The Following questions were submitted by the audience prior to and during the online Blue Limassol Forum, conducted on May 29th 2020. Some questions were addressed by panellists during the Forum and a comprehensive response to all questions is provided here.

1	MARINE ENVIRONMENT/POLLUTION	PANEL OPINION
1.1	Do we have Blue sea in Limassol and if not, when can we realistically have a Blue and clean sea in Limassol?	**Dr Demetris Kletou**: Compared to the rest of European city fronts, Limassol maintains among the top cleanest waters. We are lucky to have very clean background oligotrophic waters and no major rivers (great source of pollution). Compared to what was Limassol Bay twenty years ago we are at a worsened condition. I have seen the degradation being intensified in the last decades. Although our waters are still clean (in terms of organic loading), there are many mounting pressures that are threatening the good water quality. Pressures here can be intensified since Limassol is built in the centre of a semi-enclosed Bay with reduced water circulation. If you are referring the Blue Flag waters in Limassol district in 2019 the following beaches were awarded with Blue Flag: Pissouri, Curium Beach, Akti Olympion A, Akti Olympion B, Miami, Dasoudi, Castella, Onisilos, Aphrodite, Vouppa, Loures, Santa Barbara, Parekklisia, Panagies, Aoratoi, Governor's Beach and Kalymnos. This award is given to beaches that meet a long list of criteria including lifeguard presence, services for handicapped, transportation etc., and of course excellent water quality. The list of criteria can be accessed here. But we need to understand that the water quality is determined by sampling done only during the bathing season. Samples are taken at least every 31 days to check the levels of bacteria in the water in accordance with the Bathing Water Regulations. The parameters tested are *E. coli* and intestinal *Enterococci.* The water quality of each sample is assessed as either 'Excellent', 'Good', 'Sufficient' or 'Poor'. Of course, bacteria are not the only indicator of water quality and we need to understand that there are weaknesses in this simple methodology for example not assessing the winter condition when river outflows exist. If we continue to expand without having words such as: sustainability, environmental-friendly and conservation high in our agenda then I am afraid that the degradation of marine ecosystems will intensify. If, however, environmental awareness is raised, projects are evaluated strictly by the environmental committee, opinions of citizens are considered in decisions then we can start

		mitigating and restoring. It is a holistic effort from many stakeholders ranging from a beach user to a researcher.
1.2	What is being done about coastal erosion; protecting the beaches and coastline from natural damage and that caused by human intervention?	**Dr Demetris Kletou**: Coastal erosion is a natural process, but human coastal developments can affect natural sediment transport causing erosion in some places and sedimentation in others. Sedimentation is the worst thing that can happen on the ecosystems of rocky intertidal coastlines. In Limassol wave breakers have been traditionally constructed to protect beaches from erosion. Those that are parallel to the coastline work well and become reefs that attract wildlife and act as biofilters with many benefits. I am not a marine civil engineer, but I believe that those that are constructed perpendicular to the coastline, marinas, ports etc., are the ones that cause most problems restricting sand transport to downstream sites and causing coastal erosion. Boulders placed perpendicular to the coastline to create small beaches to benefit the owner of a development cause erosion elsewhere. As a citizen of Limassol I noted that some of these perpendicular wave breakers are being removed I reckon following initiatives by officials, so some efforts are surely undertaken to reduce coastal erosion problems in Limassol.
1.3	I am a marine biologist and a regular scuba diver here in Limassol. You talk about the great success of the current blue growth and ensuring at the same time the environmental protection, yet the marine environment of Limassol is highly degraded. This includes major seafloor destruction by anchorage activities and weakening the marine system's functioning by hazardous surface runoffs. These compromise the health of local marine habitats e.g Posidonia meadows and macroalgal reef communities, both of which are protected by EU's Habitats Directive and yet they are currently regressing fast throughout the Limassol Bay. How are you planning to deal with these issues in a practical	**Dr Demetris Kletou:** As a researcher, I am dedicated in investing my time to study potential restoration efforts, motivate my team, prepare a research proposal that if successful can receive funding to begin habitat restoration, increase awareness among citizens and increase the knowledge of managers to stop further degradation.

