 2018 conducted by Tania Sultana, Head of Research at the MTA, revealed that circa 65.2% of residents believe that tourism should be actively encouraged in the Maltese Islands and the statistics reveals strong overall support for the local tourism industry.
- Results vary by location, with results in tourism hot spots, such as the St. Julian's area, showing significantly less support for further growth in the tourism industry compared to results from rural areas.
- When asked about the negative impacts of tourism, residents agreed that tourism generates more litter, tourism development increases traffic problems, and that tourism causes overcrowding in bathing places, and to a lesser extent, also at public spaces and facilities.
- Mean perception scores for other potential negative consequence, such as impacts on the marine and natural environment, inflation, social tension and crime, showed somewhat neutral responses (i.e. nearing a value of 3 meaning "Neutral").

Residents' Perceptions and Attitudes towards Tourism

	Total	St. Julians Area St Julians, Swieqi, Tas-Sliema, San Gwann	Rural Area Had-Dingli, Hal Kirkop, Hal Safi, Mgarr, Mqabba, Mtarfa, Qrendi, Siggiewi, Zurrieq
	<i>Strongly Agree</i>	<i>Strongly Agree</i>	<i>Strongly Agree</i>
I believe tourism should be actively encouraged in the Maltese Islands	65.2%	58.0%	86.7%
I support tourism and want to see it remain important in the Maltese Islands	69.3%	62.0%	88.9%
Overall Tourism Support – Mean 5=Strongly Agree 1=Strongly Disagree	4.56	4.48	4.80

Source: Residents' Perceptions and Attitudes towards Tourism in Malta, Tania Sultance, 2018, MSc Thesis

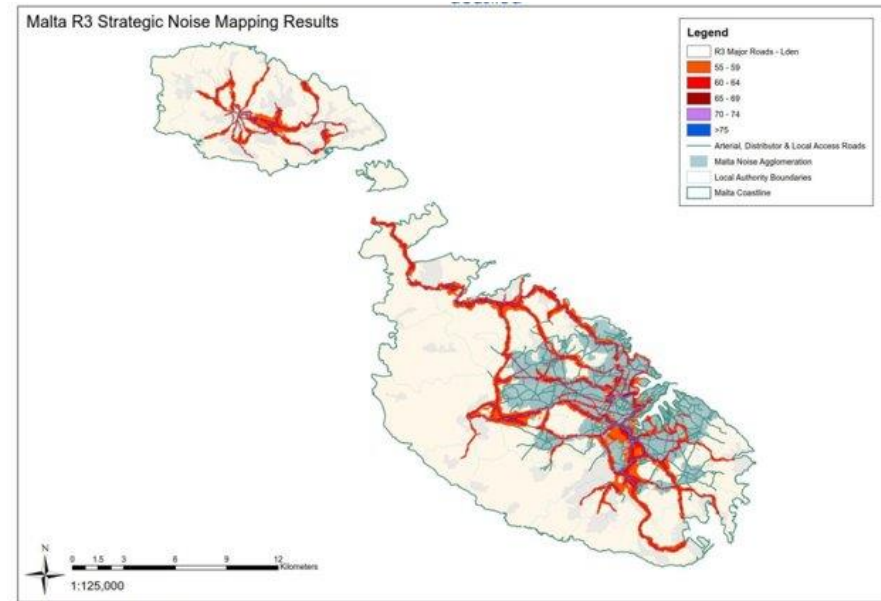
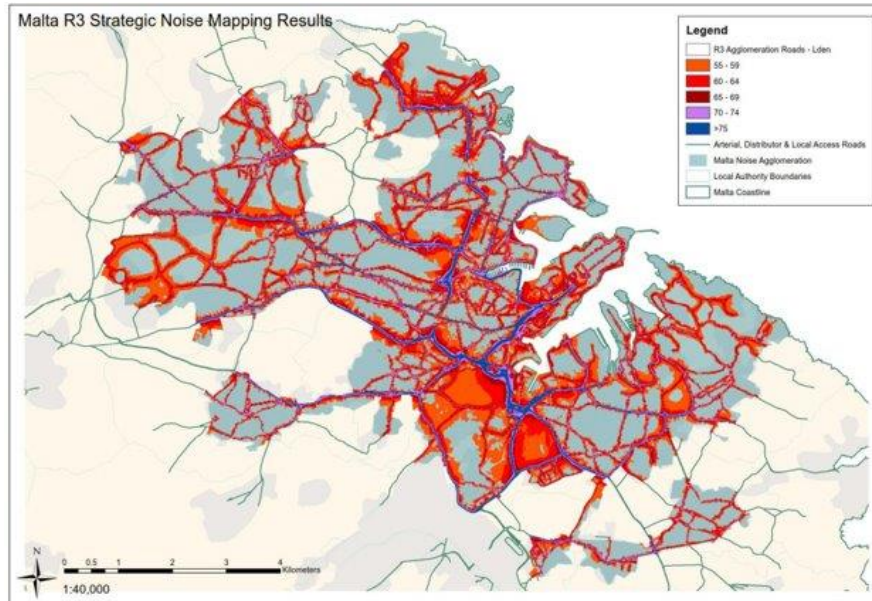
Negative impacts of tourism on Residents

Order (out of 40)	Variable 5=Strongly Agree 1=Strongly Disagree	Mean
12	Tourism results in more litter in the Maltese Islands	4.31
20	Tourism development increases the traffic problems in the Maltese Islands	4.17
24	Tourism causes overcrowding in bathing places	3.90
25	Tourism causes overcrowding in public spaces and facilities	3.86
28	Tourism causes a negative impact on the marine environment	3.45
29	Tourism causes a negative impact on the natural environment	3.45
30	Tourism results in an increase of the cost of living in the Maltese Islands	3.35
32	The increase in tourists in the Maltese Islands will lead to friction between residents and tourists	3.25
33	Tourism development increases the amount of crime in the Maltese Islands	3.17

Source: Residents' Perceptions and Attitudes towards Tourism in Malta, Tania Sultance, 2018, MSc Thesis

Noise pollution is a concern for residents in Malta

Noise complaints in Malta ranked first among the other EU countries in 8 out of 10 annual surveys



Persons noting issue with “Noise from neighbours or the street” increased from 24.9% in 2010 to 31% in 2019, chiefly increasing since 2015 (EU-SILC)

- The study discussed earlier did not specifically request for resident’s perception about noise, however this issue was raised by Stakeholders and the matter is studied through the European Union Statistics on Income and Living Conditions (EU-SILC).
- Noise complaints in Malta ranks first among the other EU countries in 8 out of 10 sampling surveys conducted for the EU-SILC.

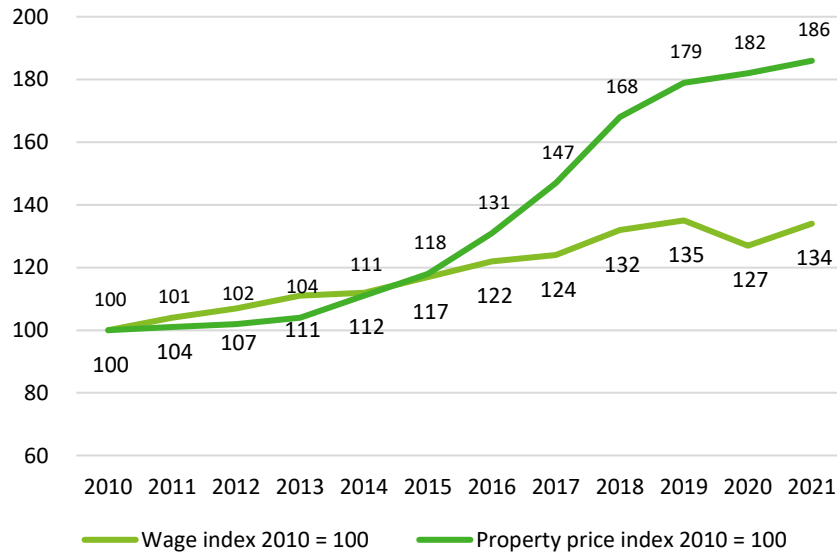
The rise of private accommodation has spread tourism impacts into residential areas. This is believed to have enhanced noise pollution issues.

- The map detailed above concerns noise monitoring data, however the focus of the monitoring data is highly focused on “Noise Agglomeration Areas” and no data was found to gain insights into noise pollution trends cross time and localities.
- Nonetheless, it is clear from the above maps that traffic is a chief contributory factor to noise pollution.

The tourism sector's demand for property has contributed towards price increases

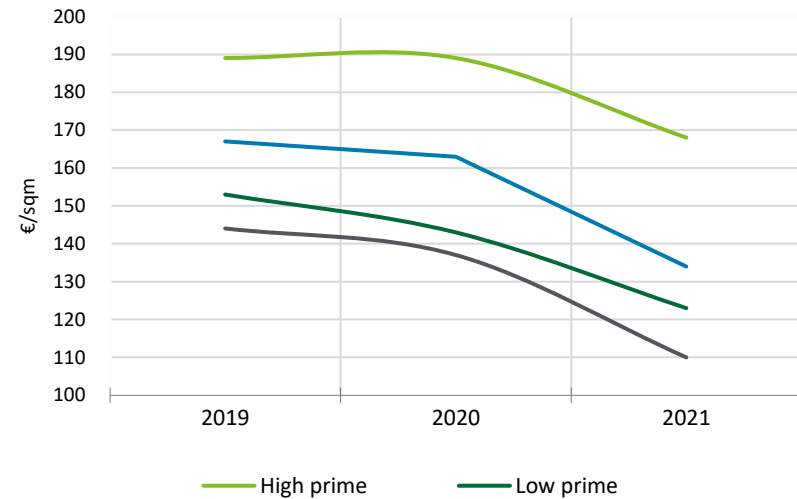
Wages have not kept up with property prices creating a significant housing affordability issue

Property Affordability index



Source: National Statistics Office

Annual rent per sqm



Source: Deloitte research based on advertised prices for residential apartments

Rapid growth in the tourism sector contributed to property price increases

- Tourism is only one of many contributors to elevated demand for property and property price increases in Malta, it is however an important contributor.
- Malta is largely dependent on expat workers to fuel additional economic expansion.
- The timing of demand and supply increases is a crucial determinant of property price affordability.

Private accommodation units are easily transferable to the residential property market and this could result in increased property price volatility

- The above figure is based on observing advertised rental prices in Malta.
- The advent of Covid-19 created a sudden reduction in demand for private accommodation. Many property owners reacted by switching to the long-let market, resulting in a significant observed reduction in rental rates. Such earning volatility in the property market adds additional risk to investors and to capital markets.

Overdevelopment and uglification

Whilst not directly surveyed in MTA’s satisfaction surveys, open-ended comment sections indicate that overdevelopment is an issue for tourists. This is also supported by Stakeholder comments.

Comments from Stakeholders demonstrate that locals care about overdevelopment

Construction practices



“Recurring problems are related to lack of or no enforcement”

“Cutting stone in the middle of summer in Sliema”

“Dust and Gravel piles left uncovered in the street”

“Construction vehicles parked right in front of tourism assets

Aesthetical standards



“Mishmash of different building heights and styles”

“Ugly protruding pencil developments”

“Mess of aerials, wires, air-con units right on the façade”

Protection of urban assets / authenticity



“Concrete jungle surrounding beautiful baroque churches”

“Beautiful yellow-stoned town houses with authentic balconies right next to a towering temple of aluminium.”

“Hilltop views obscured by large developments in the valley”

ODZ, green areas and lack of beautification

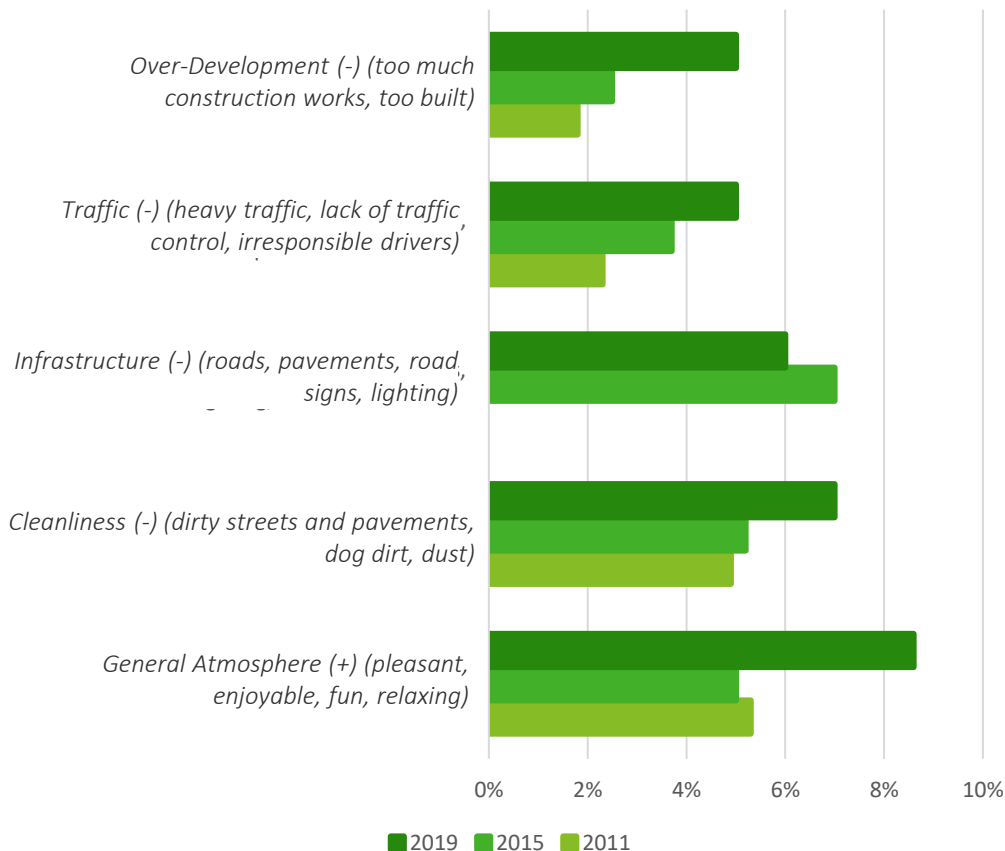


“Lack of green areas”

“no open spaces in urban areas”

“Little to no landscaping”

Comments provided by tourists in the MTA satisfaction survey, also demonstrate concerns related to overdevelopment



Population densities in certain localities have increased significantly

Certain localities have become as densely populated as London's most dense boroughs

Analysis of population changes and density (persons per sqkm)

	2009	2021	Change	Density
Gozo	37,329	34,563	(7%)	516
L-Imsida	8,657	15,566	80%	9,243
Is-Swieqi	9,228	15,847	72%	5,187
San Pawl il-Baħar	18,652	31,789	70%	2,026
Il-Gżira	7,738	13,021	68%	18,339
San Ġiljan	9,510	15,104	59%	9,306
Tas-Sliema	16,036	24,412	52%	18,822
Marsaskala	10,567	15,579	47%	2,896
Birżebbuġa	9,329	13,422	44%	1,463
Tal-Pietà	4,034	5,311	32%	11,802

Source: National Statistics Office, Planning Authority Map Server

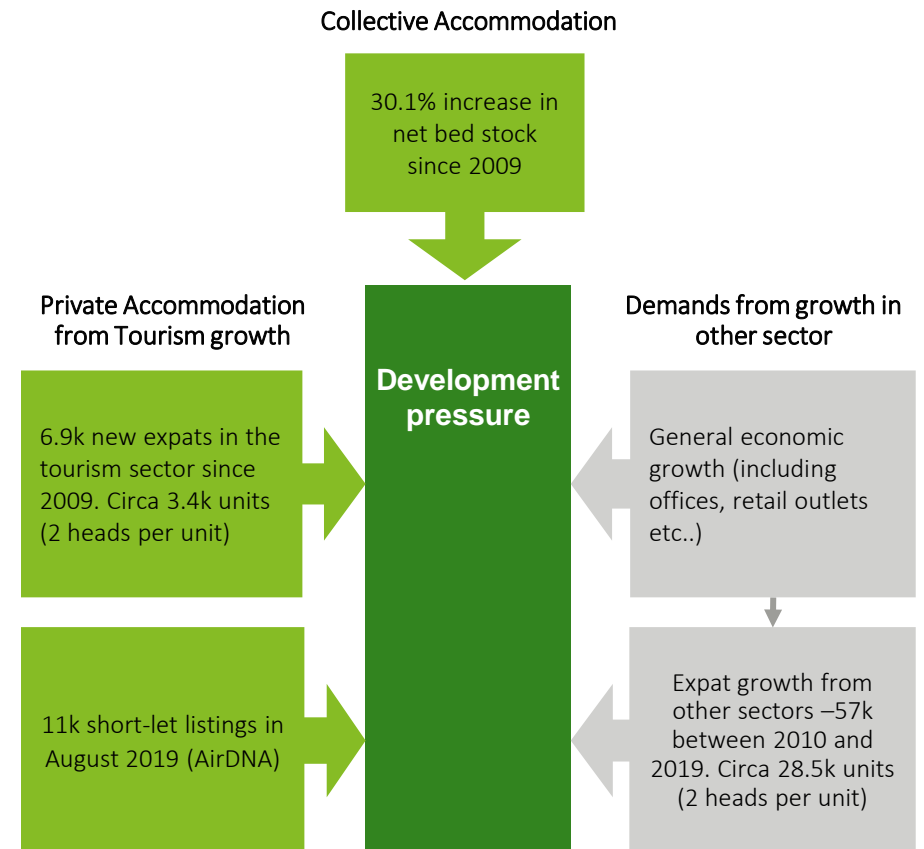
Population growth, especially in coastal and touristic areas, has resulted in significant changes to the urban fabric

- The table alongside illustrates population changes in Gozo, and in the 10 fastest growing localities in Malta.
- The fastest growing localities in Malta are either directly touching the coast or walking distance from tourism zones (e.g. Pieta and Imsida).
- Three localities have densities exceeding 10,000 persons per square with Imsida almost reaching this threshold at 9.2k/sqkm. Only 9 out of 33 London boroughs have population densities in excess of this threshold, including Islington, London's most dense locality, with 16,097 persons/sqkm.
- Various Stakeholders noted the strong impact that overdevelopment has had on the urban character of these localities, highlighting also that whilst more holistic and planned large scale developments such as in Sliema may at times improve or at least manage aesthetics, other localities simply mushroomed organically through rows upon rows of apartment blocks that are said to have a much greater negative visual impact on the urban environment.
- Stakeholders also agreed that a portion of such developments are earmarked for the private accommodation market. To this extent it must be highlighted again that such "residential" developments are granted permits on the basis of their suitability for residential habitats, and their impact on noise levels, alignment with tourism objectives, and social economic benefits/costs are not evaluated within the context of a tourism accommodation facility at permit stage.

