What will be the best Renewable Strategy for Guernsey, in achieving its Green Goals?

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Synopsis:

In this paper, I am going to discuss the different renewable options available to Guernsey and the benefits and challenges they will pose to our island. I have particularly focussed on the renewable options that were released in the recent policy letter by the Committee for Environment and Infrastructure these were, wind and solar (photovoltaic). I have also touched upon in this paper the need for an assured relationship/strategy with France concerning energy agreements, as it is key for an island of our size in pursuing a secure and sustainable energy future.

Introduction:

The States of Guernsey recently published their policy letter regarding the strategic direction for Guernsey achieving decarbonisation ambitions and pursuing net-zero targets. To outline the report briefly for you the reader, the 25-year plan is called 'Option D', which takes into consideration meeting demand, energy security, affordability as well as meeting green targets. Wind energy (via an offshore wind farm) is proposed to supply an estimate 46-55% of energy needs (subject to variability), and solar energy (via solar panels) is predicted to supply 8-10% of energy demand, leaving the remainder 37-43%[1] of energy requirement via a new cable link with France, which would consequently reduce the amount that would need to be imported. Might I add these statistics are not fixed, they are more than likely to change due to the variability of the selected energy sources. There should be an element of flexibility for these statistics to change, to cater for in the event they do radically change. However, as a starting point before any rash decisions are made regarding a local renewable energy strategy, there is a strong need to negotiate a supply of energy with France to ensure we have a base load supply. Additionally, what price we can import the energy for from France, if the price is cheaper than generating power with local renewables, it's an obvious solution to the energy debate. I believe that the policy letter contains good intentions for reducing Guernsey's carbon footprint, as well as making the island more energy self-sufficient, therefore increasing Guernsey's energy security.

100% self-sufficiency would be impossible, but a combination of imported energy from France and local renewables would be the most viable option, to ensure a reliable and sustainable supply. The economic cost of energy/electrical prices and financial savings (if any) is impossible to predict, in the current political climate. A 100% green clean energy supply from renewables alone on an island of our size is ambitious and innovative however it is extremely unrealistic. Even a jurisdiction the size of France cannot produce an entirely green electricity supply! In our lifetime and the near future generations, we will still need a strong dependence on oil/fossil fuels as a backup energy supply. In this paper I am going to discuss the various renewable options available, with links to Guernsey in light of the recently released proposal structure by the Committee for Environment and Infrastructure; in

[1] Committee for E & I '*Electricity Strategy - States of Guernsey (gov.gg)*', 2023

the absence of a supply deal with France, where we would inevitably have to use quite a lot of hydrocarbon energy.

Renewable energy technologies have gained increasing importance in recent years due to growing concerns about climate change, energy security, and the finite nature of fossil fuel reserves. Some examples include, solar, wind, hydropower, biomass, geothermal and tidal. Investment must be established in renewables as it is predicted we will run out of fossil fuels by the end of the century, the world annual consumption level of oil in 2022 was 99.57 million barrels per day, 2023 consumption levels are expected to increase to 101.89 million barrels per day[2]. To put into the bigger picture, it is estimated at this rate we will run out of oil in 47 years[3]. However it should be noted this figure is driven by estimates and massive uncertainty. The adoption of renewable energy offers numerous benefits such as reducing greenhouse gas emissions, mitigating climate change and air pollution. Renewables also diversify energy sources, reducing dependence on fossil fuels and enhancing energy security, in a GPEG talk by Bob Beebe CEO of the Little Green Energy Company, he emphasised the need for a diversity of energy sources, and Guernseys energy independence, 'there are 54 reactors in France 27 last year were out of order, reflects the need for a diversity of fuel options'. For more information on the nuclear reactors defects and decreasing output, it can be found in this article. Despite all the positives renewables have to offer, there are also undeniable challenges associated with renewable energy, including intermittent generation (reliant on weather conditions), high initial costs, and the need for infrastructure development and energy storage solutions. The economic cost is a particularly challenging hurdle for our States, as the whole projected cost of Option D between now and 2050 is estimated to be around £1.73 billion, with an estimated £200 million saving if we were to continue with our current deal with France[4]. This £1.73 billion figure will change, with inflation and total project costs. Despite these challenges, the transition to renewable energy is gaining momentum as our government, businesses, and individuals recognize its potential and necessity for securing a sustainable and clean energy future.