	manner (e.g. restoration efforts) and not just on paper?	
1.4	Why not have an organized service to suppress sea pollution from sewage? Coastal villages are not connected to a sewerage system. Is this a threat?	**Dr Demetris Kletou:** My opinion is that it is not an easy task and requires significant funding resources. It is possible if different bodies e.g. coastguard and coast-watchers/citizens work together. Immediate action should be taken and heavy penalization to the polluter. Set an example out of him. In cases of environmental pollution the polluter should cover for all cleaning and restoration expenses. About the second question, I believe that if the population is low it is not a big threat because the organic matter in sewage will often be degraded down into nutrients by decomposers/microorganisms.
1.5	What are the Municipalities doing about the plastic I see dumped on the streets? What more can be done to reduce/re-use plastics , especially after Covid gloves & masks are already in the water.	**Municipality**: The Municipality of Limassol, like all the Municipalities of Cyprus, cooperates with the non-profit organization of Green Dot on the issue of recycling packaging materials. The collection is carried out once a week from house to house (Door to Door system). Moreover, there are also over 300 bins installed (usually in organized buildings or apartment buildings) for the collection of PMD (Plastic - Metal - Drink cartons). Measurements by Green Dot show that for the Municipality of Limassol the average amount of PMD collected is 12 kg / inhabitant. According to the latest measurements, the quantities of plastics driven at the Pentakomo Waste Management Unit (OEDA) are around 14%.
1.6	How sustainable are the cruise ships which come to Cyprus ? If the port becomes busier, shall we expect the air pollution to become a threat to our health?	**Mr Panayiotis Agathocleous:** The number of cruise vessels calling at Cyprus ports are limited in number in comparison with other ports in the Eastern Mediterranean. This is due to the fact that Cyprus by itself is not considered as a destination but as part of the whole itinerary of a cruise vessels, mainly used for a short daily call of 6-8 hours. It is well known that cruises in the region are highly dependent on the political situation in the countries/ports in the East Mediterranean, especially those attractive destinations located in the Middle East. Over the last 3 years we have seen a steady increase in the number of cruise ships calls at Cyprus ports and we hope that this positive trend will continue for the benefit of all involved in the cruise industry. Cruise vessels calling in Cyprus ports have all the modern equipment, systems and plants for preventing any sea or air pollution. Additionally and based on the Circular Letter of the Minister of Energy, Commerce and Industry, regarding the use of equipment of Exhaust Gas Cleaning Systems (Scrubbers) by ships entering Cyprus' waters and/or Exclusive Economic Zone, issued under "The

		Specifications of Oil Products and Fuels Law 2003-2018" , all the cruise vessels calling at Cyprus Ports use scrubbers filters and the result is the maximum Sulphur content of marine fuels that vessels are allowed to use in ports/anchorage is 0.10% by mass (Directive 2016/802/EU). This directive is very important to protect the environment from air pollution.
1.7	Complaints regarding pollution need to be addressed to a single Authority which will notify the appropriate entity concerned. Such Authority should be operational 24 hours a day, 365 days per year (e.g. the Vessels Traffic & Monitoring System operated by the Deputy Shipping Ministry). In addition, a national three figures telephone line should be established. Has this been considered by the State?	**Mr Panayiotis Agathocleous:** There is a hotline established at the Limassol Municipality for any citizen to report a suspected pollution at sea - 77 77 77 88. In addition, there is a dedicated form disseminated from the Deputy Ministry of Shipping to all stakeholders, which informs all the relevant parties to act and find any incidents of pollution. **Dr Demetris Kletou**: The Department and Fisheries and Marine Research also has a hotline to report pollution in the marine environment. This number is: 99 48 96 51. It can be found at the bottom of the page here