The tourism industry itself also directly adds to development pressures

Tourism growth can at times entail additional hotels, private accommodation dwellings and residential apartments intended for expats working in the tourism sector

- Between 2009 and 2019, active collective accommodation bed stock increased by 30.1% (NSO collective accommodation data), representing a significant rate of increase. Furthermore, the high year-round occupancy rates reported in 2019 suggests that growing the tourism sector further will entail the construction of additional hotels. This is further supported by observations made in regards to expected developments and recent trends in development permits.
- As reported earlier, the popularity of private accommodation has grown in recent years and in August 2019, AirDNA reported 11k individual listings – i.e. 11k residential units made available to (or demanded by) the tourism industry.
- Furthermore, the industry directly employed an additional 6,900 expats between 2009 and 2019 (excluding casual labour). Assuming 2 heads per accommodation unit, this represents demand for the utilisation of 3,400 residential units as a direct result of growth in the tourism industry.



The tourism industry has a high degree of indirect and induced impacts

Tourism growth leads to increased demand for goods and services throughout the economy. This, particularly in the context of Malta's reliance on expats, induces further development pressures

- Increased tourism expenditure results in increased demand for restaurants, entertainment establishments, transport services, cleaning services, food produce and importers and retail offerings as well as having many other spill-over impacts. Growing the tourism industry results in a direct increase in demand for a vast array of goods and services throughout the economy.
- In addition, each of these direct beneficiaries of tourism expenditure depend on intermediate supplies – i.e. they require inputs to their business ranging from professional services such as marketing, accounting and legal, to inputs such as utility consumption. Growing the supply of direct beneficiaries also adds demand for growth in the supply of such intermediary products.
- Direct and indirect beneficiaries, in-turn, employ additional prime factors of production, such as labour, which, given Malta's near full employment situation, has traditionally been fulfilled by expat workers – fuelling further development and spending rounds and inducing further economic growth.
- The sector's output and GVA multipliers are in fact well studied and results of a recent study in this regard are presented in the table below. An additional €1m of tourism expenditure is expected to result in the demand for an additional 22 workers.

Implied impact of tourism expenditure on the labor force

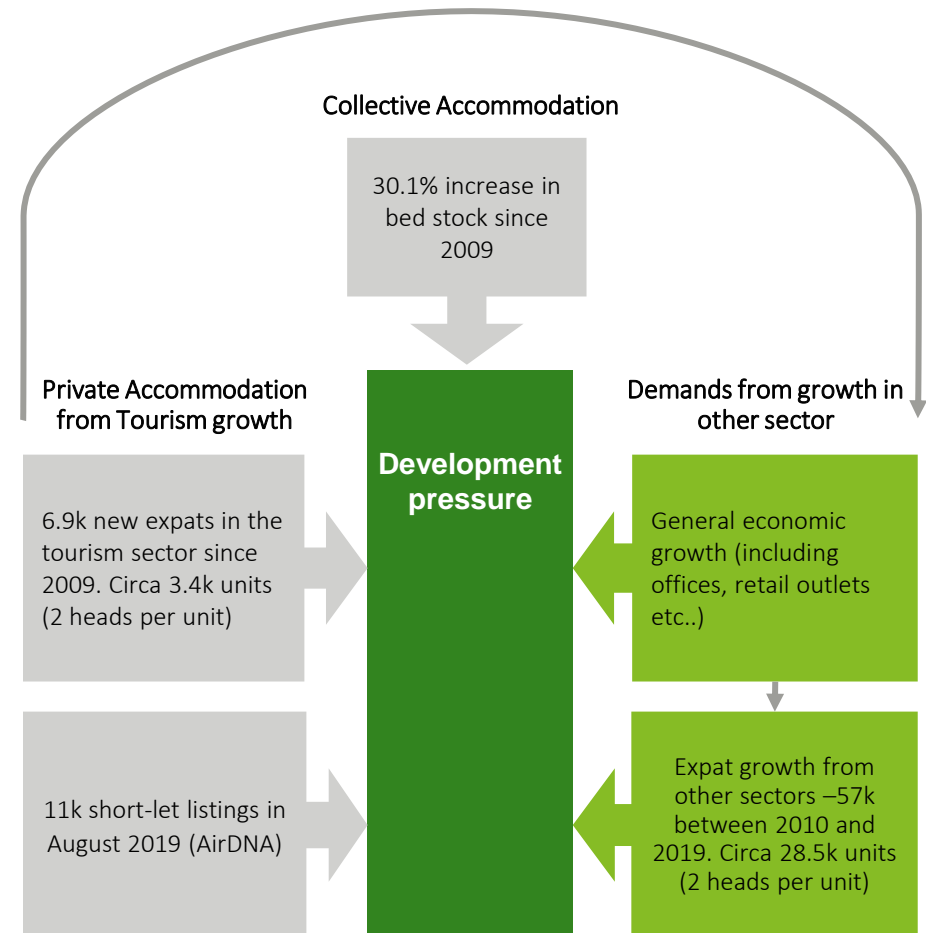
		Direct labour	Indirect labour	Induced labour
Expenditure	EUR'000	1,000		
Direct spend per FTE	EUR/FTE	109,216	240,102	107,062
Implied FTE's	FTEs	9	4	9

Implied impact of tourism expenditure on GVA

		Direct labour
Expenditure	EUR'000	1,000
Multiplier	Multiple	0.60
GVA	EUR'000	600

Source: NSO, MTA, Deloitte Estimates & "A Study on the Benefits and Costs of Tourism in Malta", Kurt Muscat, 2019

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Adequately utilising the expected growth in supply requires c. 13k new expats

Unless solutions are found to urgently draw more Maltese workers to the sector, fully utilising the planned growth in supply will likely mean that over 70% of the sector's workers will be expats

Input/output multipliers suggest that adequately utilising the expected increase in bed stock will induce additional demand for between 8k-10.5k residential units

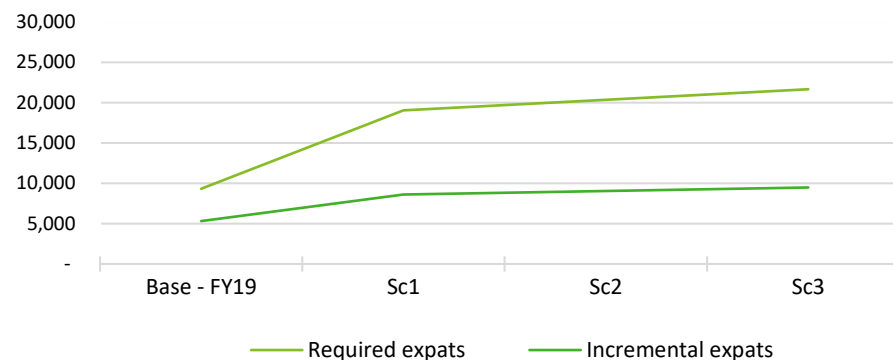
- The analysis in the table alongside utilises input/output modelling to provide an illustrative analysis of the additional FTEs required to grow the sector such that to adequately utilise the expected growth in the supply of collective and private accommodation. As a result, it also illustrates the resulting additional demand for residential property required to house such a population increase.
- The analysis assumes that the industry will revert decreasing trends in the number of absolute Maltese workers in order to at least stabilise at 2019 levels. The analysis suggests that at the completion of the planned developments, between 73% to 75% of the sector's workers will be expats.
- Stakeholders expressed concerns over impacts that this will have on the authenticity of services and recommended urgent efforts to attract more Maltese workers.

Labour & dwellings - scenario analysis

		Base - FY19	Sc1	Sc2	Sc3
FY19 guest nights	000s	19,339	19,339	19,339	19,339
Assumed growth	%	-	60.0%	70.0%	80.0%
Updated guest nights	000s	19,339	31,368	32,989	34,610
Total direct spend	€'m	1,710	2,773	2,917	3,060
Total direct spend per FTE	€'000s	109.2	109.2	109.2	109.2
Direct FTEs	FTEs	15,656	25,394	26,707	28,019
Expat %	%	59%	75%	76%	77%
Indirect and direct FTEs	FTEs	23,012	37,326	39,255	41,184
Expat %	%	23%	23%	23%	23%
Implied residential units (2:1)		7,299	13,815	14,693	15,571
Incremental units		-	6,516	7,394	8,272

Source: NSO, Deloitte Estimates & "A STUDY ON THE BENEFITS AND COSTS OF TOURISM IN Malta", Kurt Muscat, 2019

Implied no of expat workers

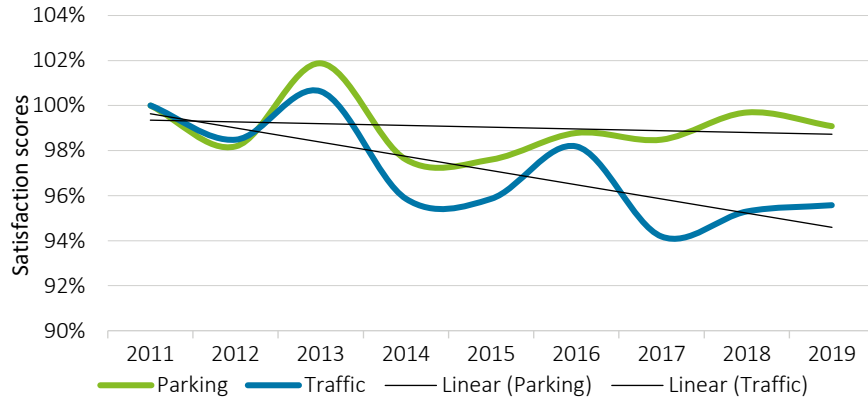


Source: NSO, Deloitte Estimates & "A STUDY ON THE BENEFITS AND COSTS OF TOURISM IN Malta", Kurt Muscat, 2019

Additional population growth will worsen present traffic issues

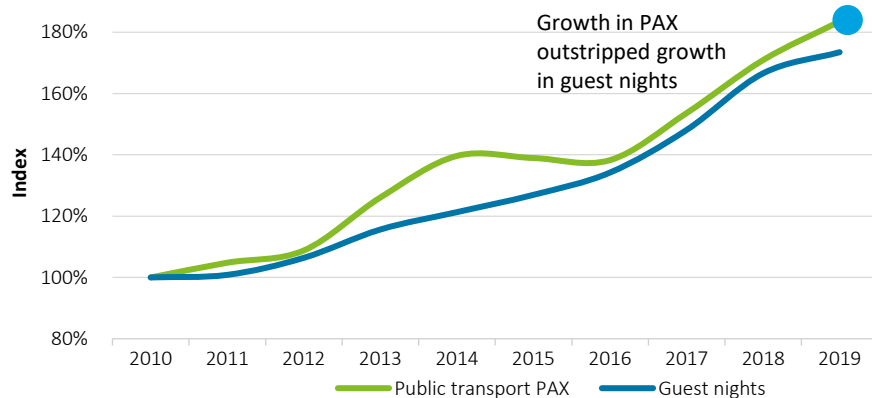
Traffic has been identified as a key issue impacting both residents and tourists. The additional expats required and induced by additional tourism development will aggravate this issue

Traffic and parking satisfaction scores



Source: Malta Tourism Authority

Comparison of growth in PAX vs growth in guest nights

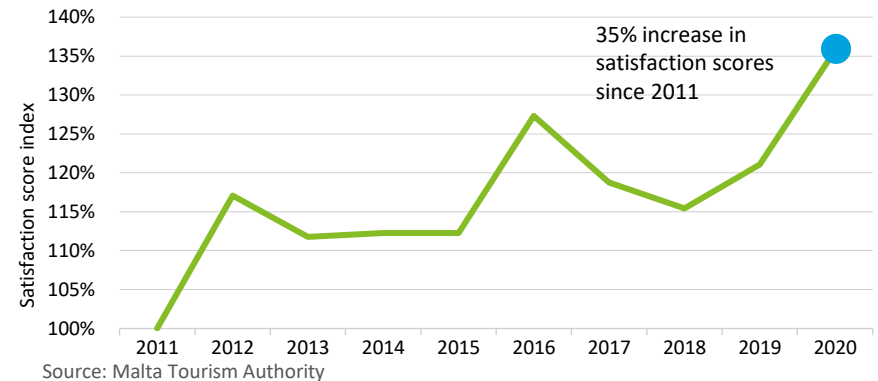


Source: Malta Tourism Authority

Traffic and parking satisfaction scores keep deteriorating despite public transport improvements

- Traffic is the worst performer within the MTA tourism satisfaction survey and as seen earlier, most residents strongly agree that tourism development worsens the traffic situation in Malta. Most tourists utilise public transport or private coaches and thus do not contribute excessively to the traffic problem. However the additional expat population working and living on the island directly or indirectly in the tourism sector is substantial, thus tourism development has an indirect impact on traffic.
- Tourism satisfaction scores regarding public transport have improved in recent years and growth in public transport passengers has outstripped growth in tourism guest nights. However when asked whether improvements to public transport may accommodate additional growth, Stakeholders commented that without bus lanes, additional buses will only get stuck in traffic, potentially aggravating the situation.

Tourist's rating of public transport



Source: Malta Tourism Authority

Key physical and infrastructural limiting factors

Urgent investment in the sewage infrastructure is needed

Investments are underway in all areas of infrastructure; however, the existing sewage network is already under particular stress in certain areas



Sea quality

- Key Stakeholders all agree that sewage seepage occurs in certain areas due to capacity limitations specifically in stressed areas.
- Unsightly rain run-off is also an issue.
- Could lead to negative publicity and reputational consequences if not addressed.



Investments hurdles and added investment uncertainty

- Direct connections to sewage main-line are at times stipulated as conditions for development permits. In certain instances this blocks otherwise viable and desirable developments.
- Investments in own-property infrastructure are made less effective due to inadequate public infrastructure.
- Economic growth priorities render it difficult to curtail permits and rejections will result in significant losses to developers who would have already invested significant resources to arrive at permit submission stage.
- Upgrading infrastructure is a disruptive process.



Historically sensitive sites have capacity limitations

- Servicing and upgrading the distribution network in certain historical sites is sensitive, highly disruptive, significantly more costly and not always possible.
- This includes Valletta, Mdina and certain parts of the three cities.