Securing the best deal with France (EDF):

Due to Guernsey's size and geographic location, there is a need to work with other nuclear jurisdictions, the most obvious being France. France is connected to the rest of the continent with a rich supply of renewable energy resources, as well as other forms of energy sources such as oil and natural gas. As a starting point the crux of the paper is before any large-scale propositions such as for an offshore wind farm, Guernsey MUST negotiate with France to come to an arrangement for the future importation of a cheap electricity supply, as the current agreement is due to end in 2027. The negotiation could be as simple as buying France's excess power in times of energy surplus for a cheaper price, to meet energy demands in Guernsey. A secure long term strategy should be a priority for the States with France, then a plan for local renewables, and as needed hydrocarbons, can progress to fill in the gaps of

[2] Jessica Aizarani, 'Global crude oil demand 2005-2023', 2023
[3] WorldOmeter: '*World Oil Statistics*', 2023
[4] NA: '*States to vote on wind power revolution | Guernsey Press*', 2023

energy supply/demand. Guernsey Electricity in partnership with RTE is proposing to install a 100 MW subsea cable between Guernsey and La Manche in France, to secure energy supply and to meet the projected rise in demand. A 100 MW cable will also allow for the decarbonisation of heating and transport in Guernsey meaning the power station will no longer be required. A second subsea cable would provide security and enable additional local renewables, as well as the ability to export and sell excess energy to Europe. But if we have a good supply agreement, this expenditure looks dubious.

A Small Nuclear Plant:

In a recent GPEG lunch I attended, speaker Dr Benny Peiser highlighted the substantive progress and potential of nuclear power that the world should invest in. I believe this is something Guernsey should further explore with nuclear safety having developed immensely. Although I do appreciate a nuclear plant off Guernsey is unlikely to be well received. A GPEG publication also previously explored this idea briefly, "No existing technology for plants small enough to work in Guernsey in isolation. Rolls Royce developing microreactors are 5 years away but could be some time before commercially available. And is likely to be strongly opposed."[5] However, France has plenty of expertise in this energy sector…

Wind Energy and Offshore Wind Farms:

The States have suggested a proposal of an estimated 46-55% of our energy in the future should come from an offshore wind farm which would operate at a maximum of 65MW, the estimated production start is 2035. An estimate in a recent GPEG publication is that there could be 4 or 5 very large turbines, requiring 7km of sea space totalling 250m in height. Significantly no recent offshore UK farm is as small as the one proposed in Guernsey, they are mostly operating at 20 times the capacity[6]. It is highly unlikely that an operator would be interested in an offshore wind farm development of such a small size.

Despite this, there are plans in progress to potentially construct a 1GW facility, which has the potential to increase to 2GW if there are agreements made with Jersey, which would be more appealing to companies such as EDF as I discussed above. In studying the Wind Farm Feasibility report from 2016, it discussed the most feasible location for an offshore wind farm would be the west coast of the island, synonymous for its beautiful beach views and sunsets. Will islanders want to see their west coast views spoiled? Most likely not. It also discussed in the report that to keep costs more economically feasible the wind farm will have to be built closer to shore. And I quote from the report, 'the modelling for the pathway used 'fixed bottom' wind turbines rather than 'floating' as they are currently more cost-effective… should the States proceed with a fixed based offshore wind array this will need to be located closer to the shore due to the geography of the islands waters'[7]. This will no doubt have an impact on the views, shipping routes and marine life/activity such as fishing. The selected

[5] GPEG, 'Electricity Brexit and the French connection', 2022
[6] GPEG, '*The much-delayed electricity master strategy*', 2023
[7] Committee for E & I '*Electricity Strategy - States of Guernsey (gov.gg)*', 2023

area which will need to be thoroughly assessed before the installation of the fixed bottoms. The other turbine option ‘floating’ that was presented in the report is ‘anchored to the seabed by mooring lines or cables, and can be deployed into deeper waters’, however, this is more costly. If the States can generate the extra income, to facilitate floating-based wind turbines, I think that it would have far less of a social impact, the further the turbines are out to sea the more public outcry could be significantly reduced? It should also be noted that wherever the turbines are installed marine life impacts should be explored to minimise the environmental impact.