2	**CONSTRUCTION**	**PANEL OPINION**
2.1	What is the impact of tall buildings in Limassol? How is the construction of high residential buildings in Limassol impacting the environment?	**Dr Angelos Menelaou:** The advent of high-rising building in Limassol had undoubtedly contributed greatly to the economics of the City and the greater Cyprus economy. This is because the construction of residential properties has a relatively long supply chain, involving a number of industries from raw materials such as cement, steel and glass to artisan carpentry, to sophisticate installations of electronics and IT systems. The construction boom has employed thousands of workers, of various skills and disciplines and has contributed to the reduction of unemployment, a particularly sensitive issue for any society. Finally, the government has been able to collect significant sums through direct and indirect taxation. While the immediate effects of construction are deemed beneficial, it is time to assess the long-term impact of the project on the City. The construction of a large number of high-rising buildings, particularly if made with no careful planning, can be associated with a number of negative fallouts. The first such output is an adverse effect on the surrounding environment. High-rising buildings exert a microclimate influence by creating large shadow areas and by funneling air disturbing pedestrians. For the City of Limassol this can be particularly problematic, because due to the close

		proximity of the buildings to the beach-front, shadowing and air funneling may affect the beachgoers, many of which are visiting the Country as tourists. Hence, the preservation of Limassol's sandy beaches as attractive destinations for local and tourist populations is threatened. The second negative fallout relates to greater traffic congestion. High-rising buildings, when populated, generate automatically high-density City spots as the population expands vertically, rather than spread out in the surrounding areas. In turn, traffic congestion is linked to more travelling time (hence more lost work time) and greater fuel consumption and associated CO2 emissions. An added social cost is stress and negative psychology when commuters suffer long ques. Traffic congestion is one of the most significant urban problems in Europe, but for the City of Limassol the problem can be even stronger due to limited public transportation. At the same time, high-rising buildings also present significant positives. The immediate increase of population contributes to the gentrification of the area creating jobs and economic activity. The concentration of the population also allows easier and more energy-efficient process to handle sewage systems. A final point when assessing the impact of high-rising buildings in Limassol is their long-term occupancy rate. It is necessary for the project to be successful that a minimum occupancy rate is achieved (eg; 50%). If not, the transformation of the entire coast of the City cannot be justified. While a decreased occupancy rate is likely to alleviate the congestion problems the negative consequences of "empty" towers left to decay far surpassed the benefit.
2.2	The sea is the life and beauty of Limassol, our treasure. We must protect it. With uncontrolled building development on the coast we are destroying our lives and our future.	**Municipality**: According to Cyprus legislation, all developments must carry out an environmental study and the consequences on the environment are taken into consideration within these studies. Construction sites gain the approval of the Government Environmental Department with the appropriate provisions before they are licensed.
2.3	What techniques/criteria does the city council put forward for the design of the tall buildings and what other measures will the city council consider in reducing the negative effects of the tall buildings on environmental pollution? Where can we access the results of those "very strict assessments" major Nicolaides	**Municipality**: All permits get the written approval of all governmental authorities, including the Environmental Dept. The municipalities do not have Environmental Departments and the legislation obliges the municipalities to follow the provisions and directions of the Department of Environment. You can have access to the results on the webpage of the Department of Environment.

	mentioned, when it comes to high rise buildings?	
2.4	Why large development permits were granted without a comprehensive Strategic Environmental Study on the effects on the marine ecosystem. Why didn't the Environmental Impact Strategy Study be done first and then licensed for development on the coastal front?	**Municipality**: A comprehensive Strategic Environmental Study has been carried out by the government in 2011 and another Environmental Study especially for Limassol was issued in October 2019 after the Municipality has put pressure on government.
2.5	What kind of steps/measures are taken by the city council in controlling the following negative effects caused by the tall buildings such as shading/ solar study, waste management, groundwater aquifers. Soil sealing, coastal alteration, traffic quality of life, impacts on land and sea environment?	**Municipality**: All negative effects are examined within the environmental studies carried out for each development and within the comprehensive Strategic Environmental Study. The municipalities follow the provisions and directions of the Department of Environment.
2.6	Drainage from the construction of tall buildings at sea irreparably burdens the Gulf of Limassol and our marine ecosystem. Why is this disaster allowed?	**Municipality**: According to the comprehensive Strategic Environmental Study carried out by the government, drainage from constructions is disposed 40 km away from the shore to avoid the negative environmental effects. According to the Environmental Study all measures are satisfactory enough not to disrupt the marine ecosystem.
2.7	It is thought that during the construction of the tall buildings along the Limassol coastline, this causes a lot of pollution into the marine environment. Is this truth or myth?	**Municipality**: According to Cyprus legislation, all developments must carry out an environmental study and the consequences on the environment are taken into consideration within these studies so that the effects are minimized. During the construction time, the Government Department of Environment observes the sites and they make sure that they follow their instructions and provisions set in the license.