Substantial additional growth before first upgrading the sewage collection network is likely to bring detrimental impacts on sea quality

- Discussions with EneMalta and the Water Services Cooperation (“WSC) revealed that large investments in the infrastructural carrying capacity of Malta and Gozo are currently underway and that the required funding is already largely mobilised.
- Stakeholders, including WSC, nonetheless highlighted that particular issues exist in the sewage collection capacity of certain areas as a result of significant increases in load compared to the original installed capacity, coupled with age and deterioration. This is leading to sewage seeping into bay areas near sensitive areas, which are often tourism hot spots. Whilst the quality of Maltese seas remains high, the issue is expected to worsen without additional investment.
- The situation in such sensitive sites has been described as severe with development permits requiring a direct connection to more distant main sewer lines in certain areas. Additional development in these areas requires careful consideration and such areas include Sliema, St. Julians, Bugibba, St Paul’s Bay, Xemxija and certain areas in Gozo.
- WSC also explained that certain historical sites, such as Valletta, have an aging and highly complex sewage system and that capacity issues in such localities are particularly complex and disruptive to augment.
- WSC is currently working on a national (Malta and Gozo) water and sewer network replacement and rehabilitation programme for implementation in 2026-2030. Work in this area is likely to cause considerable disruptions and the required funds for the program have not yet been secured.

Highly significant sewage capacity augmentations appear to be required

Attempting to cater for the additional sewage requirements associated with the expected increase in bed stock supply requires large and urgent investments

Sewage collection in sensitive areas - scenario analysis

		Sc1	Sc2	Sc3
Additional guest nights	%	60.0%	70.0%	80.0%
Additional guest nights	000s	5,490	6,405	7,320
Estimated water per guest nights	Litres	110	110	110
Estimated consumption in sensitive areas	%	80%	80%	80%
Additions from tourists in sensitive areas	000'm3	483	564	644
Additional expats (total)	000s	65	76	87
Estimated water per expat per day	Litres	100	100	100
Estimated consumption in sensitive areas	%	40%	40%	40%
Additions from expats in sensitive areas	000'm3	944	1,101	1,259
Total additional consumption	000'm3	1,427	1,665	1,903
Discharge %	%	80%	80%	80%
Additional water discharge in sensitive areas	000'm3	1,142	1,332	1,522

Capacity increase in sensitive areas	49%	57%	65%
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Source: WSC data, Deloitte Estimates based on input from WSC

Whilst individual development permits have been screened for their infrastructural impact, the systemic level of growth requires a holistic view

- WSC further explained that they are aware of the issue and are working to devise a plan and to secure funding. They also explained that they employ sophisticated economic modelling techniques to estimate investment requirements for future needs.
- Nonetheless, the highly disruptive and complex process involved in augmenting the sewage collection network has resulted in delays in this area and WSC is working to secure funding for a much-needed holistic upgrade of the infrastructure.
- The table alongside provides a high-level estimate of the additional sewage discharges expected should the increase in tourism guest nights associated with the expected increase in bed stock supply materialise. This includes the additional demand from population growth (i.e. expat workers) required by the tourism industry itself, both directly and indirectly, together with the demand from additional economic activity induced by the income earned as a result of the expansion of the tourism industry.
- The analysis is based on a number of assumptions which have been validated by Stakeholders, including discussing expected water consumption metrics with the WSC. The analysis furthermore assumes that 80% of guest night increases are located within existing tourism zones and that the majority of new expat workers will be located in nearby localities (and thus increasing the proportion of water discharged in sensitive areas from the existing 32% to 40%).
- The analysis suggests that the sewage network's capacity limitations are a pressing limiting factor in a number of key tourism areas.

Stakeholders identified a number of hot spots which show signs of overtourism
 Hot spots were defined in this study to be areas that are of national importance to the Tourism sector and that appear to be under significant strain from existing tourism use

Beaches

Malta

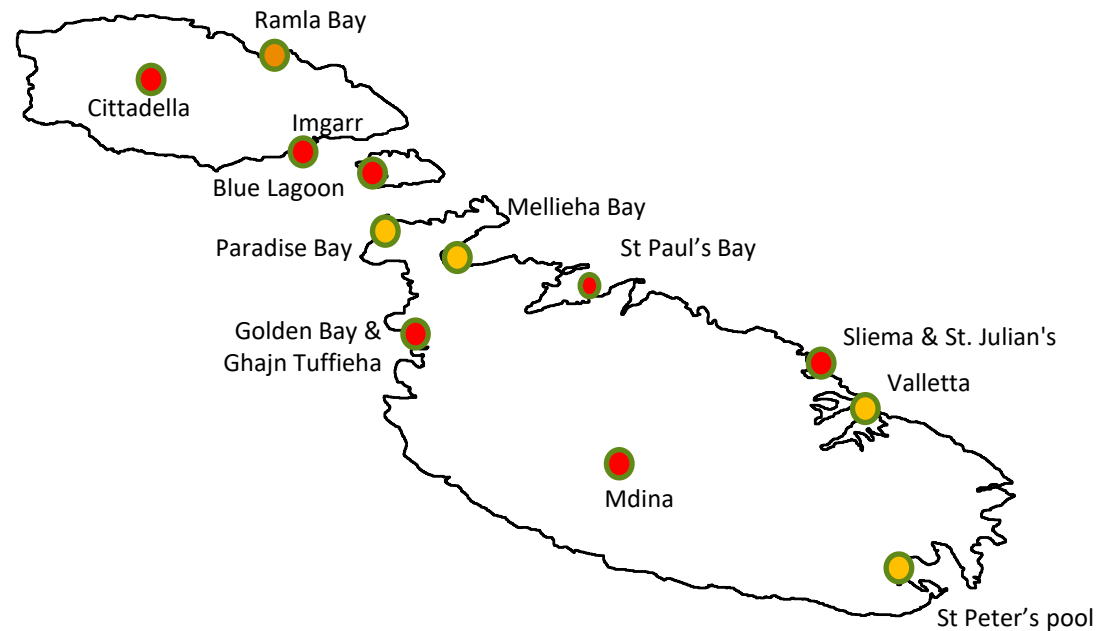
- St George's Bay: extensive crowding
- St Paul's Bay: crowded beaches
- Mellieha Bay: crowded beaches
- Golden Sands & Ghajn Tuffieha: crowded beaches and bio-sensitivity
- Paradise Bay: crowded beaches and bio-sensitivity
- St Peter's pool: crowded

Gozo

- Ramla Bay: Bio-sensitivity

Comino

- Blue Lagoon: excessively crowded & bio-sensitivity



Other hot spots under stress

Malta

- Saint John's Co-Cathedral and Valletta
- Mdina
- Sliema
- St. Julians area (inc. bay)

Gozo

- Rabat & Cittadella
- Imgarr (traffic and port capacity)

Additional utilisation of key beaches appears difficult

Available data suggests that key beaches in Malta are already frequented more than the average European beach, raising concern as to whether a significant increase in visitors could be managed

Beaches	Average visits per day per hot spot in August			Size of Hot Spot area ('000 m ²)	Density m ² per visitor				
	2009	2015	2019		2009	2015	2019	Sc1	Sc2
					2009	2015	2019	50%	60%
Mellieha	2,855	3,559	4,401	30	10.5	8.4	6.8	4.5	4.3
Golden Bay			3,350	16			4.8	3.2	3.0
Ramla Bay		1,713	2,178	15		8.8	6.9	4.6	4.3
Blue Lagoon			4,580	4			0.8	0.5	0.5

Source: Deloitte estimates based on MTA traveller survey and Geodata, as well as Google Earth
See also Annexure B

- The analysis nonetheless shows that it is very likely that peak beach density for Maltese beaches exceed the average for Europe (6.8 persons per sqm per day)¹. Blue Lagoon and Golden Bay appear to be under particular stress.
- The table alongside also estimates visitor density under the three supply scenarios discussed throughout the report – i.e. based on the expected increase in supply and the implied increase in visitors required to maintain occupancy rates at 2019 levels.
- It is clear from this analysis that the quality of experience and competitiveness offered at key Maltese beaches will be drastically impacted by the envisaged growth scenarios.
- The situation in Blue Lagoon appears particularly worrying. Assuming that visitors on average spend 4 hours at the beach and spreading the load over 12 hours indicates that in peak months, visitor density reaches 2.62 m² per visitor throughout every hour of day light. No benchmarking is required to understand that the visitor experience is impacted by this level of visitor density.
- Comino is a sensitive biodiversity hot spot and a Natura 2000 site. Such high visitor numbers result in considerable environmental damage including; trampling (especially when considering that such visitor numbers are unlikely to restrict their leisure activity within the 4015m² of designated sunbathing zones, thus implying encroachment on protected areas), litter (though moderated by high frequency of cleaning activities by MTA officials), noise, soil degradation & desertification, dust, and light pollution (all of which undermine biodiversity and deter wildlife).
- An unambiguous visitor management plan for Blue Lagoon appears warranted given the above considerations.

The expected growth in bed stock suggests that coastal areas together with major beaches will become much more crowded than the average beach in the EU

- The table alongside presents an indicative estimate of visitor density for key beaches identified by Stakeholders (other than St. George’s bay, for which insufficient data exists). It is computed using MTA’s Traveller survey data combined with relevant tourism area estimates obtained by analysing tourism points of interest in ArcGIS and Google Earth. The analysis excludes Maltese visitors and the exercise has other various key flaws that need to be kept in mind:
 - Traveller Survey data provides annual estimates which were then applied to 2019 guest nights in August. This can lead to an underestimation of peak frequentation of beaches.
 - Certain assumptions about the interpretation of data were necessary, for example, it was assumed that every visitor to the Mellieha locality visited the Mellieha beach. Estimating site areas was also subjective in some instances.

Source 1: MDPI - Analysis of the Accommodation Density in Coastal Tourism Areas of Insular Destinations from the Perspective of Overtourism

Satisfying expected supply growth implies excessive crowding of historical areas

Historical areas in Malta already face visitor density levels comparable to Venice, which is known to suffer from excessive crowds and has recently adopted measures to limit visitors

Historical areas	2009 2015 2019			Size of Hot Spot area ('000 m ²)	2009 2015 2019			Sc1	Sc2
	2009	2015	2019		2009	2015	2019	50%	60%
Valletta	6,233	8,672	12,021	429	68.8	49.4	35.7	23.8	22.3
Mdina	4,908	6,772	9,309	120	24.4	17.7	12.8	8.6	8.0
Three Cities	2,272	2,964	5,031	388	170.6	130.8	77.0	51.4	48.2
Citadel/ Victoria		4,392	6,323	150		34.1	23.7	15.8	14.8

Casestudy: The city of Venice

	Visitors per day	Square meters ³	M ² per visitor per day
Venice - peak visitors per day ¹	200,000	6,370,771	32
Venice - sustainable target ²	55,000	6,370,771	116

Sources:

1. "DEFINING, MEASURING AND EVALUATING CARRYING CAPACITY IN EUROPEAN TOURISM DESTINATIONS", University of the Aegean, Athens, 2002

2: Venice Project Center, 2019

3: Google Earth, main island only

The City of Venice enacts entrance fee to limit visitor numbers

- As from 1 January 2023, travelers will only be allowed to visit the City of Venice once they have booked their day pass online.
- The website allows you to book your visit well in advance and provides an estimate of the number of visitors expected on the day.
- The price of the day ticket will depend on the demand for passes on the particular day.
- The City is also planning to restrict access to historical sites and to install 500 cameras in order to better study and monitor visitor numbers

Satisfying the expected growth in bed stock suggests that visitors to key historical areas in Malta may arguably need to be controlled

- The top table alongside presents an indicative estimate of visitor density for key historical hot spots identified by Stakeholders. It is computed using the same methodology and sources described earlier in regards to beaches and the analysis does suffer from the same limitations noted earlier.
- The analysis indicates that in August 2019, m² per visitor per day in Valletta, Mdina, the Three Cities and Citadel reached 35.7, 12.8, 77, and 23.7 respectively.
- In order to be able to better interpret such statistics, an indicative analysis of visitor density per day for Venice has been computed. Sources are presented in the bottom of the table and the applicable area was estimated via Google Earth and limited to the historical centre, and does not include other localities which are also relevant to the tourism industry in Venice.
- Venice is often quoted as being one of the most crowded tourism destinations in the world and local residents have held numerous protests against mass tourism in recent years; noting depopulation through gentrification impacts as a key negative impact. Based on a peak demand of 200k visitors per day, the peak m² per visitor per day for Venice amounts to 32.
- With the exception of the Three Cities, all other identified key historical areas were already below or near to this density level. On this bases, increasing arrivals to the extent required to adequately utilise the additional bed stock supply being envisaged, appears problematic, and may entail introducing mechanisms to restrict visitors to such areas, as has been done recently in Venice.

Stakeholders expressed concern over visitor density levels in key urban areas

Stakeholders mentioned various tourism management improvements that can however increase the carrying capacity of such areas

Urban areas	2009	2015	2019	Size of Hot Spot area ('000 m ²)	2009	2015	2019	Sc1 50%	Sc2 60%
	'Sliema	4,530	5,688		6,795	470	103.7	82.6	69.2
'St Paul's Bay	3,864	4,988	6,187	512	132.6	102.7	82.8	55.2	51.8
'St Julian's	3,343	4,029	5,007	273	81.7	67.8	54.6	36.4	34.1
IMarsaxlokk	3,185	4,278	5,895	132	41.4	30.8	22.4	14.9	14.0
IPaceville	1,489	1,688	1,743	177	119.2	105.1	101.8	67.9	63.6

Source: Deloitte estimates based on MTA traveller survey and Geodata, as well as Google Earth
See also Annexure B

Satisfying the expected growth in bed stock will likely require a higher degree of visitor management in key urban areas

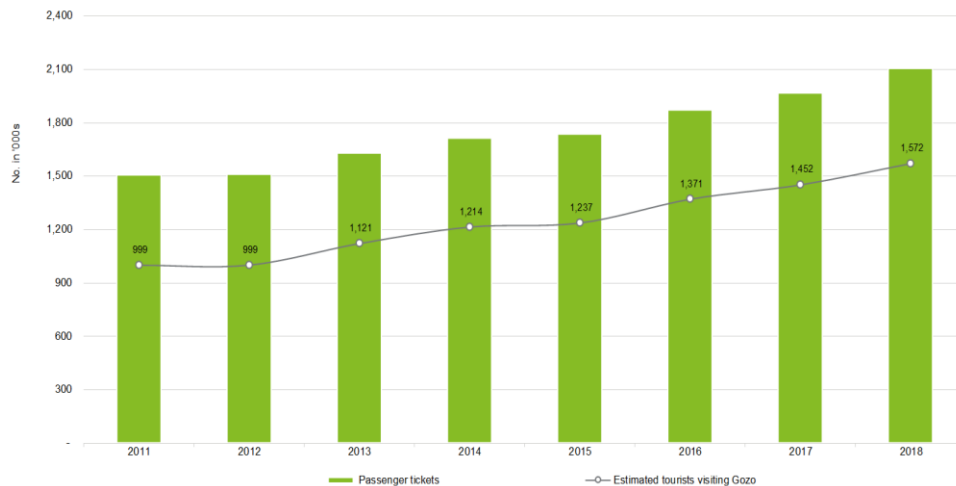
- The density analysis was repeated for urban areas that Stakeholders identified as being tourism hot spot in the sense that:
 - They are areas of significant importance to the national tourism product, and;
 - There are concerns over the existing levels of crowdedness.
- Evaluating Stakeholders' concerns through the illustrative data analysis above is rendered more difficult than for beaches and historical areas as the size of the applicable areas in these cases is difficult to determine. Utilising the administrative boundaries of each area would result in the inclusion of large areas that are not relevant to the tourism product and not frequented by tourists. To overcome this issue, we analysed the location and concentration of places of interest obtained from ArcGIS and Google Earth and applied professional judgement and local knowledge to determine the tourism centres of interest within each locality. The process and logic used for this exercise is detailed in Annexure B.
- Interpreting the results is also difficult as the capacity of other urban areas is high since such areas are supported by significant infrastructure (e.g. parking and efficient public transport, green areas and open areas, visitor management and cleaning services).