Here are some of the benefits of wind power energy:

- Abundant, inexhaustible renewable energy source, consistent in the medium and long term
- Decreases our dependency on fossil fuels
- Nonpollutant does not emit toxic substances or contaminants into the air or water
- Reduces energy imports, in particular for Guernsey from mainland Europe (France). However until we have a negotiated deal and long term strategy with France, the reduced Energy imports are unknown.
- Contributes to sustainable development (however this is arguable)*
- Scalability and flexibility can range from small to large installation projects (in Guernsey’s case can be combined with other renewable energy sources and integrated into our existing power system to provide a flexible energy supply)

However whilst there are many advantages to wind power there are potential disadvantages and challenges associated with its use these include:

- Intermittency and Variability: Wind power is inherently variable as it is dependable on the availability of wind, turbines require a certain minimum wind speed to generate electricity. They also almost never operate at full capacity due to the weather condition variability factor. Therefore it is near impossible to predict the amount of energy these wind farms can produce in certain months or even annually. Intermittency will pose challenges ro electricity stability and require backup from power sources and other energy systems. The States proposed 46-55% of our generated electricity to come from a wind farm, but what if the weather chooses not to comply with this estimated statistic? We will no doubt require more energy in winter months, but we may not have enough energy storage to maintain this power output statistic, hence the need to gain some of our energy sources from a cable with France to ensure energy security and demand is met. No doubt if our turbines are not sufficient then it is likely that the French will also need their other generation capacity, a good deal is essential.
- Visual Impact: When turbines are clustered into wind farms, they impact the visual landscape which some people find aesthetically unappealing. As suggested in the wind farm feasibility report the best place for a wind farm is the west coast, many properties along the coast have spent vast sums of money improving their view, and an offshore wind farm would likely not be well received.

- Spatial requirements: Offshore wind farms mitigate some land use conflicts but there are new land challenges compared to wind farms that are land- based. These include installation, maintenance and the transmission of electricity. In regards to spacing of the turbines, 400m is needed as a minimum for minimising loss of energy however 800m between turbines is better.
- Initial costs and infrastructure requirements: Initial capital investment is still substantial despite decreases in the real cost of wind power after the last few decades. Extensive planning requirements, connections and transmission lines will inevitably drive the overall project costs higher, and with current economic forecasts, it is very difficult to determine prices.
- Guernsey's geographic size: As I commented above, no wind farm has been developed as small as the size proposed by the States, which will prove economically unviable. The size of the project (wind farm) will prove also a challenge when attracting investment and overseas operators.
- *An offshore wind farm is arguably not as sustainable as painted in the media, Guernsey currently does not have the expertise locally or the resources to maintain the turbines. Maintenance of the offshore wind farm is inevitable but not predictable; this will prove to be a huge challenge/issue for Guernsey. Experts and specialist resources would have to be flown/shipped over, which may not be sustainable in the long term future.

Wildlife and Environmental Impact: Wind turbines can pose risks to certain bird species. Collisions with spinning turbine blades and habitat disruption can affect wildlife populations. Offshore wind farms pollute underwater, as they generate noise and vibrations that is termed 'anthropogenic noise', it disturbs marine life and flora especially the underwater mammals that rely on echolocation and vocalisation to survive in the sea[8]. Proper site selection, environmental impact assessments, and mitigating measures can help minimise these impacts, but still need to be taken into consideration.

I particularly want to expand on this point of wildlife and environmental impact in relation to Guernsey. I contacted La Societe Guernesiaise for information regarding the wildlife, namely the seabird species the Bailiwick hosts, and the potential impact any offshore development may have on these species. '*Local seabird censuses are only part of the picture, winter and migrating birds will also have to be taken into consideration too. For example the Bailiwick now hosts globally important species of non breeding Balearic Shearwaters each summer, a species threatened with extinction. Local water is also important for birds which breed elsewhere but hunt/forage elsewhere such as Alderney's Gannets and Manx Shearwaters from the Southwest UK*' Jamie Hooper informed.

However as I discussed above I want to emphasise that these challenges can be addressed via planning, technological advancements, ongoing research and development, but some

[8]Sinay Maritime Data Solution , '*Does Offshore Wind Affect Marine Life?',* 2022

challenges will remain unsolvable. To conclude this section, wind power is a valuable and increasingly important component of the renewable energy options that Guernsey has to explore. The potential economic costs in the long term future will benefit the global climate, increase Guernsey's self-sufficiency for energy, and will no doubt save us some money as we reduce our dependency and imports from France.