3	Oil & Gas	PANEL OPINION
3.1	How might Limassol waters be affected by oil and gas activities?	**Ms Gina Cohen:** The development of the fields should be done via closed systems, so that nothing or hardly anything is emitted into the sea. In addition, insofar as I know, all of the reservoirs offshore Cyprus are over 100km away, so the effect on the beach/shore should be minimal. It also depends on how the fields will be developed. If they are developed as a Floating Production Storage & Offloading (FPSO) vessel over the wellhead, again at a large distance from the shore, then as stated above the impact will be small. If one or more of the fields are developed via a nearshore platform (such as Leviathan), then there could be some impact from the landscape point of view (namely it could be considered unsightly to look at rigs) and there could be some environmental issues which I will call a "sense of unease". For example, the Leviathan rig developed by Noble Energy offshore Israel, has flared several times over the last few months due to safety measures, leading to a strong boom noise and a flame of burning gas easily seen in the night sky. Apparently, there were zero noxious emissions but the events have been unsettling, causing distress to the local citizens and so the Ministry of Energy is now taking a serious look at matters. Once Cyprus imports LNG, and/or gas via pipeline (either from one of it is own fields, from an Israeli field or the global gas market), there will be work to bring in a pipeline to shore and this will cause some temporary disturbance, but the area should quickly and easily be restored with minimum nuisance. If the gas is imported as LNG as Cyprus is currently planning to do, from an FSRU that would be moored at Vitol's VTTV Terminal at Vasiliko, which I believe is about 25 km east of Limassol, this will have some visual impact and some minimal environmental impact. Pipeline gas would have a lower environmental footprint.
3.2	What are the environmental impacts because of the extraction of natural gas?	**Ms Gina Cohen:** In the long run, the interesting question is whether natural gas is part of the solution or part of the problem. Many people view gas as a kind of bridge between the coal era and the green energy era, but it turns out that methane has a much more potent effect on global warming than CO^2 and methane is mostly leaked during the extraction process, but not only at this stage.

		Thus, again it is important that the authorities strictly monitor all the operations. On the other hand, for energy security, it is simply not possible to move to the majority of energy being produced from wind and sun - so gas will continue to be needed during all the hours when the wind and sun are not available or sufficient to guarantee a baseload power supply.
3.3	Why did the government decide to put all kind of fuels such as petrol, natural gas, at the same point at Vasiliko? How is the high risk of accident being managed to prevent an environmental disaster in Blue Limassol?	**Dr Angelos Menelaou:** The master plan for Vasilikos was prepared in 2009 by the Hydrocarbons service of the Ministry of Energy, Commerce & Industry. This was updated to in 2013 to extend the design to include facilities for the development of the Aphrodite gas field. The reports present the arguments for energy facilities to be located in this area. Your concern is valid. Frederick University is currently discussing a proposal to conduct a risk assessment focusing specifically on the potential environmental impact of oil & gas activities in the Limassol surrounds.
3.4	What should be done to international oil companies that refuse to stop gas flaring in the areas of operation that cause environmental problem to the marine ecosystem?	**Ms Gina Cohen**: Gas companies are really only flaring in those countries where the environmental regulations are poor and/or where there is associated gas; namely gas combined with oil in the same fields. The companies want to produce the oil but the gas may be too cheap, so they flare the gas (and for some reason are not forbidden to do so, or the fines imposed on them are not high enough to make them want to stop doing so). In the Eastern Med the wells are mostly dry gas; meaning with little liquids - and the gas is the valuable product, so I doubt they would be flaring here. In Israel the operator of the Leviathan reservoir and platform has indeed been flaring as a safety measure. This is an automatic release of the gas that occurs if safety procedures necessitate the burn and release of the gas on the platform. This has not happened in the past in Israel with the Yam Tethys field or the Tamar field , therefore the occurrences of flaring with the Leviathan rig is cause for concern at present, amongst citizens and authorities. Cyprus must ensure the highest level of development is used prior to any of the companies producing gas. On one hand, Cyprus is a better position than Israel because most of the companies that are operating offshore Cyprus are major companies. Noble Energy, the operator of the Aphrodite field is the same operator as the Leviathan field offshore Israel. On the other hand, companies are now cutting expenses due to the covid-19 crisis, so the authorities must approve every stage of the development, to ensure that cuts are not made at the expense of Health, Safety, Security & Environment (HSSE) standards.