- Whilst open areas are available in the identified costal areas (i.e. the promenade), the provision of parking facilities, public transport, and cleaning services can not be compared to other urban areas throughout the world (e.g. London and Paris). Within this context we note that density levels in Sliema, St. Julian's and St. Paul's Bay are expected to approach visitor density levels witnessed in Venice, which is considered problematic given that such areas are not pedestrian, and thus such data is indicative of growing traffic and parking, and potentially also littering, problems thereby supporting Stakeholder's observations in this regard.
- When evaluating density levels in Paceville it is important to note that the vast majority of visitors congregate in the area during the night time and this level of concentration throughout a more limited period of time creates problems. Consider for example that if 80% of visitors frequent Paceville between the hours of 8pm to 2am, whilst assuming that visitors to other areas are likely to be evenly spread throughout a 14 hour day, results in a peak m² per visitor per day equivalent for Paceville in 2019 of 18.37.
- Data concerning Marsaxlokk is presented for information purposes only but is not interpreted and analysed as it was not possible to distinguish between visitors to the Marsaxlokk town versus visitors to a popular nearby beach (St. Peter's Pool), thereby rendering the analysis inconclusive.
- This analysis supports Stakeholder's views concerning problematic visitor density issues in urban tourism hot spots. Stakeholders however mentioned various tourism management practices that can increase the effective carrying capacity of such areas – for example, by limiting commercial garbage collectors and deliveries to specific times in the day, pedestrianisation, parking facilities, parks and green areas, and other practical improvements.

Gozo attracts a different tourist than Malta and requires dedicated attention

Gozo has a separate and distinct identity as a destination with a lower volume setting

Passenger and tourist movements to Gozo



Passenger Movements

The number of commuters between Malta and Gozo has increased steadily in recent years.

Seasonality

There is a clear seasonal trend which corresponds to the summer months and peak tourist season.

Domestic Tourism

Tourist expenditure in 2018 amounted to €223 million, out of which €38 million (17%) originated from Maltese residents.

Insularity

Gozo focuses on leisure, wellness, cuisine, active and rural tourist, with insularity projected as a selling advantage rather than a flaw.

Connectivity

Gozo's is connected to the island of Malta through a single entry point, Mgarr port. The port is connect by ferry to Ċirkewwa and with the recently launched fast ferry services to Valletta.

Water distribution & sewage

Similarly with Malta, Gozo has an aged network and is facing seepage issues affecting the diving sites in the south coast.

Over-crowding in beaches and other hot spots

Over-crowding in Gozo is not as intense as in Malta and it mainly occurs on long weekends when domestic tourism peaks.

Citadel, as a small walled historic site, is however one of the most intensely frequented hot spots, and pressures do exist in Ramla Bay. Finally, during peak days, Mgarr harbour experiences long queueing times and issues with parking.

Tourists & local satisfaction

The main pain points for locals and tourists are similar to Malta and include litter and waste (especially on Sundays when domestic tourists dispose garbage without following the collection schedules), overdevelopment and a reduction of authenticity. These issues are however felt more acutely due to the size and the target tourist being attracted to Malta, which has higher overall expectations.

Ideas discussed with Stakeholders

Proposals are ranked by perceived socio-economic cost



Beaches and environmentally sensitive areas

Capacity restrictions for Comino/Blue Lagoon.
Digital tools to provide capacity visibility.
Digital tools to encourage improved distribution.
Increased valorisation and management of green areas.
Artificial beaches.
Provide facilities to make better use of rocky shores.



Gozo

Improved management and rationalisation of organised tours and coaches.
Digital tools to encourage improved distribution.
Programs to valorise more town squares and attractions.
Destination Management Organisation.
Park and ride type facilities + shuttle services.
Expansion of Mgarr Harbour Facilities.

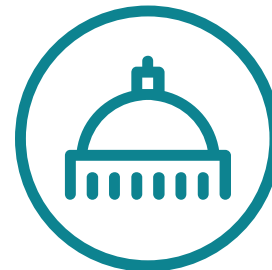


Tourism hubs

Tourism Zone with dedicated management – including waste management:

1. Adequate cleaning, adequate upkeep, and investment for greening and aesthetic improvements, topped up with effective management of such.
2. Synchronise clean-up/ re-stock times.
3. Resource prioritisation and rationalisation.
4. Improve enforcement and training requirements.
5. Traffic and transport management.

Encourage new entertainment niches away from existing hubs.



Historical and cultural assets

Digital tools to provide capacity visibility.
Digital tools to encourage improved distribution.
Digital visitor management tools such as the introduction of variable price day tickets.

The MIA has recently announced investments in a new apron

This will allow a significant increase in peak load capacity, though additional investments are likely to be required in order to sustain the expected increase in bed stock supply

Increases in load factors and seasonality improvements are unlikely to resolve medium-term capacity issues

- Malta International Airport recently announced an investment to construct a new apron. The new apron will introduce new parking stands that can accommodate either seven Code C or three Code E aircraft thereby enhancing the airport's ability to better cater for mixed-fleet operations, particularly during peak hours. By the start of summer 2024 the first 3 parking stands are expected to be completed and the remaining slots are expected by 2026. Increasing peak hour capacity will in-turn allow for additional winter connectivity as new routes are only feasible when summer slots are included in the deal. At the minimum, new routes are said to require a 2:3 summer to winter ratio though less established routes often require more summer flights and a ratio of 2:1.
- The apron expansion will allow for significant capacity increases, well in excess of MIA's demand forecasts until 2026.
- However, MIA expressed concern as to whether the expansion will be able to sustain the extent of volume increases required to adequately utilise expected supply stock increases; even when assuming reasonable increases in load capacity and improvements in seasonality. Capacity limitations include concerns on demand for parking slots in peak hours, terminal capacity, and slot availability at connecting airports.

Connectivity requirements needed to cater for bedstock supply potential

		Base - FY19	Sc1	Sc2	Sc3
FY19 guest nights	<i>Nights</i>	19,338,860	19,338,860	19,338,860	19,338,860
Assumed growth	<i>%</i>	-	60%	70%	80%
Updated guest nights	<i>Nights</i>	19,338,860	30,942,176	32,876,062	34,809,948
Average length of stay	<i>Nights</i>	7	7	7	7
Total number of arrivals	<i>No of tourists</i>	2,753,240	4,405,184	4,680,509	4,955,833
Average no. of passengers per flight	<i>No of tourists</i>	113	113	113	113
Total no. of inbound flights required	<i>No of flights</i>	24,365	38,984	41,420	43,857
% of no of flights - Q1	<i>%</i>	17.9%	17.9%	17.9%	17.9%
% of no of flights - Q2	<i>%</i>	27.8%	27.8%	27.8%	27.8%
% of no of flights - Q3	<i>%</i>	30.4%	30.4%	30.4%	30.4%
% of no of flights - Q4	<i>%</i>	23.9%	23.9%	23.9%	23.9%
Number of flights required - Q3	<i>No of flights</i>	7,396	11,833	12,573	13,312
Number of flights required - Q1	<i>No of flights</i>	4,363	6,981	7,418	7,854
Q3:Q1 ratio	<i>ratio</i>	1.69	1.69	1.69	1.69
Growth in total no of flights vs FY19 levels %		n/a	60.0%	70.0%	80.0%
Growth in Q3 no of flights vs FY19 levels %		n/a	60.0%	70.0%	80.0%
Growth in Q1 no of flights vs FY19 levels %		n/a	60.0%	70.0%	80.0%

Source: Deloitte estimates based on MIA discussions

It is important to stress that MIA is able and willing to invest in growing capacity should the demand exist. Such a process does however take time and whilst the airport's physical capacity might be extended, increasing air connectivity entails convincing airlines to devote scarce connecting slots in other airports and to devote additional plane time - this again needs time and a gradual process of incremental gains.

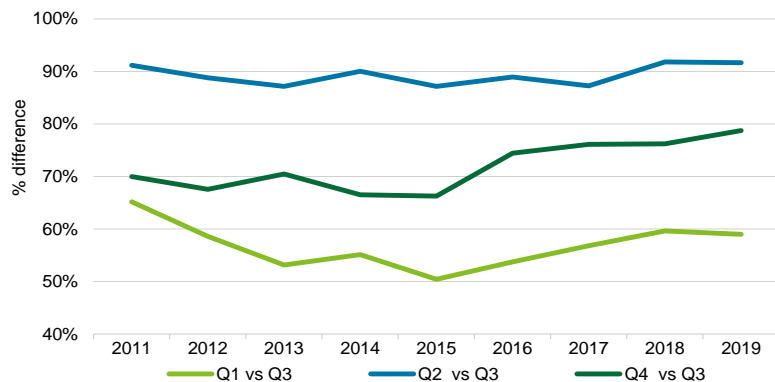
2019's good seasonality performance sets a high baseline target for the recovery

Attempting to strategically prioritise the rebuilding of the connectivity network may speed up the process of restoring seasonality and yield some potential improvements

Limited other opportunities for improving seasonality might exist

- Driven by the main reason of visiting Malta (Sun & Sea), airlines try to ensure slots during quarters 3 and 2, which form the peak season.
- The post Covid redevelopment of the network, puts the seasonality at risk as MIA and MTA currently lack the bargaining power necessary to gain commitments for both winter and summer months.
- When evaluating the 2019 performance, seasonal differences in flight frequency across markets suggests some opportunity to improve the overall seasonality score. Stakeholders however, stressed that MIA and MTA have limited ability to influence airlines and that competition for limited plane time, fuel deviation costs, and slot limitations in other airports all play an important role in an airline's route network decisions.

Number of flights - seasonality performance



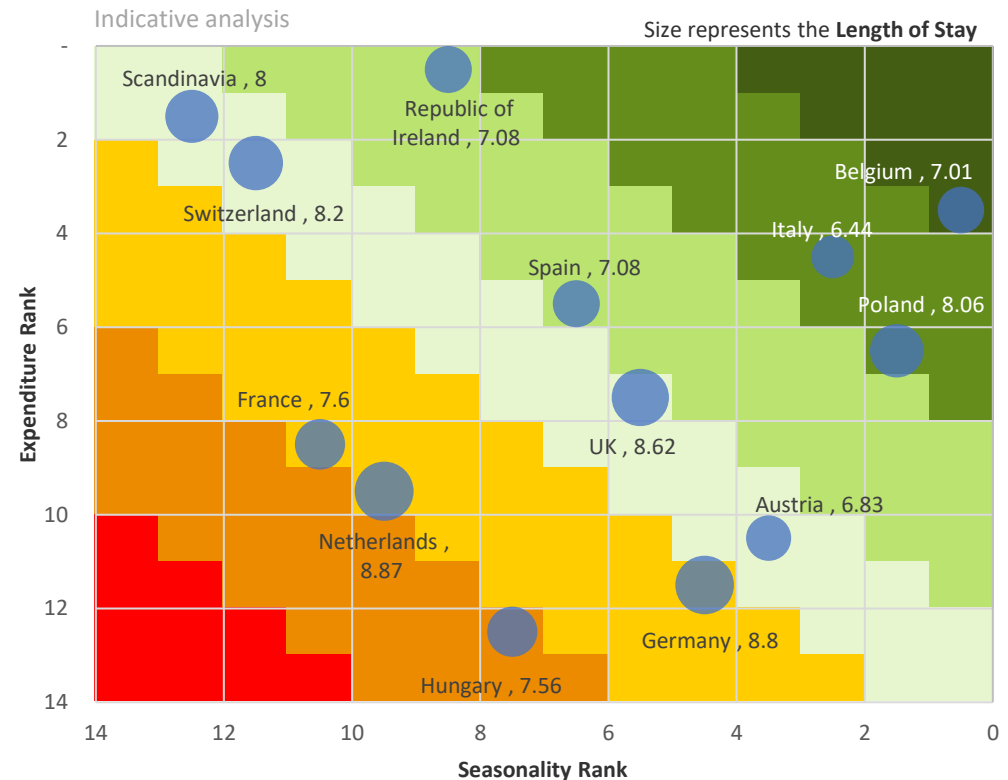
# of Flights 2019	Q1vsQ3	Q2vsQ3	Q4vsQ3
UK	61%	99%	79%
Italy	67%	91%	81%
Spain	54%	86%	72%
Belgium	82%	99%	93%
Netherlands	49%	98%	74%
Scandinavia	27%	89%	64%
France	45%	94%	72%
Austria	65%	99%	85%
Germany	64%	93%	74%
Switzerland	41%	88%	67%
Republic of Ireland	42%	93%	80%
Poland	77%	96%	85%
Hungary	47%	83%	70%
Other	55%	81%	86%
	59%	92%	79%

Air connectivity may also impact the visitor profile and average spend per day

Different source markets attract visitors with different economic profiles, particularly in regard to seasonality preferences, average length of stay, and tourism spend per day

Markets can be scored based on expenditure and seasonality performance

- The analysis alongside is intended to highlight the potential strategic socio-economic improvements to Malta's air-connectivity network. The present analysis admittedly suffers from notable drawbacks and requires further analysis. It is not designed to provide definite recommendations but to instead highlight the potential need for more aggressive market interventions designed to better align the development of Malta's air connectivity to strategic objectives. This is particularly relevant when considering the present market forces that are guiding the rebuilding of the post-covid network.
- In the table alongside the seasonality performance of each market is ranked on the basis of the number of flights in the off-peak / winter period in 2019 on the horizontal axis. A similar ranking is performed in terms of the daily expenditure (excluding travelling and accommodation), on the vertical axis. Markets like Belgium, Poland and Italy, demonstrate a good performance in this regard to both of these priorities.
- The size of each bubble represents the average length of stay of the destination, which range between 6.4 and 8.9, providing an additional input for decision making.
- The combination of these factors provides an indication for the most strategically beneficial markets.
- Note that the below analysis excludes all spend from packaged holidays – this is likely to have a particularly relevant impact on Germany and the UK, and the analysis therefore requires additional refinement prior to practical application.

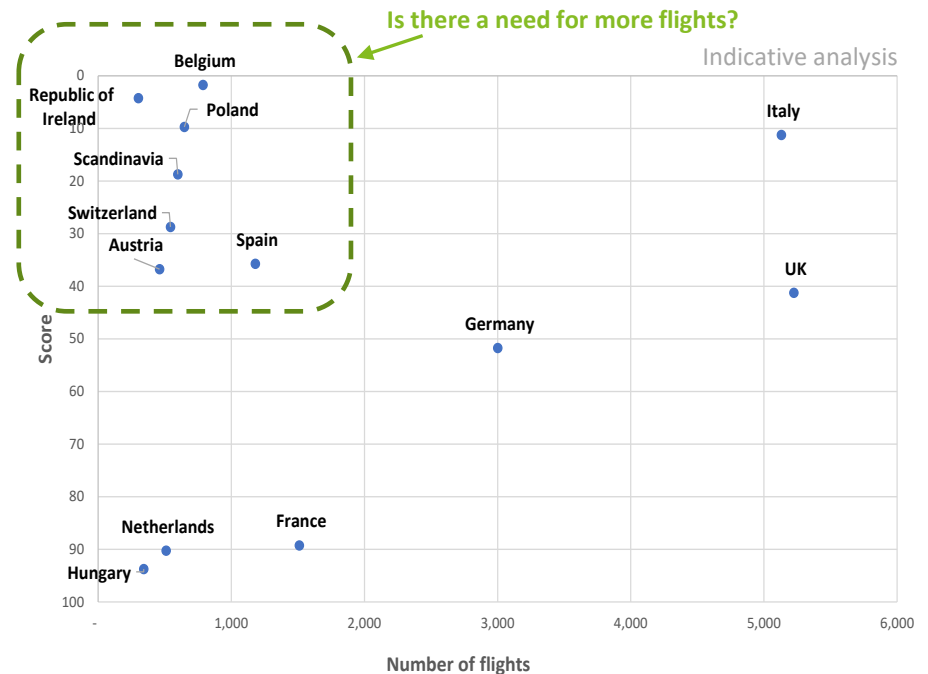


The rebuilding of Malta's air-connectivity post covid is a key limiting factor

Market interventions to guide the rebuilding of the network such that to best align to strategic objectives may offer notable performance improvements without increasing peak volumes.

Analysing the connectivity against a strategic score provides food for thought for potential improvements and market interventions.

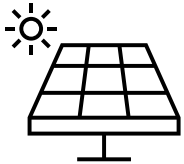
- The illustrative analysis alongside is calibrated using 2019 data and plots the strategic score of source markets (assuming equal weights to expenditure and seasonality and ignoring length of stay) against the number of flights per year offered to the respective market.
- Markets with high scores and a limited number of flights indicate a potential area for qualitative growth, assuming that the respective demand exists.
- This analysis should incorporate additional data (not currently available) in order to develop a feasible connectivity vision. Furthermore, the data issues noted earlier (for example relating to package holidays) need to be addressed in order to make practical use of this analysis.
- It is furthermore acknowledged that air-connectivity is driven by market forces outside of any Stakeholder's direct control and that the airline industry is complex, highly competitive and subject to strong regulation, including being subjected to strong state-aid monitoring due to its naturally international and pan European perspective.
- Whilst the analysis is imperfect and requires additional refinement as discussed above, it does nonetheless highlight that source markets impact tourism performance and that market forces alone may not necessarily deliver the most socio-economically optimal outcome when viewed at a national level.