Solar Energy:

Solar energy is the radiant energy emitted by the sun in the form of electromagnetic waves through the form of visible light and infrared radiation. Solar panels is the system I am going to focus on, sometimes referred to as solar photovoltaic (PV) systems. PV systems convert sunlight directly into electricity using solar panels, when sunlight strikes the solar cells on the panels it creates an electric field causing the movement of electrons and generating a direct current. Guernsey has already made significant amounts of progress in this energy sector. Solar establishments in Guernsey are pre-existing, accessible domestically/commercially and availability is constantly increasing. This is the most realistic and rational component in my view of the States proposed strategy, due to the accessible resources we have available on the island already, and our ability to develop this sector further.

Listed below is the advantages of using solar energy as an alternative to fossil fuels, and too decrease dependency of energy from France:

- Sustainable development: It is an abundant renewable source of energy, which does not deplete any natural resources or produce any harmful emissions like fossil fuels do.
- Clean source of energy, environmental conservation, reduce our need for burning and fossil fuel extraction
- Reduced Electricity bills: Solar panel installation allows you to potentially make financial savings, the economic return for initial solar panel installation is dependable on energy pricing and the scale of the panels. Domestic panels also reduce reliance on the energy grid.
- Energy Independence: As above, reduces reliance on external energy suppliers by generating your energy via solar panels
- Guernsey's Weather Patterns: Guernsey receives 25% more sunlight than the mainland, and was ranked 3rd last year in the sunniest British Isles, after Jersey and Dorset, with a total of 2,117 hours of sunlight in 2022[9]
- Stability and Resilience of the energy source
- Local expertise accessible and available on island
- Long life span and low maintenance, Solar panels typically have a 25 year warranty, although longer and shorter versions exist. After their lifespan solar panels also currently are more than 75% recyclable.
- Battery Storage: Batteries in solar energy are constantly improving, you can store energy generated in the daylight and use this power at night

[9] Bailiwick Express Team, '*Jersey claims sunniest title...again*', 2023

While solar power offers numerous benefits, there are also some potential disadvantages or challenges associated with its use. Listed below are a few cons of using solar power:

- Intermittency and Dependency on Sunlight: Solar power generation is dependent on sunlight, which means it is intermittent and varies with weather conditions and time of day. Energy production decreases during cloudy or nighttime periods, necessitating energy storage systems or backup power sources to ensure a constant supply. Batteries and PV panels are subject to seasonal effects, as well as the nature of the surroundings, for example if your panels on your home are angled in a particular direction that does not receive much sunlight, you inevitably will not receive as much power compared to other panels.
- Land and Space Requirements: Solar non domestic power plants, require large areas of land for installation. This will pose a challenge to Guernsey as suitable land for large panel arrays is limited, it is estimated we will need 45,000 panels to meet the 10% of energy target, ⅔ of the size of Saumarez Park[10]. The large number of solar panels needed may compete with other land uses such as agriculture or conservation, which will prove a social dilemma on our island. However, there were suggestions of placing panels on derelict greenhouse sites.
- Environmental Impact of Production: While solar panels produce clean energy during their operational life, the manufacturing process has some environmental impacts. The production of solar panels involves the use of chemicals and energy-intensive processes. The improper disposal of panels at the end of their life can also lead to waste management challenges, despite the high recyclability statistics.
- Initial Capital Costs: Solar panel installation on a domestic house roof will cost on average £20,000, however as stated above the payback time is dependable on the economic forecast, which will likely decrease as technology and time evolves.

Tidal Energy:

What is tidal energy, and how does it exactly operate? It is a form of renewable energy that uses the power of ocean tides to generate electricity. It relies on the gravitational forces of the moon and sun which cause the rise and fall of the ocean tides. Guernsey has one of the largest tidal ranges in the world, 33 feet, which transforms the coastline every 6 hours or so[11]

How does it work? There are two common ways of harnessing tidal energy these are:

- Tidal Barrage system, involves constructing a barrage of dams across a tidal estuary or bay. As the tide rises water flows into the reservoir created by a barrage. When the tide recedes the water is released through turbines installed in the barrage generating electricity. Significantly tidal barrages can operate in both directions of the tide called, ‘ebb’ and ‘flow tides’ which maximises energy generation

[10] Andy Brown ‘*More than 45,000 solar panels needed to reach energy targets*’ | Guernsey Press. 2022
[11] Visit Guernsey, ‘*Ten Things You Didn’t Know About Guernsey*’, May 2018

- The Tidal Stream system uses underwater turbines to capture the kinetic energy of moving tidal current. The turbines are placed in areas with strong tidal flows, commonly in straits or channels. As the tidal currents pass through the turbines they spin and generate electricity. Tidal stream systems can be installed individually or in arrays to maximise energy capture.