3.5	Could the usage of drones be implemented for the likes of prior inspections both on and offshore? By using drones, it reduces the use of vehicles and manpower.	**Dr Angelos Menelaou:** There is extensive literature on the potential uses of the UAV technology (unmanned aerial vehicles), on the types and uses of UAVs and the challenges risks and opportunities. Aerial drones are developing as a 'smart' tool for environmental monitoring due to their ability to reach difficult and inaccessible areas at a cost effective manner. I would definitely encourage the use of aerial drones especially for the monitoring of Oil and Gas activities and coastal waters cleanliness but before doing so the regulatory framework shall be considered carefully and of course privacy concerns. As far as I know, the cost of using such technology is relatively low. Therefore, although I am not sure of how to use them, due to low investment, I am pretty sure drone technology is something we shall start to examine at least on a controlled pilot basis.

4	**LNG & Shipping**	**PANEL OPINION**
4.1	What is the Cypriot plan for creating more transport and shipping, bringing in LNG tankers and bunkering LNG powered vessels on Limassol roads and in the same time improving the beaches and protect the environment and people in Cyprus.	**Mr Andreas Alvanis:** This question was answered through the LNG Bunkering: A Greener Alternative presentation. Regarding transport and shipping, through the Blue Hubs project, the aim is to use that infrastructure to enable LNG bunkering in Cyprus as well as to introduce LNG in the Cyprus mainland. These projects are co-financed by the Connecting Europe Facility and are subjected to strict safety regulations.
4.2	What (extra) regulations will be provided to ensure safety to avoid incidents with the Very Large LNG carriers, bringing in LNG to Vasilliko? Will the pilots get extra training? and how?	**Mr Panayiotis Agathocleous:** Extra training will be provided by the marine services providers to pilots that will be engaged in such activities.
4.3	From Vasiliko LNG vessels will sail daily to Limassol to provide the bunker terminal in Limassol with LNG. Those vessels (125m) will pass the beaches of Limassol at a short distance, which might be dangerous if a black out and stranding. What regulations will be made to avoid such a disaster?	**Mr Andreas Alvanis:** The LNG bunkering vessel located in Limassol will be built according to very strict safety regulations and the crew will get the necessary training to prevent and deal with any adverse situation. In addition to that, any highly unlikely accidental gas spill will not have a significant local impact.