Environmental targets and challenges

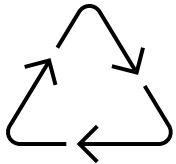
Tourism growth places additional pressure on the achievement of green targets

Whilst infrastructural investment may solve energy, water and traffic issues, more fundamental system changes may be required to accommodate expansion and still meet environmental targets



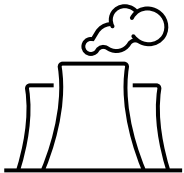
Renewable energy

- 10% of energy from renewable sources by 2020.
- Malta fell 2% short in 2020.



Recycling and landfill rates

- 50% MSW recycling by 2020; 55% by 2025; 60% by 2030; 65% by 2035.
- 10% maximum cap for MSW landfilling by 2035.



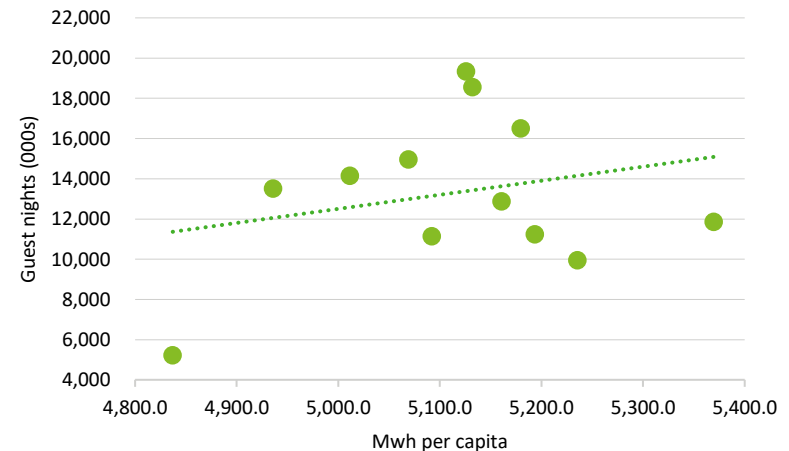
Greenhouse gases

- The ESR target for Malta is to achieve a 19% reduction in net territorial non-ETS GHGs (relative to 2005) by 2030. This is equivalent to 826,687 tonnes CO₂e.
- Further GHG reductions are necessary to not only meet the 2030 ESR target, but also to align Malta's de-carbonisation to achieve carbon neutrality by 2050.

Whilst Malta is responsible for less than 0.1% of total GHG emissions in EU-27, it still faces stringent targets

- The impact of tourism on energy and waste is significant but also complex. Constant improvements in hotel's energy efficiency and waste collection process have reduced their footprint in recent years. On the other hand, additional demands from expat workers and the significant growth in private accommodation needs to also be considered.
- Initial analysis suggests that energy required per tourist night may be double that of a population night. Even if one assumes parity, in terms of waste and energy consumption per night, the impact of tourism when also considering associated expats is significant.

Guest nights vs Kwh per capita



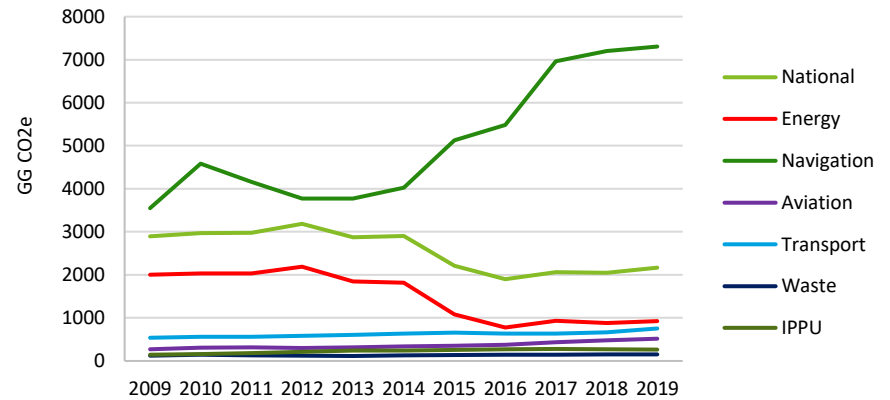
The transport sector has contributed significantly to national emission growth

The planned electrification of the fleet will ease this but place more strain on the energy grid and on emissions generated from the energy sector

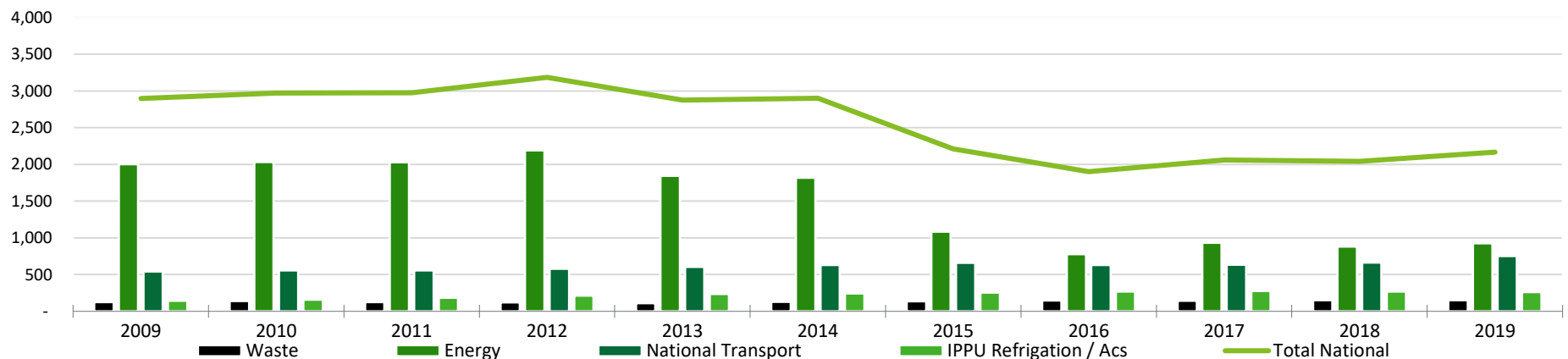
There appears to be some correlation between cruise-line visits and CO2 emissions from navigation

- The table alongside summarises total emissions registered in Malta, including international navigation, for which Malta does not have targets for. Emissions from international navigation saw substantial increases in recent years, potentially due to cruise-line calls. This issue is ignored as the upcoming ship-to-shore facility will eliminate the problem.
- The table below summarises emissions for which Malta does have targets for. Malta's climate obligations are governed by the Emissions Trading System, which applies for the Energy, Industry and Aviation sector, and the Effort-Sharing Regulation, which governs other sectors, including transport.

Greenhouse emissions by transport sector (CO2e)



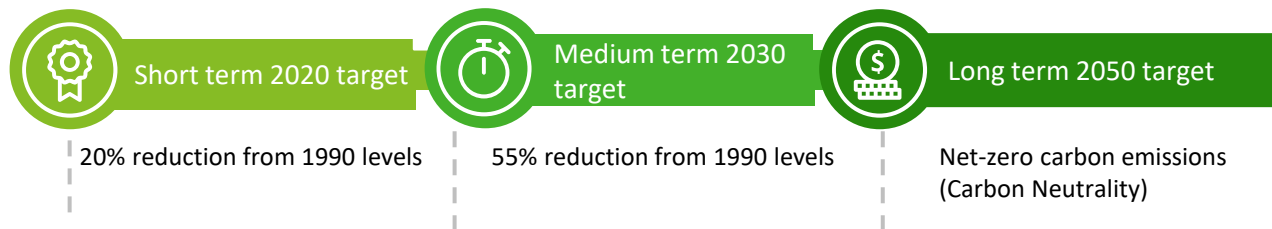
National Greenhouse emissions by emitter (CO2 equivalent)



Malta's emissions have been forecasted to increase by 41% by 2030

However, Malta has committed itself to stringent targets and commitments under the EU climate action regulation

EU Targets

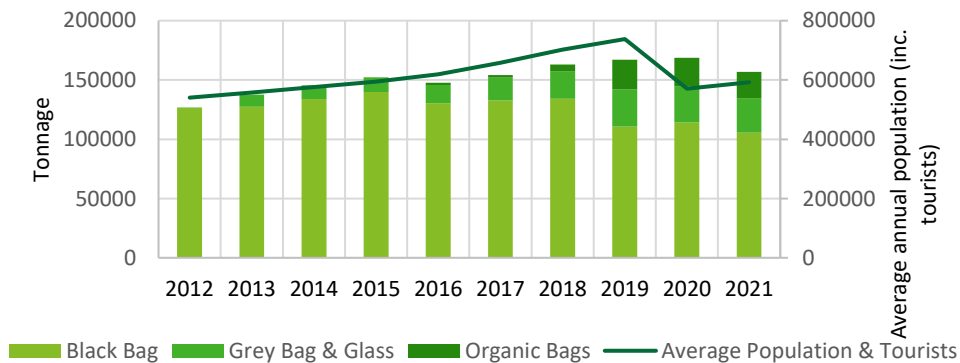


Malta's climate change obligations are governed by the Emissions Trading System (ETS) as well as the Effort-sharing Regulation (ESR)

- EU effort-sharing legislation covers emissions from sectors not covered by the ETS, such as transport, buildings, agriculture and waste whilst the EU-wide emissions trading system (ETS) covers emissions from electricity generation and industry.
- Under the Effort-sharing Decision (ESD), covering the 2013-2020 period, Malta was allowed to increase its non-ETS emissions by 5% by 2020, compared with 2005 levels.
- However, Malta's non-ETS emissions were above the emission allocation under the ESD for each year from 2013 up to 2019, resulting in a cumulative difference of 1.2 Mt CO₂e, or one annual emission allocation.
- For the 2021-2030 period, the Effort-sharing Regulation (ESR) commits Malta to a 19% reduction in GHG emissions compared with 2005.
- However, according to the European Commission, Malta's domestic emissions are projected to increase by around 41% by 2030.
- Further GHG reductions are necessary to not only meet the 2030 ESR target, but also to align Malta's de-carbonisation to achieve carbon neutrality by 2050.

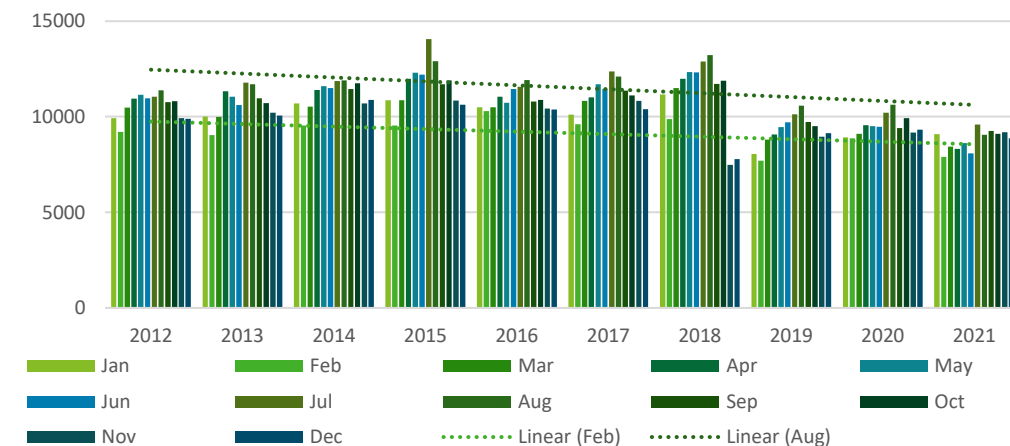
The tourism sector also contributes both directly and indirectly to waste disposal. During the peak season, both the natural and infrastructural carrying capacity is strained, placing pressure on sensitive locations and increasing waste production.

Waste generation vs population (incl. tourists)



Source: National statistics office

Black bag collection



Source: National statistics office

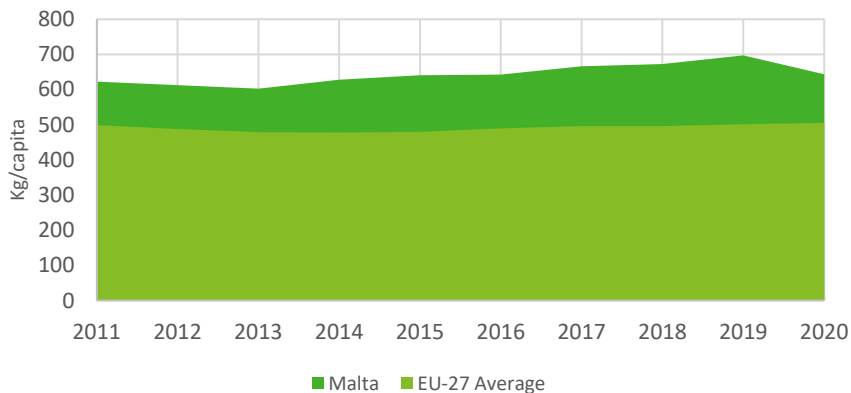
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- The management of municipal waste is a vitally important matter affecting the quality of life and public health of all citizens.
- As the population has grown steeply and citizens' affluence and material well-being have increased, the problem of waste management has escalated.
- Before Covid-19, it had transpired that tonnes of domestic waste, equivalent to half of all the black bags currently being collected from households, are being dumped at the Magħtab landfill instead of being treated, because Malta does not currently have the waste treatment plant capacity to do so.
- Furthermore, commercial establishments in the catering & retail sector are currently responsible for their own waste collection. This results in poor waste management with key tourist hot spots often having large volumes of rubbish being left outside for long periods of time.

Meeting waste management in Malta requires additional efforts

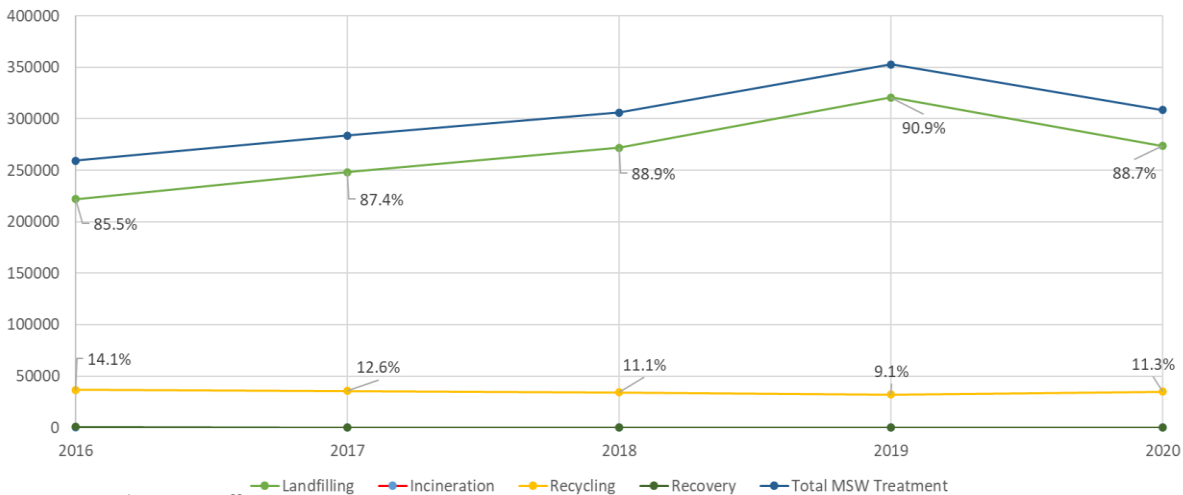
Malta must recycle at least 55% of municipal waste from households & businesses and 65% of packaging materials by 2025. Current recycling rates are lagging considerably behind such targets

Annual municipal waste per capita (Malta Vs. EU average)



Source: National statistics office

Landfilling and Total MSW Treatment



Source: National statistics office, Wasteserve

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The Ministry for the Environment, Climate Change and Planning has developed a Waste Management Plan covering the 2021-2030 period, as mandated by the EU Waste Framework Directive.

- Malta’s annual municipal waste generated per capita is currently higher than most EU countries, at an average of 621kg.
- Furthermore, landfilling is still the predominant waste treatment option and our recycling rate is the lowest amongst EU Member States.
- The new Waste Package places even more onerous targets on Malta in terms of the amount of waste which has to be recycled and is allowed to landfill, as well as specific targets related to the recycling of certain materials not least paper, plastic, metal, glass and wood.
- Key relevant Stakeholders have however highlighted that opportunities exists in Waste to Energy turn-key service; waste disposal equipment; and waste systems improvements; recycling systems, products and services; and landfill clean-ups and renewals.
- The scale of tourism growth required to adequately utilise the expected growth in supply is likely to add considerable additional pressure on Malta’s waste management system and its ability to meet waste management targets.