Listed below are some of the Advantages of Tidal Energy:

- Clean and low carbon: Tidal energy does not produce greenhouse gas emissions or pollutants during its operation
- Technology is moving at pace currently.
- High energy density: Tidal currents are denser than wind meaning it carries more energy. The high energy density makes tidal energy systems efficient and capable of producing vasts quantities of electricity
- Renewable, green, sustainable
- Predictable: There are 2 tides a day, making tidal energy reliable and a consistent source of renewable power. The gravitational forces of the moon and sun cause the tides to be predictable well in advance to allow for accurate energy generation forecasts.
- Guernsey is a suitable location, tidal energy generation is location dependent and requires areas with a strong tidal current or significant tidal range, of which Guernsey has a 33ft tidal range, one of the largest in the world.

Despite the undeniable benefits tidal energy has to offer there are some significant Disadvantages:

- Economic cost: The construction of either the tidal stream system or barrage system is extremely costly, requiring substantial upfront investment. Tidal power is becoming commercially viable, but will for the moment not be affordable for the island. ‘The potential for exploiting Guernsey tidal range was investigated at Cobo, Havelet, Victoria/Beaucette Marina but the outputs and generation were initially too small to justify further investigation’[12]
- Environmental impact: Tidal barrages in particular can affect the natural flow patterns of water, alter sediment distribution and impact marine ecosystems. Similarly to wind farms careful site selection and environmental impact assessments will be necessary to mitigate the listed effects. Tidal stream systems also pose threats to marine life if poorly designed and located.
- Technology for tidal energy is still quite some time off, to put it into perspective as of June last year, only a few large-scale tidal barrage projects have ever been built, these include ‘La Rance’ in Brittany, and ‘Sihwa Lake’ in South Korea.

[12] Guernsey Electricity, ‘Guernsey et la Manche (GEM)’, 2022

In researching I found some of the Tidal Stream Energy Device types proposed on the Guernsey Renewable Energies Teams website these were, horizontal axis tidal turbines, oscillating hydrofoils and venturi effect devices[13]. For further information here is a website containing a list of all the European tidal developers. Notably, the Alderney government released a media statement recently (7th June 2023) regarding the promotion of Alderney's unique tidal energy resources. 'Alderney is opening up a shop window on its tidal energy resources which, if fully developed, could generate up to 3 GW of power using technology. An initial phase, the States of Alderney's Energy working group is inviting a number of global tidal energy providers to submit proposals on how they would harness a limited amount of Alderney's tidal energy resource as a testbed for their technology and/or supply power to Alderney to complement the potential of the solar and wind projects being considered'[14] This demonstrates Alderney, a component of our Bailiwick, already reaching out to tidal energy developers for future projects and testing developments, this is something Guernsey should also be considering doing, in my view.

In the long term, I believe tidal energy generation is something the States of Guernsey should invest in, utilise the benefits of our large tidal range and pave the way for other jurisdictions to follow. Flexibility in Guernsey's energy/electricity strategy is key, and technology is rapidly developing. Notably in the report the Committee for E & I commented on the potential of tidal energy, to quote: 'The use of tidal energy was included in the process and assessed in the pathways and forms a part of one proposed supply pathway, 'Lighthouse', where the States of Guernsey would invest in innovative and up-and-coming technologies that are not yet commercially viable. However, tidal energy was not included in the other pathways at this time as it is not yet commercially viable. This means that the cost of establishing and maintaining the asset(s), would cost more than what could be obtained from selling it or in Guernsey's case, what Guernsey Electricity could justifiably pay for it. However, should this change in the future, the proposed supply solution is flexible and versatile, and would support the implementation of tidal energy generation.'[15]

Hydroelectric Energy:

Hydroelectric energy is the process by which energy generation is created by harnessing the gravitational force of falling or flowing water, it involves capturing the energy from moving water such as rivers, streams, tides and converting it into electricity. A typical hydroelectric power plant consists of water stored in a reservoir behind a dam, when water is released it flows through turbines which are connected to generators, and the spinning turbines from the flow of water produces electricity.

Hydro fuels on the other hand, relate to water but are distinctly different in their generation. Hydrogen fuels are derived from water through the process of electrolysis, which involves passing an electric current through water to separate it into hydrogen and oxygen gases.