4.4	Before privatisation of the Limassol Port a "Harbour Master" - a Limassol maritime pilot employed by the CPA controlled safety and environment 24/7. Is a Harbour master needed and who now carries out this highly responsible profession?	**Mr Panayiotis Agathocleous:** CPA's Limassol port is fully manned with all relevant Departments and personnel in order to perform CPA's duties at Limassol Port (operational and regulatory). Safety and Protection of the Environment are dealt with through relevant CPA's Departments and Experts and in cooperation with the Private Operators at Limassol port as well as with other Governmental Departments.
4.5	Training of crew and officers of vessels is very important as everyone will understand. When entering the Cypriot ports, sea vessels have to use the expertise of the Cypriot maritime pilots. What does the pilot training program look like? Should there be an extra (simulator) training for pilots assisting large container vessels and LNG vessels ? And should the pilots do a periodical repetition training to enlarge safety awareness?	**Mr Panayiotis Agathocleous:** All these training needs and requirements are the responsibility of the marine service providers in each port and port installation of the island. Cypriot maritime pilots are well educated, trained, competent and equipped to perform their duties. They are commercial marine captains with extensive sea experience.
4.6	If Limassol is to be bunker station for LNG powered vessels, will it increase sea traffic? Will the number of extra vessels (with LNG + bunker operations) so nearby the Limassol coast, necessitate educated and licensed maritime pilots navigating these vessels to ensure safety?	**Mr Andreas Alvanis:** There is a chance that through enabling LNG bunkering in Limassol, the sea traffic will increase which is something we all hope for. The question regarding the necessity for licensed maritime pilots should better be answered by the Cyprus Port Authority.
4.7	You talked about the LNG method, which according to the provided presentation reduces some of the greenhouse gasses drastically e.g. Nitrogen oxides, and only slightly in the case of CO2. What about methane (a greenhouse gas	**Ms Gina Cohen:** Methane can be even 60% more portent as a Green House Gas (GHG) emission. Israel has not yet conducted any in-depth study on GHG emissions, based on the reduction of the use of coal and liquid fuels and their replacement by natural gas. There must certainly have been a benefit, but for now the country has been more concerned about improving local emissions rather than focusing on Israel's contribution to reducing the global GHG count. We have been criticized

	that is 30 times more potent than CO2 in trapping heat)? Can we see a graph on this?	by the OECD for not doing enough. Most of the work in this respect here is still being done through reducing coal (and increasing natural gas). Cyprus has no coal, but is generating all of its non-renewable energy from liquid fuels, which are also extremely polluting and a cause of GHG emissions. The Integrated national energy & climate plan that Cyprus submitted to the EU, aims to analyze the full potential for renewables and the offset of reducing liquid fuels and increasing natural gas. GHG emissions are lowest from pipeline gas, as the liquefaction and regasification process for LNG is energy intensive. Therefore, the most effective solution would be East Med supplied gas, were it to be commercially viable. **Mr Andreas Alvanis**: To answer that, we should first mention that Methane is not a combustion by-product but it is the main component of natural gas. It is true that throughout the natural gas supply chain there might be Methane accidentally escaping to the atmosphere. However, the technology for very low to zero Methane slip during combustion (the new dual fuel engines introduced by the big marine engine makers can reduce Methane slip to zero or almost zero) as well as during exploration / production and transportation exists and is constantly improving. As Methane is not a combustion by-product and the technology for preventing it for escaping exists, it could not be incorporated into an emissions comparison graph. In addition to that, without claiming that Methane slip is not harmful for the environment, the adverse effect of SOx, NOx and PM emissions are much more local and could harm nearby population. Having that in mind in combination with the fact that the Methane slip can easily be reduced to almost zero using the current technologies, LNG is a much better fuel compared to HFO or MGO for the marine industry as well as the land-based facilities.
4.8	Policing of waste on vessels – Does a vessel have to provide or submit documentation of when, where and how much waste was disposed off fromthe vessel?	**Mr Panayiotis Agathocleous:** Yes documentation for all kinds of ship's waste needs to be uploaded to the Port Community System in order to arrange for their collection/disposal though the port's relevant licenced companies and CPA's Department of Cleaning and Waste.
4.9	How much waste per week, on average does a vessel produce? Would it be viable to create a waste to energy plant at the port to take waste from vessels?	**Mr Panayiotis Agathocleous:** This project entails an extensive technical and economic study on whether it will be feasible and viable, taking into consideration the high cost of being constructed and operated as well as the amount of waste that can be treated. Provisionally the amount of

		ship's waste that can be treated is currently produced from ships calling at Limassol port, does not justify the viability of an energy plant being constructed within Limassol port.