Summary of key conclusions

Tourism brings key social benefits and it has contributed to rapid economic growth

However, high supply side growth momentum calls for a notable increase in arrivals. Demand side risks exist in the short term and sustaining such growth will strain key limiting factors

Economy	Other sector	Local income	Local quality of life
Tourism is a key sector for Malta. It is estimated to yield a total tax revenue of €511 million per year, and in 2019 it directly employs 15,894 FTEs.	In addition to Accommodation & Food, tourism directly and indirectly impacts a large variety of other sectors, including Retail, Transport, Recreation, Education and Real Estate.	Residents' average income is impacted directly or indirectly from tourism. Many residents rent property as short lets to tourists or long lets to tourism workers. Additionally, retail shops, transportation companies, etc. enjoy a larger customer base.	The tourism growth provides locals with an improved quality of life, in regards to their available options, in terms of: a) recreation and entertainment venues developed mainly for tourism but available to locals; b) travelling, as the island enjoys strong connectivity.

Strong supply side growth momentum

Demand side risks post Covid-19

Key limiting factors

Hot spot capacity	Sewage network	Impacts on tourism experience and quality of life of residents	Labour force	Environmental targets	Air-connectivity
Key beaches Historical areas Key urban/coastal areas	Capacity shortfalls already exist leading to the seepage of sewage in the sea in important coastal areas.	Traffic and parking, littering, overdevelopment, noise pollution, tourism encroachment into residential zones, property price inflation, property price volatility.	Difficulty recruiting Maltese workers leading to reliance on expats and thus further development pressures.	Rapid growth required to fulfil supply-side expectations versus lagging targets in waste, energy and emissions.	Lagged Covid-19 recovery. Risks of lingering seasonality issues in rebuild. Airport capacity.

Tourism brings key social benefits and it has contributed to rapid economic growth. High supply side growth momentum calls for a notable increase in arrivals. Demand side risks exist in the short term and sustaining such growth will strain key limiting factors.

Strong supply side growth momentum

↑ Economy

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↑ Local income

Residents' average income is impacted directly or indirectly from tourism. Many residents rent property as short lets to tourists or long lets to tourism workers. Additionally, retail shops, transportation companies, etc. enjoy a larger customer base.

↑ Local quality of life

The tourism growth provides locals with an improved quality of life, in regard to their available options, in terms of:

- a) recreation and entertainment venues developed mainly for tourism but available to locals and
- b) travelling, as the island enjoys strong connectivity.

Key limiting factors

Hot spot capacity

The actual size of the key beaches, historical areas and urban coastal areas, set an inflexible threshold in regard to tourist density.

Sewage network

Capacity shortfalls already exist, leading to the seepage of sewage in the sea in important coastal areas.

Impacts on tourism experience and quality of life of residents

Traffic and parking, littering, overdevelopment, noise pollution, tourism encroachment into residential zones, property price inflation, property price volatility.

Labour force

Difficulty recruiting Maltese workers leading to reliance on expats and thus further development pressures.

Air-connectivity

Lagged Covid-19 recovery. Risks of lingering seasonality issues in rebuild. Airport capacity.

Environmental targets

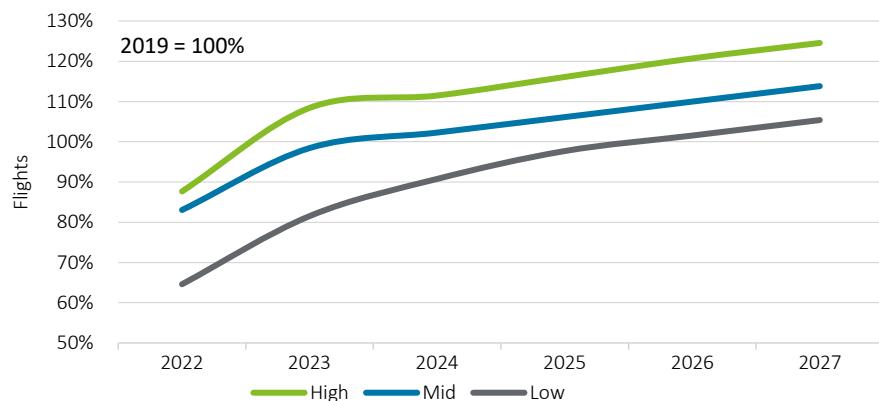
Rapid growth required to fulfil supply-side expectations versus lagging targets in waste, energy and emissions.

Demand side risks post Covid 19

Key issue 1: Supply side growth imbalance versus demand forecast

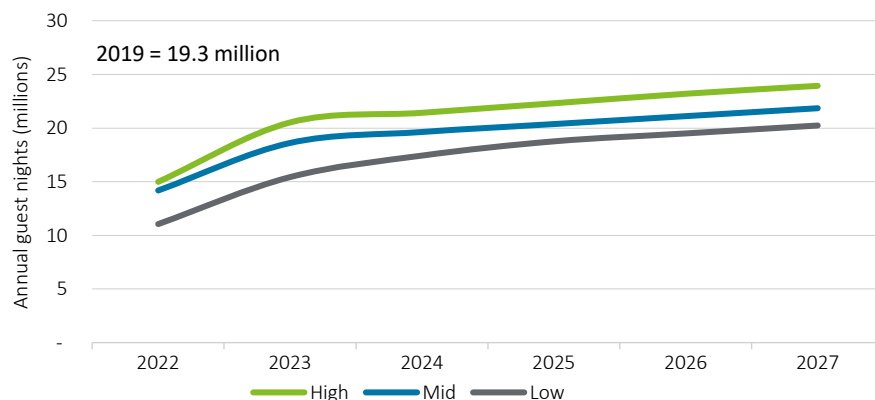
Covid-19 has disrupted the sector's growth trajectory, and irrespective of carrying capacity considerations, risks of oversupply need to be addressed

Estimated flights based on EUROCONTROL TFI forecast



Source: Eurocontrol

Guest night forecast



Source: Eurocontrol

The estimated flights, as per EUROCONTROL TFI forecast, indicate a recovery to Pre-Covid / 2019 level between 2023 and 2026.

When projecting these estimates to forecast the guest nights in 2027, the pessimistic scenario shows levels similar to 2019, while the most optimistic scenario foresees a 25% increase.

Conclusion: The risk of significant oversupply needs to be managed.

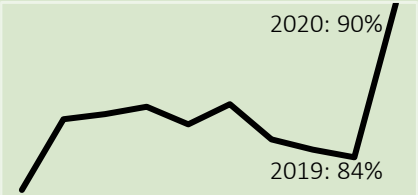
A potential sudden increase in bed stock, exceeding the expected growth in demand would jeopardise the financial sustainability of the sector. Lower occupancy rates are likely to lead to a price war, which runs contrary to MTA's stated strategy and will lower long term profitability of collective accommodation providers. Given the high leverage in the sector, this may have a spillover impact to the financial sector leading to further downward economic pressures.

Potential actions considered by Stakeholders and key experts include:

1. Follow a holistic approach in regard to the national capacity planning, that also addresses the mix and type of accommodation; and consider the limiting factors during the decision-making process. This should include the development of a national tourism dashboard to host key data and analysis from various sectors.
2. Monitor developments in tourism demand and connectivity potential and manage the pace of development growth accordingly. It is recommended that more information concerning approved developments is collected and published in order to improve the intelligence available to developers and investors.
3. Take measures for the control and regulation of the private accommodation sector in order to align developments therein to strategic priorities.

Limiting factor 1: Impacts on tourism experience and quality of life of residents

A clear inverse relationship has been established between tourism satisfaction indicators and tourist volumes. Growing tourism arrivals substantially in an as-is scenario appears problematic

Limiting Factor	Key indicators	2019	Scenario 1 (+60%)	Scenario 3 (+80%)
Tourism experience & local resident quality of life	<p>Tourist Net Promoter Score (NPS)</p>  <p>Local support to tourism strongly agree</p> <p>62 % in St Julian's area 89 % Rural areas</p>	●	●	●

Summary of findings

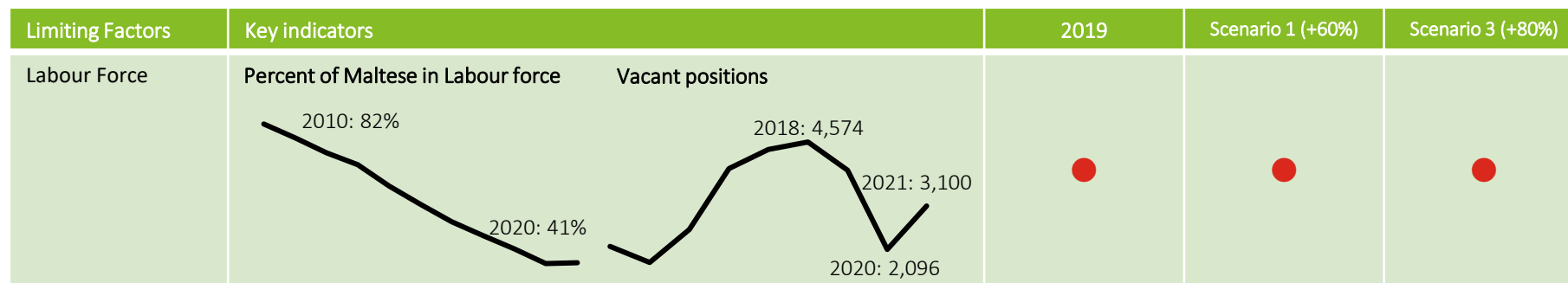
- Tourism experience is impacted by traffic, littering, waste management, poor urban environment (overdevelopment and uglification) and the lack of authenticity. A clear inverse relationship has been established between these topics and tourist volumes and they all also impact the quality of life of residents.
- Data limitations prohibited the investigation of a clear link between declining tourism satisfaction scores and the economic performance of tourism.
- Stakeholders nonetheless highlighted evidence that attracting additional volumes is increasingly difficult and results in higher marginal costs.
- The advent of social media has established a more direct link between the individual tourism experience of each visitor and Malta's market positioning.
- Support for additional tourism growth is significantly lower in areas highly frequented by tourists in comparison to more rural areas.

Potential actions debated by Stakeholders and key experts

- Additional studies of the social-economic benefits and costs of tourism in order to guide optimal volume levels.
- The pace of supply growth requires moderation in order to be able to better monitor and observe impacts on the quality of the tourism experience and thus, on the sustainability of volumes.
- Improvements to the distribution of tourist accommodation offerings and site visitations through encouraging growth in niche areas.
- Improved tourism management and infrastructural improvements to expand Malta's effective carrying capacity (e.g. transport, parking, and litter management).
- Increased consultation with residents to find ways to moderate the impacts of tourism and to reflect on the support for further growth.
- Stakeholders commented about the need to consider shifting mindsets towards the rationalisation of growth and growing within a strategic purpose and for additional focus on quality-of-life issues.

Limiting factor 2: Labour force

Difficulty recruiting Maltese workers results in the reliance on expat workers and thus increasing development pressures



Summary of findings

- Whilst tourism growth leads to increases in the work force, locals are becoming less willing to be involved in the sector. Stakeholders commented that foreign workers lack local context and offer tourists a less authentic experience. The need for a stable core knowledgeable workforce is also acknowledged in the MTA tourism strategy for Malta.
- Foreign workers contribute to population increases, thereby considerably elevating the sector's development footprint. Malta is already one of the most densely populated countries in the world and overdevelopment has been noted as a key issue impacting the satisfaction of both tourists and residents.
- Population increases also add pressure on Malta's infrastructure, which appears stretched in certain areas (e.g. the sewage network, traffic infrastructure and waste management).

Potential actions debated by Stakeholders and key experts

- Stakeholders mentioned the need to investigate the retention of expatriate workers and improving the integration of the expat community within the core group of tourism workers. Uncertainty in regard to long-term visas was noted as a key factor reducing the willingness of expatriate workers to settle permanently in Malta.
- Stakeholders also discussed the importance of expats and that seasonal expat workers should form a key part of Malta's tourism strategy. Property prices were deemed to be a key hurdle for attracting such workers and Stakeholders observed that complexes for temporary living quarters could be allowed in certain areas as a commercial tourism activity and separate from a residential permit. In this way, suitable temporary quarters could be provided in a more controlled manner and without competing in the ordinary residential property market.
- Efforts to modernise academic and industrial training opportunities need to be considered and opportunities to partner with destinations having a counter-cyclical tourism season relative to Malta should be sought.

Limiting factor 3: Tourism hot spots

Already at 2019 volumes Stakeholders agree that improvements to visitor management and control mechanisms are required. Additional volumes appear unsustainable without such controls

Limiting Factors	Key indicators					2019	Scenario 1 (+60%)	Scenario 3 (+80%)					
Hot spot capacity	Average visits per day per hot spot in August			Density m ² per visitor									
	Beaches	2009	2015	2019	Size of Hot Spot area ('000 m ²)	2009	2015	2019	Sc1 50%	Sc2 60%			
		Mellieha	2,855	3,559		4,401	30	10.5	8.4	6.8	4.5	4.3	
	Golden Bay			3,350	16			4.8	3.2	3.0			
	Ramla Bay		1,713	2,178	15		8.8	6.9	4.6	4.3			
Blue Lagoon			4,580	4			0.8	0.5	0.5				

Summary of findings

- When asked to identify tourism assets and areas that are relevant to the national tourism product and that appeared to suffer from significant negative impacts of over-tourism, Stakeholders raised concerns over the extensive crowds at:
 - Key beaches (Mellieha, Golden Bay, Ramla Bay, Blue Lagoon and St George's Bay).
 - Key historic centres (Citadella, Mdina, Valletta (including St. John's co-cathedral) and the Three Cities).
 - Key coastal/urban tourism centres (Mainly Paceville, Sliema, St. Julian's, and St Paul's Bay).
- Available data supports Stakeholders' concerns in this regard. Stakeholders also expressed concerns over traffic jams at Mgarr port.

Potential actions debated by Stakeholders and key experts

- Improve the tracking of visitor movements utilising techniques such as cameras and mobile data and undertake regular site-specific detailed carrying capacity studies to guide policy making.
- Consider mechanisms to control visitation to vulnerable and sensitive assets, such as Blue Lagoon/Comino, Citadella and Mdina.
- Utilise digital tools to increase visibility of visitor density at key sites in order to allow visitors to better plan their tourism experience and to encourage visitation to alternative attractions.
- Develop alternatives through the provision of rocky beach facilities, artificial beaches, and the valorisation of alternative assets, particularly rural areas and towns.
- Dedicated tourism management zones for high density areas in order to improve tourism management and prioritisation.

Limiting factor 4: Sewage network

Malta's aged sewage network is already beyond its designed capacity in certain key tourism areas

Limiting Factors	Key indicators	2019	Scenario 1 (+60%)	Scenario 3 (+80%)
Sewage network	<ol style="list-style-type: none"> Monitoring of annual growth in water discharged in sensitive areas Estimation of existing capacity limitations in sensitive areas Detailed forecasting, including indirect and induced effects, for requirements in sensitive areas. 	●	●	●

Summary of findings

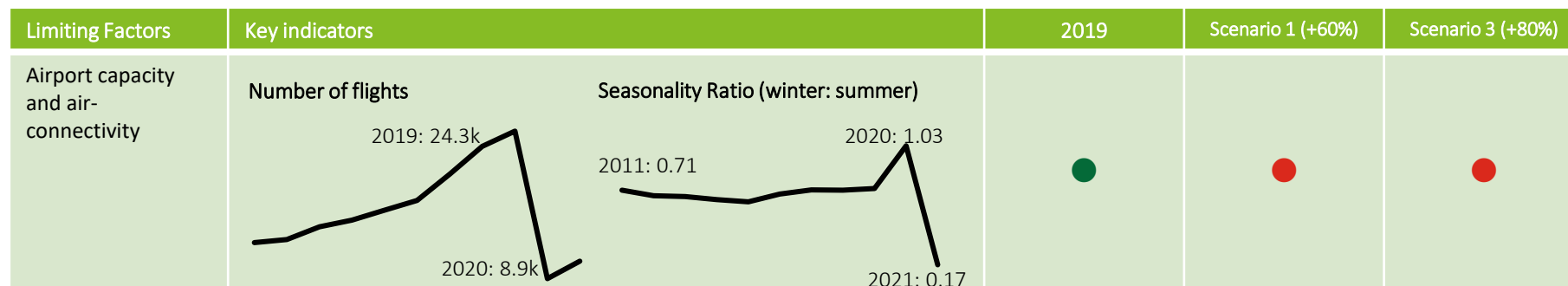
- Malta's aged sewage network is already beyond its designed capacity in certain key tourism areas.
- Undergoing upgrades in densely populated and frequented areas, and at times, areas of historical sensitivity, necessitates significant funds and time to manage the disruptive process at a manageable pace.
- Whilst investments are being planned, WSC has not yet secured funding to undertake the substantial overhaul of Malta's sewage network that is required to sustain the envisaged growth in bed-stock supply.

