

30 EEF, 2nd Preparatory Meeting, Session 1,
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Good Morning Excellencies and distinguished speakers. I am honoured to give this presentation.

Enhancing Resource Preservation for Increased Security

Serenity in one's life is only possible when a sense of security prevails.

Until recently we did not think much about the food we eat, water to drink, electricity to drive all the appliances and switch on the lights and fuel for our cars. Few would have expected food or energy would become such an issue, yet, in a few months this perception has changed.

Anything from National disasters to Pandemics or local disease outbreaks to humans, animals or crops, war or conflicts and political turmoil can all disrupt supply chains. It takes very little to impact prices. History is full of such spikes.

- The oil embargo in the 1970s
- Argentinian beef banned due to Foot and mouth ex. in 2000. Several such incidents in the last decades including Mad cow disease.
- Fukushima in 2011 resulted in a spike in Liquefied Natural Gas prices
- In early 2020, China suspended its export of medical equipment and consumables.

In 2022 Russia's invasion of Ukraine has effectively cornered the entire food supply of Europe and most of the world, with over 30% of the worlds wheat traded through Russia and Ukraine and has also impacted the world gas prices

Fact is that most grains and Natural Gas are now at roughly five times the prices we were paying not long ago. At the same time factories in Europe are at a standstill because car components produced in Ukraine are not being produced due to the war.

Anyone active in the waste management sector will attest to the fact that our society has become a society of waste. Waste in terms of wastefulness and also the Waste we produce. Anything from brand new gift wrapped products, expired

packaged food and drink products and fruit and vegetables, which are thrown away to make room for the fresher ones. Many products still fit for consumption or use but are thrown away nonetheless.

The waste goes beyond the product you see. For that product to get to a shelf it would have had an investment in time and effort of the farmer, transport and logistics, grading, packing and the associated emissions of all of these operations. At the very least this needs to be composted or utilized to deliver energy through biodigestion.

Malta produces around 25% of the total food requirements of the present population. Most of the food at supermarkets is imported and duly arrives on a daily basis generally by ships. Barring the odd lengthy storm, supplies have rarely been disrupted, but these disruptions should serve as a constant reminder that we have an umbilical cord when it comes to sustenance, one which delivers around three-quarters of what we consume.

Sustenance is an essential requisite for life. Both for humans and also for all animals and feedstock. Food security is therefore essential. In truth, Malta is simply too small to sustain the needs of the nation. Malta neither has the land capacity, nor does it have the weather conditions necessary to deliver high yields. Notwithstanding there are solutions which can be found beyond our borders.

A higher intensity farming on specific products locally, coupled with large storage silos and port facilities and a national “trading” stock vertically integrated into farm ownership and production, would provide an interim security of supply and mitigate price shocks much better and also deliver sufficient “response” time in major event scenarios.

Better awareness campaigns would help in educating consumers on what product is available locally at specific times. Be it vegetables, fruit, or other products.

There are ways where Malta as a country could help developing nations or could partner with a developed nation to resolve this, via trade and reciprocity agreements. Maybe the answer to our food security needs might actually be found precisely in helping others to ultimately help ourselves!

Water is another resource where waste is rife. Whether we are talking about farming, industry, normal household, or use in pools, water is an essential resource. Compared to other countries, water in Malta is arguably not a real concern due to its reverse osmosis plants, however, its production and distribution costs are largely dependent on our energy costs.

Ways to divert rainwater into public wells which are connected to groundwater recharge points should be further explored. The added benefit of such a setup would effectively help deliver more rainwater to the groundwater system that would otherwise simply run off to the sea.

On average a person uses 110 ltrs per day which when compared to other EU countries, is low. Groundwater has reached low limits due to over-pumping by farmers and for the filling of swimming pools. These boreholes are now being monitored in order to safeguard further depletion which would otherwise cause an undesirable seawater intrusion into said aquifers.

The recycling of sewage to create polished water made available to farmers, has saved some 7 million cubic meters per year from being discharged into the sea or pumped up from acquifers. This project helps mitigate the security of supply risks.

Another aspect which helps deliver a greater supply security is the fact that the 3 Reverse Osmosis plants in Malta are strategically installed in a manner which would ensure that in the event of a major oil spill at least one will remain active.. ROs now provide around 50% of the island requirement and this makes us very dependent on the system. Recent increases in the population have resulted in increased water demands. This was mitigated by better leak detection.

Awareness campaigns highlighting that every drop counts , coupled with a rise in cost above the 33cubic metre per year allowance per person, seemed to have worked in reducing wastage. Encouraging more persons and farmers to harvest rain water, could decrease the demand further.

The idea of a Circular Economy or also known as ‘closing the loop’ was launched 12 years ago by the Ellen Mac Arthur Foundation. Having been accustomed to the linear method of reduce, reuse and recycle, the circular economy offers better prospects for material recovery as it introduces the concept of designing a product which will last longer through the possibility of repair and with little or no wastage at the end of its life. One of the types of waste that are collected in our facility, are electronic products. Looking at a good part of them one could actually say that these can be placed in a shop as they would look brand new, however repairing them would be costly and not viable. Electronic waste is a source of precious metals such as gold, silver, copper and palladium. A ton of dismantled circuit boards will yield 40-800 times more gold and 30-40 times more copper mined from a ton of ore. Through the dismantling process of such electronics, the various materials are separated. These are then sent to facilities where the material is extracted and reused to manufacture new electronicsThe problem lies in the

design of the products. Products used to be built to last. Today they are manufactured to last enough for the warranty period.

A circular economy needs to have at the very heart of the design brief of every product manufactured, the actual circular economy. Unless products are designed to last, designed to be repaired, and designed to be fully and easily recycled, then the objectives set may not be possible to attain.

The circular economy goes counter to the needs for corporations to sell more. In order to sell more they need customers to need to buy new when the old one becomes too expensive to repair!

Companies which have built business valuations where the assumption is that a product they produce will be purchased by 20% of the population every year, will find half its sales disappear, if the new circular economy compliant product is still perfectly fine after twice the lifetime of the product presently produced, then half their sales would be gone, and half the employees would be made redundant.

In Technology, backward hardware compatibility to Operating system and software upgrades help in allowing users to experience the latest tech. Most desktop systems used to be easy to upgrade. However, newer laptops are far more complex. Drives are very inaccessible, keyboards hard to replace, memory upgrades difficult to execute, and boards are often compatible with a limited number of processors.

Ultimately, corporations want the consumers to consume more. Governments need corporations to sell more, earn more and as a consequence pay more taxes to sustain ever increasing budgets. The circular economy, although idealistic, may run in a direction which is the exact opposite of what other needs require!

However, in a future not long from today, it is likely that as needs for more and more raw materials presses consumers to go for longer duration products which may cost a bit more, one will potentially find that creating a different mind set might ultimately also lead to a more sustainable economic model.

A common architecture that allows the re-use of components would surely allow for greater long-term usability.

Ultimately there must be a concerted effort by all in order to save resources; primarily there is a need for a change in mindset, and not just of the consumers, as I have argued, but of all stakeholders involved in the circular economy.

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