5	RENEWABLES/WASTE MANAGEMENT	PANEL OPINION
5.2	When someone thinks of blue and green development, the first option is to go with renewable energy. Why was that not mention? Do we need to be dependent on LNG? As we must face the climate crisis immediately, do you think that focusing on LNG as the solution will reduce our potential to effectively tackle this very urgent problem?	**Ms Gina Cohen**: Gas should be part of the solution, as globally it is consider an essential element of the energy transition. Whether it should be LNG, or use of Cyprus' own gas or imported gas from Israel, is the responsibility of the Natural Gas Public Company (DEFA) CYGAS. I believe that the decision has already been taken in this respect and that plans are in place to import LNG as a first step.
5.3	What about investing in renewable energies such as offshore wind energy or wave power?	**Dr Angelos Menelaou:** As stated in Cyprus' Integrated National Energy and Climate Plan the RES target towards 2030 is to achieve at least 23% RES in final Energy Consumption, through increased usage on photovoltaic, wind and biomass.

6	ENVIRONMENTAL POLICY/REGULATIONS	PANEL OPINION
6.1	IMO's regulation 2020 was introduced this year. How did MSC approach and get prepared for this new regulation? In case more regulations for environmental protection and preservation follow in the future from IMO, how are MSC's environmental sustainability strategies being affected and to what extent could they be modified in order to comply with upcoming regulations? What is shipping doing to meet ambitious decarbonization targets?	**Mr Prabhat Jha**: At MSC, we are proactive and start following many years before regulations comes in force and for IMO 2020 we started preparing in 2016 itself and collaborated with major industry players for Hybrid exhaust gas cleaning systems to remove sulfur from fuel. At the same time on many vessels we have used the compliant fuel to comply. For this we started tests in year 2018 to learn any operational issue, how the fuel changeover can be done properly by crew on board, followed by crew and shore team training. **Mr Ioannis Efstratiou**: Historically IMO has taken several actions, such as the adoption of the Energy Efficiency Design Index (EEDI) and Ship Energy Efficiency Management Plan (SEEMP) and Data Collection Systems regulations. Further actions needed for implementation of the Initial IMO Strategy on Green House Gasses are behind schedule due to the coronavirus pandemic.

6.2	Limassol is the steam engine for Cyprus economy as the Mayor stated. This fact doesn't guarantee that environmental issues will always be at the top of the agenda for Government. Especially nowadays with the impact of Covid-19, will the need for investments and liquidity be more important to the authorities to meet their financial goals? How do we balance economic growth with environmental targets in Limassol?	**Mr Nicos Nicolaides:** The balance between economic growth and protecting the environment is exactly the essence of blue economy and blue growth. Limassol is indeed the steam engine of the Cyprus economy. Therefore, we need growth. But we equally need to do it in an ecological friendly way. Any economic activity that potentially can affect the quality of our seas and coasts, must be evaluated very strictly on these parameters. Whether it is the operation of the port, or the marina, or the exploitation of our natural gas resources, or the high- rise buildings along the seafront, or any other activity which interferes one way or another with our marine environment. These activities have to go through an environmental assessment, before they are initiated. And they have to be under very strict surveillance. You cannot be too careful about these things.
6.3	How to increase access to the beaches, coastline and bays through facilities for the elderly and disabled?	**Municipality**: The Municipality pays great attention to the needs of the elderly and disabled and puts in every effort to respond. In 2019, the Municipality of Limassol integrated the existing blind and deaf people systems at the main traffic lights of Limassol's coastal front through a European funded pilot project. Furthermore, access points to the beaches have been installed, while a ramp for the disabled was placed at the beginning of the beach. Limassol Municipality has also purchased two floating wheelchairs, aiming to give the opportunity to people with disabilities to safely enter and enjoy the water.
6.4	What about introducing green tax for every visitor 2 EURO. If we introduce an environmental fee or charge to citizens, how would you spend it for the benefit of the environment?	**Municipality**: Current legislation does not give authority to the municipalities to impose such a fee, therefore, the introduction of an environmental fee is not under consideration at the moment. However, there are also other ways to 'penalize' non-environmental behavior. At the moment, we participate in the project BAS (Benefit as you Save), which is a European funded pilot project promoting the "polluter pays principle" and the Pay As You Throw system in municipal waste management.