Potential actions debated by Stakeholders and key experts

- Improve data sharing across different public sector entities in order to create a tourism sustainability monitoring dashboard, harmonise forecasts based on all available permit data and industry insight and promote a holistic sustainable development planning process.
- Improve communication flows between different infrastructure providers and synchronise development timelines, including for private developments, in order to limit disruptions associated with such activity.
- Improve communication flows concerning capacity limitations and potential restraints on developments permits in order to better guide private sector investment decisions and reduce the occurrence and cost of failed permit applications.

Limiting factor 5: Airport capacity and air-connectivity

Air-connectivity and airport capacity are key enabling, and potentially limiting, factors and Malta's ability to influence the air-connectivity network is seen as being a key strategic priority



Summary of findings

- Air-connectivity and airport capacity are a key enabling and potentially limiting factor. International air-connectivity forecasts for the next five years suggest that air-connectivity is likely to grow at a much slower rate than required to sustain the expected growth in the supply of bed-stock.
- Whilst expansions to the Airport's capacity are currently underway, such plans do not cater for the level of arrival growth required to sustain the expected growth in the supply of bed-stock.
- Malta's air-connectivity network was decimated through the advent of Covid-19 and it is currently being rebuilt in a volatile manner dictated by fluid market conditions and forces.
- Stakeholders have a limited ability to influence the re-building process of Malta's air-connectivity network and data suggests that market forces alone may not necessarily yield a socio-economically optimal route network, particularly in regard to offering sufficient flights in the winter months.

Potential actions debated by Stakeholders and key experts

- Information sessions designed to better educate and inform investors about demand side risks associated with the complex process of rebuilding the air-connectivity network in a post-covid environment.
- Information sessions designed to better inform investors about MIA's forecast arrivals, growth plans and capacity progression.
- Consideration of the introduction of further and more intensive allowable market interventions to guide the reconstruction of Malta's air-connectivity network in a manner that best aligns to strategic national objectives.

Limiting factor 6: Environmental targets

Malta has committed to achieving net-zero emissions by 2050 and a 55% reduction in emissions from 1990 levels by 2030

Limiting Factors	Key indicators	2019	Scenario 1 (+60%)	Scenario 3 (+80%)
Environmental targets	<p>GHG Emissions (GG CO2 equivalent)</p> <p>2012: 3,2k</p> <p>2016: 1,9k</p> <p>2019: 2,2k</p>	Insufficient opportunity to discuss with relevant Stakeholders	Insufficient opportunity to discuss with relevant Stakeholders	Insufficient opportunity to discuss with relevant Stakeholders

Summary of findings

- Malta has committed to achieving net-zero emissions by 2050 and a 55% reduction in emissions from 1990 levels by 2030.
- Other targets include waste management and recycling and renewable energy investments. Malta does not currently appear well placed for achieving such targets.
- Achieving growth via rapid expansionary measures, such as is implied by the estimated growth in the supply of bed-stock, together with the implied population growth, appears to run contrary to the direction implied by sustainability targets and such a strategy will increase the effort and investment required to achieve targets.
- The Ministry for Environment, Climate Change & Planning (MECP), Environment & Resources Authority declined to meet with us, and we are therefore unable to assess whether the envisaged supply-side growth scenarios have been catered for in existing strategies and plans.

Potential actions debated by Stakeholders and key experts

- Encouraging the urgent adoption of sustainable tourism practices will help to mitigate the impact of expected growth. Such measures need to be studied for their financial impact and may require the introduction of financial support measures/instruments.
- Depending upon demand-side tourism growth and developments in other sectors, the envisaged supply-side growth may lead to a significant volume of additional residential property. In order to mitigate such risks, the acceleration of Malta's building renovation strategy and the introduction of stricter energy and water efficiency building standards may need to be considered.
- Without commenting on the desirability and feasibility of any specific project, it is noted that a significant national project to target the overhaul of a key polluter may have drastic impacts towards the achievement of targets in Malta. This could for example relate a concerted efforts to electrify the vehicle fleet and adopt green power.

Recommendations

Recommendations summary

A. Finding the right balance

To achieve long term sustainability, the industry requires the optimal balance between economic, societal and environmental perspectives. Already in 2019 there existed signs that some resources were under stress and that the burden on society and the environment were becoming problematic. Urgent interventions are needed to address risks of existing imbalances and to guide a sustainable development path for the sector. **Until such interventions are enacted, it is recommended to take a cautious approach towards permitting bed stock growth.**

B. Strategy and collaboration

Given the particularities of Malta as an island nation and destination, combined with the prominence of the tourism industry, a holistic and systemic approach is required.

The establishment of a **Sustainable Tourism Development Task Force**, which brings policy makers from multiple spheres together will:

- enable the establishment of a common vision for the nation, and thus the tourism product;
- Align plans and pace of growth to limiting factors

C. Fine tuning connectivity

While acknowledging that connectivity is driven by the airline industry, with all of its complexities, allowing a natural recovery path for the restoration of connectivity may lengthen the recovery period, particularly in regard to seasonality trends and the availability of winter flights.

Malta Tourism Authority requires an augmented tool set for influencing airlines. Innovative data sources and analysis techniques may also be beneficial to help **better align the route restoration process to strategic objectives.**

D. Targeted investments

Strategic infrastructure improvements are needed to allow sustainable tourism growth. Key areas:

- Sewage collection
- Parking in beaches and hot spots
- Accessibility to alternative beaches/artificial beaches
- Roads and pavements
- Traffic management and Public Transport
- Beautification of urban environment and parks

Digital Transformation can also yield improvements in a number of infrastructure areas (e.g. traffic and congestion).

E. Improved tourism management

Key tourism areas may benefit from **dedicated management structures** in order to better manage tourism priorities.

An effective, modernised and enforced **licencing regime is required**, covering both collective and private accommodation.

Digitalisation transformation can help manage tourist flows and better guide the tourism experience. Such technologies will also enable the introduction of pricing schemes designed to manage tourist flows in vulnerable assets

F. Protect the environment

Tourism operators and operators of tourism assets (including the public sector) should be encouraged to reduce their impact on waste generation, GHG emissions and biodiversity by:

- Reducing per capita energy generation by investing in energy efficient buildings / appliances
- Investing in renewable sources of energy
- Improving waste management practices
- Abolishing Single-Use Plastic Products and providing suitable alternatives
- Training staff to reduce energy consumption and waste generation
- **Evaluating permits for tourists and commercial operators in biodiversity hot spots such as beaches in order to address carrying capacity issues and limits.**
- Explore pay-per-use accommodation models to reduce resource intensity.

Recommendations

A. Finding the right balance

Intervention logic	Limiting Factors	Recommendation
<p>A sudden increase in bed stock over the coming years, as is indicated by approved planning applications, risks leading to oversupply, which could have the following negative repercussions:</p> <ol style="list-style-type: none"> 1. Reduced financial sustainability of hotels – failing to attract and bring in enough tourists (considering also air connectivity interrelations) will lead to unsustainable occupancy rates and could trigger rate reductions, affecting the long term profitability of hotels. Given the high leverage of the sector, particularly for new builds, this may have an impact on the financial sector leading to a domino effect. 2. Exceeding carrying capacity – the analysis performed suggests that various limiting factors should be considered to have been under stress already in 2019. Additional and rapid growth is likely to lead to extreme pressure in a number of areas. In particular, attention is required to address traffic, waste, sewage, biodiversity, impacts on residents’ quality of life, tourism satisfaction and overcrowding of key hot spots. 	<ul style="list-style-type: none"> • All 	<p>Bed Stock Supply</p> <p>Adopt a cautious approach towards approving bed stock supply increases beyond 2019 levels, in order to ensure that:</p> <ol style="list-style-type: none"> a) the Maltese islands can accommodate the increased volume of tourists in terms of infrastructure, environment and local tolerance level and b) that there is sufficient demand and connectivity required to support the profitable operation of accommodation operators.
	<ul style="list-style-type: none"> • Tourist & local satisfaction 	<p>Further regulation and policy guidelines</p> <p>Regulation and policy guidelines could be used to direct developments of all accommodation types in a manner that better manages impacts of limiting factors. For example, policy guidelines for items such as development permits, licencing regimes, and fees and access to the sewage network could be used to direct the pace, location and type of growth. This applies for all accommodation types but is particularly important for short-let rentals due to their more pronounced development footprint to bed ratio and the higher social impact.</p> <p>Specific regulation and control over private accommodation sector could minimise the encroachment of tourism on residential areas and better align developments towards the targeted tourism strategy. This will improve the overall quality of the bed stock made available to tourists whilst minimising negative impacts associated with such developments.</p> <p>It will also create a fairer regulatory playing field across all accommodation types thereby balancing relative investment returns and reducing economic incentives towards additional development.</p>
	<ul style="list-style-type: none"> • All 	<p>Encourage a slow down of the pace of development</p> <p>Consider investor and banking education concerning the demand side risks and capacity limitations currently facing the sector in order to promote a rationalisation of the existing project pipeline and encourage a more cautious investment attitude that reflects existing oversupply risks.</p>

Recommendations

B. Strategy and collaboration

Intervention logic	Limiting Factors	Recommendation
<p>Malta as a tourist destination is competing internationally with other destinations. All local companies that operate in or around the sector will benefit or lose based on the nation’s ability to succeed.</p> <p>The development of isolated strategies and plans, even though they reach similar conclusions, do not help in fostering common goals and such an approach increases the risks of a misalignment of interests.</p> <p>Furthermore, the tourism sector effectively markets and sells the overall “Malta Experience” and is thus firmly integrated with the rest of the economy and wider developments could have significant impacts of the tourism sector.</p>	<ul style="list-style-type: none"> • All 	<p>Cross sectorial collaboration and holistic planning</p> <p>Establish a Sustainable Tourism Development Task Force with delegates representing key policy makers from across a wide spectrum of relevant areas (e.g. Infrastructure Malta, WSC, Enemalta, Malta Public Transport, Malta Tourism Authority, key social partners etc).</p> <p>The Sustainable Tourism Development Task Force will evaluate national development plans from a sustainability perspective and in this way help define a common national vision, strategy and plan, that aligns the interests of different sectors and ensures that impacts on the tourism industry are considered.</p> <p>In order to work effectively, the Task Force should be equipped with a national sustainability monitoring dashboard that integrates data from across the public sector, including data that will allow the oversight of the performance of the tourism industry and context indicators that will allow the Task Force to monitor carrying capacity and sustainability issues and initiate corrective measures accordingly.</p>
<p>In particular, adequate infrastructure is key to managing the destination’s carrying capacity and limit the impacts of higher volumes on tourism satisfaction and residents’ quality of life. Infrastructure providers therefore need to work hand-in-hand with tourism Stakeholders.</p> <p>The tourism sector will therefore benefit from a common voice concerning national developments and plans in order to ensure that the sectors’ priorities, which also appear to be well aligned to issues impacting residents’ quality of life, are adequately prioritised across all national planning processes.</p>	<ul style="list-style-type: none"> • Tourist satisfaction 	<p>Tourism Management</p> <p>Responsibility from the management of key Tourism zones should be carved out into dedicated management structures to better allow the prioritisation of resource allocation towards the needs of the tourism sector.</p> <p>Such dedicated Tourism Management Zone will also simplify decision making, allowing Local Councils to officially focus solely on residential needs/zones whilst providing tourism zones with the attention and resources they require in order to maximise their effective carrying capacity.</p> <p>Whilst improved tourism management will mitigate certain issues it is important to stress that this is not sufficient if implemented without additional investment and other recommendations.</p>

Recommendations

C. Fine tuning the connectivity

Intervention logic	Limiting Factors	Recommendation
<p>Air connectivity is by far the main channel routing tourists into Malta. As a result, Malta's air-connectivity network is a key enabling factor dictating the volume, seasonality, and economic profile of visitors.</p> <p>It is acknowledged that the connectivity agreements are driven by the airline industry and that Stakeholders have limited influence. In the past, MIA and MTA enjoyed some leverage as a result of a high demand vs supply scenario. Market forces at present have eroded this position and policy makers now have insufficient means of influencing operators.</p>	<ul style="list-style-type: none"> • Airport Capacity • Demand side risks 	<p>Market and segment behavioural analysis</p> <p>Initiate a detailed analysis of market and segment behavioural characteristics (daily spending, length of stay, seasonality, entertainment and commute habits, etc). This may require the redesign of current surveys and additional data collection efforts.</p> <p>Such behavioural analysis will provide valuable insight and allow policy makers to take informed decisions towards the optimisation of the air connectivity network.</p>
<p>The current trajectory of the recovery from Covid-19 suggests that Malta can not expect an automatic reversion to Malta's 2019 connectivity, in terms of not only flight frequency, but also source market and seasonality.</p> <p>A more controlled / planned reestablishment of the air connectivity network may minimise the time required to rebuild in an adequate manner and might lead to long-term strategic benefits over the 2019 connectivity network.</p>	<ul style="list-style-type: none"> • Airport Capacity • Demand side risks 	<p>Manage recovery</p> <p>Take a proactive approach during the recovery phase in order to guide the development of the air-connectivity network, in-line with strategic objectives to reduce the longer-term impact of covid on seasonality and other factors.</p> <p>This will require establishing allowable incentives or other market interventions that provide policy makers with additional influence in this area.</p>

Recommendations

D. Targeted investments

Intervention logic	Limiting Factors	Recommendation
<p>Various limiting factors can, up to a point, be elevated through investments. Most notably, these related to areas of hard infrastructure, however incentives in tourism management are also recommended as detailed overleaf.</p> <p>Whilst the required investments are already underway in some areas, like in the national road network (e.g. Marsa flyover, central link), others are still at planning stage and have not yet sourced appropriate funds (e.g. WSC's water and sewer network replacement & rehabilitation programme 2026-2030).</p> <p>Such investments create significant disruptions to both residents and tourists alike. A concerted effort to plan the timing and method of such investments will reduce disruptions.</p> <p>Infrastructure improvements can also lead to additional tax burdens on residents and may have other negative impacts on the environment (e.g. uprooting of trees and elimination of green areas).</p> <p>Digital solutions may allow for an improved utilisation of the existing infrastructure and limit the need for additional investments.</p>	<ul style="list-style-type: none"> • Water distribution & sewage • Over-crowding in beaches and other hot spots • Tourists' & Residents' satisfaction 	<p>Promote the formal evaluation of socio-economic costs and benefits of growth and investment</p> <p>As part of the process to manage growth in a sustainable way it is recommended to develop frameworks for the independent assessment of investment plans and help evaluate options. This will help to:</p> <ol style="list-style-type: none"> 1. Avoid pressure to chase growth at all costs and encourage a shift away from the pursuit of economic gains without due consideration of other impacts; 2. Promote the introduction of new ideas and external expertise; 3. Better identify winners and losers and provide a systemic discussion about managing and mitigating negative impacts.
<p>Such investments create significant disruptions to both residents and tourists alike. A concerted effort to plan the timing and method of such investments will reduce disruptions.</p> <p>Infrastructure improvements can also lead to additional tax burdens on residents and may have other negative impacts on the environment (e.g. uprooting of trees and elimination of green areas).</p> <p>Digital solutions may allow for an improved utilisation of the existing infrastructure and limit the need for additional investments.</p>	<ul style="list-style-type: none"> • Water distribution & sewage • Over-crowding in beaches and other hot spots • Tourists' & Residents' satisfaction 	<p>Invest in infrastructure</p> <p>In order to sustainably cater for 2019 levels of tourism activity and to accommodate growth in tourist flows, further targeted investment is required. This will avoid reductions in the quality of the Maltese tourism experience and manage negative impacts on residents' quality of life. Areas of concerns include:</p> <ul style="list-style-type: none"> - Water distribution and sewage (as per WSC water and sewer network replacement and rehabilitation programme 2026-2030) - Parking in beaches and hot spots (including, but not limiting to Sliema, St Julian's, Bugibba and the heritage sites) - Road & traffic management (also within the village cores) - Beautification, and greening of urban areas and addressing accessibility issues - Improve public transport for popular tourism routes
<p>Digital solutions may allow for an improved utilisation of the existing infrastructure and limit the need for additional investments.</p>	<ul style="list-style-type: none"> • Water distribution & sewage • Over-crowding in beaches and other hot spots • Tourists' & Residents' satisfaction 	<p>Invest in Digital</p> <p>Explore the ability to use Digital Technologies / applications in order to guide the tourism flows in a way that reduces traffic and congestion in hot spots. Such initiatives are likely to be aligned to the National Recovery and Resilience plan and EIB's EU Invest program.</p>