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[13] Guernsey Renewable Energy Team, '*Guernsey Renewable Energy - Tidal Stream Technology*',2017
[14] States of Alderney, Press release, 'Alderney promotes its unique tidal energy resources', 2023
[15] Committee for E & I '*Electricity Strategy - States of Guernsey (gov.gg)*', 2023

Hydrogen is considered a versatile and clean energy carrier because it produces only water vapour when it is utilised as a fuel, and consequently no greenhouse gases are emitted. Interestingly Deputy Meerveld is supporting the Option D strategy, but expressed a preference for Option F on hydrofuels, called, 'Lighthouse' Meerveld quoted in the Guernsey Press, 'I think we can be even more aggressive. I have ambitions beyond the strategy. I would like to see Guernsey as a test bed for green technology such as hydrogen fuel and distributed grids. We are uniquely based as a small country in size and population to be a showcase.'[16] . Hydrofuels involve the production and utilisation of hydrogen deriving from water, whilst hydroelectric power refers to the generation of electricity by harnessing the kinetic energy of moving water. Both technologies contribute to the utilisation of water as a sustainable source of energy, but they do have different applications and mechanisms for energy production.

Hydropower has many advantages that make it a desirable and sustainable source of energy, here a some listed below:

- Environmental: Using water to generate electricity does not release harmful pollutants into the air or water. Hydroelectric plants also don't use up any of the water supply. It can also serve as a form of energy storage by adjusting the flow of water to meet fluctuating energy demands.
- Process: Can be made in a very green manner by using wind or solar power (both of these are options the states have proposed) to split water into hydrogen and oxygen
- Alternative to batteries: for storing energy at times of excess wind or solar generation and could be used to directly power vehicles[17].
- Hydropower pairs well with other renewables, during the process and storage solutions.
- Economic: Inexpensive in the long run, despite the capital upfront costs to install
- Efficiency: Can meet peak electricity demands.
- Hydropower can be used for irrigation: However this would only be an advantage during the peak summer months for Guernsey.

However there are potential drawbacks of using hydroelectric energy, the most significant being the environmental considerations:

- Environmental impact: It is a very noisy process of generating power, which would lead to claims in nuisances. Plants can adversely affect surrounding environments, aquatic ecosystems and also cause potential fish migration.
- Economic: Very expensive process to install upfront.
- Guernsey's location: Hydroelectric power requires volume and altitude to generate the energy (falling water), as they have an explosive range of 3-80. Guernsey only has one small reservoir, the facilities would have to rely upon local hydrology which would need to be invested in. Guernsey does not have a suitable landscape to be

[16] Andy Brown, *'I Have ambitions beyond E & Is strategy' - Meerveld,* 2023
[17] GPEG 'Electricity, Brexit and the French Connection', 2022

investing huge sums of money to fund building new reservoirs, when there are other more viable renewable options to be explored, such as solar.

- Safety concerns regarding the generation of power using this method.

Conclusion:

In conclusion, the takeaway message from this paper is the urge for flexibility in strategies, which includes as a priority negotiating a secure deal with France for a supply of energy to ensure security and meeting the increasing demand.

Due to the size of our island, large-scale projects like a wind farm are inadvisable, and are not economically beneficial to Guernsey despite being a clean and green source of power. The size of our island is a disadvantage to us, our 62 km² island is too small to be at the forefront of developing green technologies such as record-breaking small-sized offshore wind farms, it is too financially risky. Whilst technological advancements are constantly evolving, Guernsey should follow, as we cannot for instance predict events in international geopolitics that have a knock-on effect on economics. However, having set the rationality of a large-scale project such as an offshore wind farm straight, despite the projected challenging economic turbulence ahead, the States' should view it as a financial investment and as a broadening opportunity and possibilities in the energy sector for the long-term benefit of the planet and islanders. If Guernsey can pave the way in renewable energy policies it will demonstrate to other similar smaller sized jurisdictions our commitment to decarbonise and contribute to altering the impacts of climate change.

Additionally, instead of setting targets for specific years, we should reduce the pressure of targets and accept decarbonisation as a gradual process, and recognise positive progress the world has achieved since the 1980s oil crisis. I do sincerely believe that the propositions set out in the States recent policy letter reflect a desire for Guernsey to innovate their energy strategies to target net zero goals and decarbonise further. All in all, due to the geography of Guernsey, solar energy is the way forward in the short to long-term future, due to solar's potential rational scalability on an island of our size. And finally, an investment into tidal energy and keeping a close eye on its technological developments should be something the States should implement into their long-term energy strategies.

Closing Note:

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