7	EDUCATION & EMPLOYMENT	PANEL OPINION
7.1	Does MSC accept undergraduates and postgraduates students of Maritime Studies Frederick university for internship?	**Mr Prabhat Jha**: Yes we do every year and please contact our office.
7.2	What are we doing in marine & maritime research?	**Dr Angelos Menelou**: Frederick Research Center has partnered with Greece, Bulgaria & Albania on an EU funded project to research the methods for monitoring air and water pollution in ports and surrounding areas. This study included a review of relevant legislation, site visit, meeting with all port stakeholders and collection of historic monitoring data. An online education package will soon be launched; to cover a broad range of environmental issues and good practices for prevention. **Ms Natasa Pilides**: Recent programs through the EU Horizon 2020 could help us to build the necessary structure to bring about results. There other initiatives like the Cyprus Foundation of the Sea (CYFOS) which brings together all the stakeholders from the public and the private domain to discuss the various ideas, align them to strategy and fit into an action plan. Good work has been done to set out initial building blocks which connect education and innovation. The Cyprus Marine & Maritime Institute (CMMI) has received a large number of funds both from the Cyprus Government and the EU which can be utilised effectively to make those projects a reality. Once we have successfully submitted projects and got funding and built the teams, the difficult work is to move towards the results in the next few years. The Government and DSM is supporting the various initiatives and from the public sector perspective, there is a need to update technology, processes and procedures to become more efficient. Work has been done here, but it is a continuous path of learning and improvement, to live and co-exist with the marine environment.
7.3	What is the education system doing to build environmental awareness?	**Dr Angelos Menelou**: Nowadays, the environment is not just a hot topic in the press but it is also in classrooms …..some may say**…..** thanks to Greta Thunberg school strikes. Indeed, university education is highly important as it aims at students' personal as well as professional development. Raising environmental awareness amongst students and adopting environmentally responsible principles and attitudes, will result to environmentally responsible professional practitioners, environmentally responsible citizens. In my view, since almost all climate predictions put natural life and humans well-being at risk, environmental awareness needs to be built in school from an early

		age. It can be an important vehicle for supporting and empowering citizens in order to effectively meet the Sustainable Development Goals set by the United Nations by 2030. A number of OECD countries already incorporated environmental topics in their curricula and countries like Canada, Japan Finland are today providing good models to be followed. I should also emphasize that in a sustainable and energy efficient economy, skill demands will include new types of expertise for the labor market. For example, the ILO estimates that in 2030 about 20 million jobs will be created in renewable energy sector. Responding to demand for green skills also means creating and training existing workforce to be adjustable to changing standards and requirements. Universities are in a position to act as source of expertise and generate human capital to cover expected demand in relevant job skills. …But more importantly, having the scientific know how and capabilities, they have to add to existing knowledge through research and ultimately to also produce green innovative ideas. At Frederick University has already incorporated marine ecosystems syllabi to our programs and added dedicated teaching staff. We have also established good environmental practices in the campus to shift the paradigm - abolish the plastic use etc Concluding, I must say it is essential to know that simply changing the educational system, which has demonstrated its good agility during the Codid19 lockdown period, still will not be enough. Governments and policy makers also need to commit themselves to meeting environmental targets and to create a system… and a vision… in which green ideas and innovations can be effectively implemented and disseminated.
7.4	How to build a sea conscious culture through water sports & beach activities, especially for children?	**Dr Angelos Menelaou**: In addition to being entertainment, water sports is potentially a significant sector of the Blue economy. We should look at models in other countries, to see how it contributes to job creation and consider promotional campaigns, subsidies for water sports facilities and the inclusion in the sports activities within schools. '*The beautiful thing about water sports is that the more you dig into the world under the sea, the more you want to dig out the dirt and garbage that we have left there.' Dr. Razan Baker*
7.5	What can be done to change the behavior of unaware citizens, bathers and tourists?	**Dr Angelos Menelaou:** The Blue Limassol Forum aims to raise awareness amongst all communities about our dependence on the environment and how every individual can contribute to its protection through their action and behavior. Starting environmental education at an early age (reference answer to Q7.3) will contribute to an environmentally conscious culture. Academic institutions shall therefore consider adjusting their curricula.