Recommendations

E. Improved tourism management

Intervention logic	Limiting Factors	Recommendation
<p>The quality of the tourism product is something that still needs to be defined as part of the national strategy and tourist segmentation and does not necessarily mean making the product more suitable for higher income tourists.</p> <p>Nonetheless some issues are undisputable and impact tourists of all types and preferences whilst also impacting the quality of life of residents.</p> <p>Stakeholders provided various examples on how improved tourism management can address some of these issues and elevate limiting factors whilst also improving the quality of life of residents.</p>	<ul style="list-style-type: none"> • Tourists' & Residents' satisfaction 	<p>Tourist experience framework</p> <p>Establish a Tourism Experience framework that will utilise performance indicators and survey results, in order to drive the continues improvement through remediation actions.</p> <p>The framework can utilise existing surveys and data that are in possession on MTA, MIA and MHRA, as well as create new sources (possibly with the introduction of digital and big data solutions). The KPIs should also take into consideration the satisfaction of residents.</p> <p>The Sustainable Tourism Development Task Force could oversee The Tourism Experience framework.</p>
	<ul style="list-style-type: none"> • Tourists' & Residents' satisfaction • Demand side risks 	<p>Quality standards & regulatory interventions</p> <p>Introduce and enforce additional regulation and quality standards for anyone providing tourism related services:</p> <ul style="list-style-type: none"> - Collective accommodation (already regulated) - Private accommodation - Catering establishments - Entertainment venues - Transport <p>but also other service providers undertaking work in Tourism Management Zones, be it cleaning and waste collection services to construction works.</p> <p>Apply a systemic periodic revision of quality criteria for obtaining all MTA license, varying by locality and aligned to a gradual transition to strategic objectives. This will not only help regulate supply by pushing for quality but will also augment MTA's toolset for implementing its strategy.</p>
	<ul style="list-style-type: none"> • Tourists' & Residents' satisfaction • Demand side risks 	<p>Regulatory enforcement</p> <p>Establish mechanisms to enforce existing regulation across various areas, ranging from waste collection, construction practices, MTA license conditions and the need to obtain an MTA license. This may include increased inspections - potentially utilising digital means, increased repercussions of non-adherence (hefty fines), but also introducing benefits for compliance.</p>

Recommendations

F. Protect the environment

Intervention logic	Recommendation
<p>Malta's medium term ESR target for 2030 is to reduce GHG emission by 55% from 1990 level. The European Commission forecasts that instead emissions will increase by 41% between 2005 and 2030.</p> <p>The Tourism sector needs to heavily contribute towards achieving the national effort in order to accommodate additional growth whilst still achieving Malta's targets.</p>	<p>GHG emissions</p> <ul style="list-style-type: none"> • Both collective and private accommodation establishments need to be encouraged to regularly update and invest in the best available technologies and energy efficient appliances. Energy audit requirements can help achieve this and financial instruments and grants will improve implementation rates. • The full socio-economic cost of tourism needs to be appreciated and internalised into the system. Various countries are adopting eco-tax initiatives in order to do this, with proceeds being used to subsidise investments in renewable sources of energy and other carbon reducing/offsetting investments. • A centralised centre of excellence designed to foster an ecosystem of energy-efficiency providers and increase the collective understanding of the benefits and risks of energy efficiency measures should be considered. This will reduce investment uncertainty and ease access to finance issues for lesser-known investments. • Simple and inexpensive energy saving measures that are highly likely to provide adequate financial returns to investors, such as investing in building management systems and automatic sensors to reduce energy consumption, should be highly encouraged or made mandatory for both collective and private tourism accommodation. • Incentives for tourism establishments to obtain LEED certification or similar sustainability certification should be introduced, and consideration should be made for requiring such certifications for new large-scale projects. The goal of LEED is to create better buildings that: <ul style="list-style-type: none"> - Reduce contribution to global climate change - Enhance individual human health - Protect and restore water resources - Protect and enhance biodiversity and ecosystem services - Promote sustainable and regenerative material cycles - Enhance community quality of life • Tourism Authorities to request carbon footprint monitoring from licensed accommodations to facilitate transition towards reducing carbon emissions and potentially carbon neutrality by 2050. • Initiatives towards the offering of more sustainable transportation services should be explored. For example, nearby tourism accommodation establishments appear prime candidates for transport pooling. • Mandatory provision of educational material to tourists concerning best practice guidelines for reducing their energy and water consumption. • Pay-per-use systems should be studied and evaluated for promotion. Such systems segregate accommodation pricing in order to charge tourists directly according to the resources they utilise, particularly in regard to water and electricity.

Recommendations

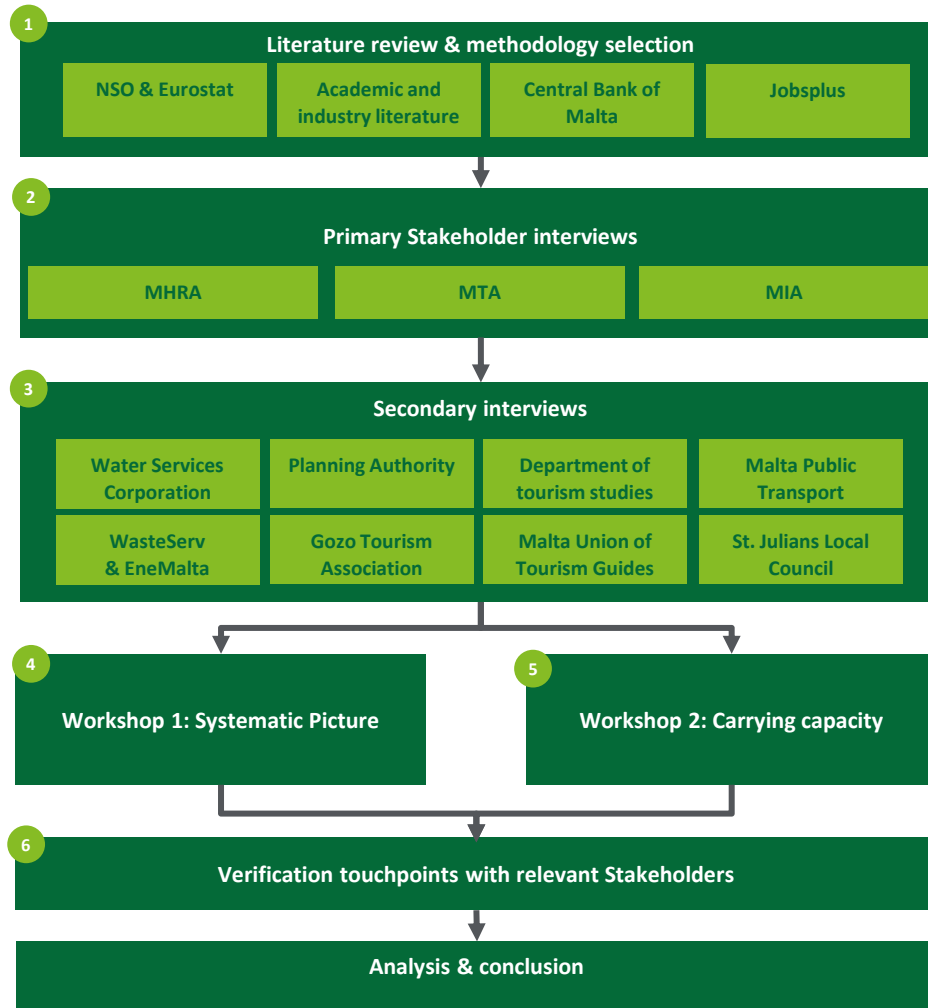
F. Protect the environment

Intervention logic	Recommendation
<p>Waste is both impacting the quality of the Tourism product whilst also being a contributor to waste management pressures and litter.</p> <p>Both the tourists and the operators must be properly educated and incentivised to comply with the rules.</p>	<p>Waste</p> <ul style="list-style-type: none"> • Enforce existing commercial waste regulatory requirements and introduce mandatory annual training in this regard. • Introduce mandatory training for cleaners and related staff to be trained on improved waste separation practices when collecting waste from individual rooms. • Review existing waste regulation to consolidate the number of ERA-approved waste carriers licensed to operate in tourism zones such that to reduce disruption caused by frequent collections from a variety of operators. • Introduce schemes to avoid dumping of unused produce or food which is still safe for human consumption. • Abolishing single use-plastic products and substitute them with alternative products, preferably multi-use products. • Private accommodation establishments to take legal responsibility for tenant’s handling of waste and to be mandated to provide tourists with information/guidance on local waste collection regimes and schedules, waste recycling/separation and waste minimisation practices.
<p>Biodiversity hot spots (including beaches) are impacted from overcrowding and poor management.</p> <p>Protecting and enhancing biodiversity provides well-established benefits. Moreover, a vibrant marine environment, tranquil and rich garigue landscape and thriving sea bird communities are particularly important assets for building a strong off-peak tourism product and for Gozo’s existing offering.</p>	<p>Biodiversity</p> <ul style="list-style-type: none"> • Visitors to biodiversity hot spots, such as Natura 2000 sites and Blue Lagoon should be provided with information concerning best-practices to reduce ecological impacts caused by trampling, littering and etc. • MTA to consider collaborating with ERA to impose carrying capacities for biodiversity hot spots. Various measures could be evaluated, ranging from enforcing restrictions to the introduction of variable pricing regimes as has been introduced in Venice. • Similarly, the quantity of permitted operators of mobile commercial services in biodiversity hot spots (e.g: kiosks, sunbed operators, water sport operators, boat parties etc) should be evaluated based on carrying capacity considerations. • All licensed commercial operators working near protected areas need to be educated of the site's ecological sensitivity and should be required to introduce more stringent controls on the products/services being offered in these areas. This can be done by for example ensuring that no SUP products are sold in these areas, lowering noise thresholds from music/entertainment, ensuring adequate waste management practices etc. • All tourism establishments should be required to maintain strict exterior lighting mitigation measures particularly when located in close proximity to the coastline and/or protected areas.

Annexures

Annexure A

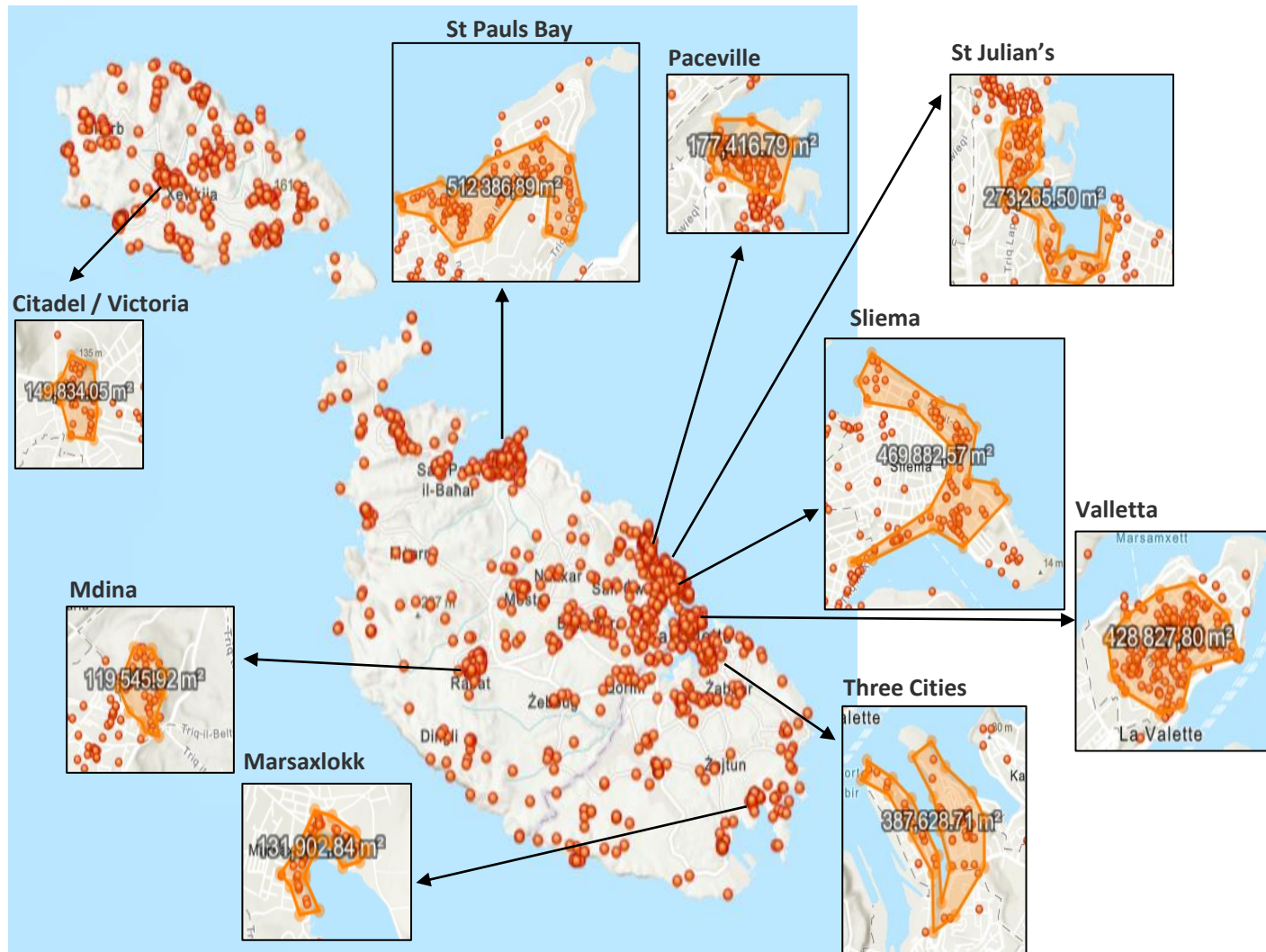
Methodology



- 1 Desktop research was carried out to obtain an overview of current knowledge and to identify key issues and gaps in the existing information available
- 2 Primary Stakeholder meetings took place with key personnel from MHRA, MTA and MIA to agree on the key issues identified and obtain their suggestions in regard to topics to investigate and to obtain data.
- 3 Secondary Stakeholder meetings took place to obtain insight into the relevant areas and validate views. A snowball methodology where Stakeholders were asked to recommend additional persons to interview. As discussed in the report not all Stakeholders accepted our invitation to meet.
- 4 During workshop 1, the material produced was presented in the form of a systemic picture and participants were invited to revise and adapt the picture based on their own perspectives, as well as to rank the indicators in order to identify the most important ones, potentially also adding or removing indicators.
- 5 During workshop 2, the results and outcome of the study were presented and confirmation and recommendations from the relevant Stakeholders was obtained.
- 6 Additional verification meetings with WSC and MIA were subsequently carried out in order to confirm and validate Stakeholder feedback stemming from workshop 2.

Annexure B

Tourism density



The estimation of the tourism areas of interest within each locality was performed using ArcGIS data provided by MTA. This provides the location of tourist attractions and enabled the approximation of the most visited tourism areas, as indicated in the maps alongside.

From the analysis it can be observed that with exception of the key historic destinations, namely Valletta, Mdina and Citadel, the more intense areas are located along the coastline.

Area information is subsequently combined with data from MTA's Traveller survey in order to evaluate provide an indicative analysis of visitor density within hot spots identified by Stakeholders.

Glossary & key terms

CBM	Central Bank of Malta	Q2	Quarter 2 (April - June)
CO2	Carbon dioxide	Q3	Quarter 3 (July - September)
e.g.	Example	Q4	Quarter 4 (October - December)
ESD	Effort sharing Decisions	Sc	Scenario
ESR Target	Effort sharing regulation target	UK	United Kingdom
EU	European Union	WSC	Water Services Corporation
EUR	Euro	YTD	Year to date
Expatriate	Expatriate		
GG	Greenhouse Gas Emissions		
GOPAR	Gross operating profit per available room		
MECP	The Ministry for Environment, Climate Change & Planning		
MHRA	Malta Hotel & Restaurant Association		
MIA	Malta International Airport		
MTA	Malta Tourism Authority		
NPS	Net promoter Score		
NSO	National Statistics Office		
Q1	Quarter 1 (January - March)		



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