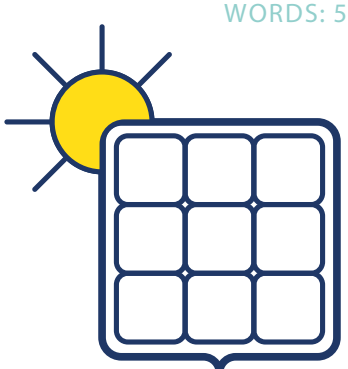
CLIMATE ASSEMBLY SESSION:

Renewable energy

JERSEY ELECTRICITY SUBMISSION PAPER:

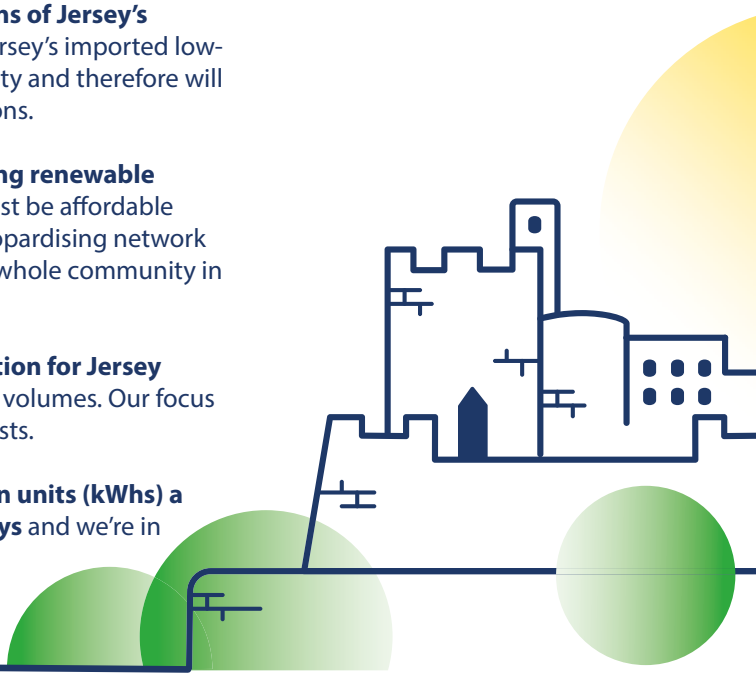
Solar tops tidal for now



- **A third of electricity distributed in Jersey is already renewable hydropower certified as sourced from La Rance Tidal Barrage in Brittany.**
- Jersey Electricity understands the desire for on-Island renewable electricity generation as a means of achieving more energy independence. We are greatly supportive and are investing considerably in solar PV in Jersey, having just installed the largest array in the Channel Islands at partners, Jersey Dairy.
- While renewables may give Jersey more energy independence, there are several disadvantages including, for example:
    1. **Production is intermittent** during the day and varies greatly from season to season requiring battery or other storage which is very costly.
    2. **It's more expensive than imported electricity** and in the case of tidal considerably more expensive.
    3. **Large structures are needed requiring a lot of space.** Serving the Island from solar could take up the area of an entire Parish (10% of Jersey's landmass) and possibly a lot more.
- These factors greatly affect viability and mean that the grid has an important role to play. We have designed Jersey's electricity grid to be compatible with local renewables as it can be – in effect, the grid acts as a very large, relatively low cost battery that can also stabilise power supplies and give us more volume when we need it.

Local renewables will not reduce carbon in Jersey

- **Perhaps surprisingly of all though, greater use of wind, solar and tidal electricity generation will not reduce the carbon emissions of Jersey's electricity supply**. Renewables are most likely to displace Jersey's imported low-carbon electricity with locally generated low-carbon electricity and therefore will have little or no impact on the Island's overall carbon emissions.
- **Local renewables are presently more costly than importing renewable power from France.** The integration of local renewables must be affordable (so we have been working to bring down costs) while not jeopardising network stability and supply reliability. We also want it to benefit the whole community in a fair, equitable way.
- **We see solar PV as the more cost-effective renewable option for Jersey right now** and we are bringing it on to the grid in increasing volumes. Our focus is on reducing the cost of solar PV, particularly installation costs.
- **By February 2021 we were generating just under a million units (kWhs) a year of local solar power from four community-scale arrays** and we're in talks with over 25 other businesses and landowners to unlock further installations.

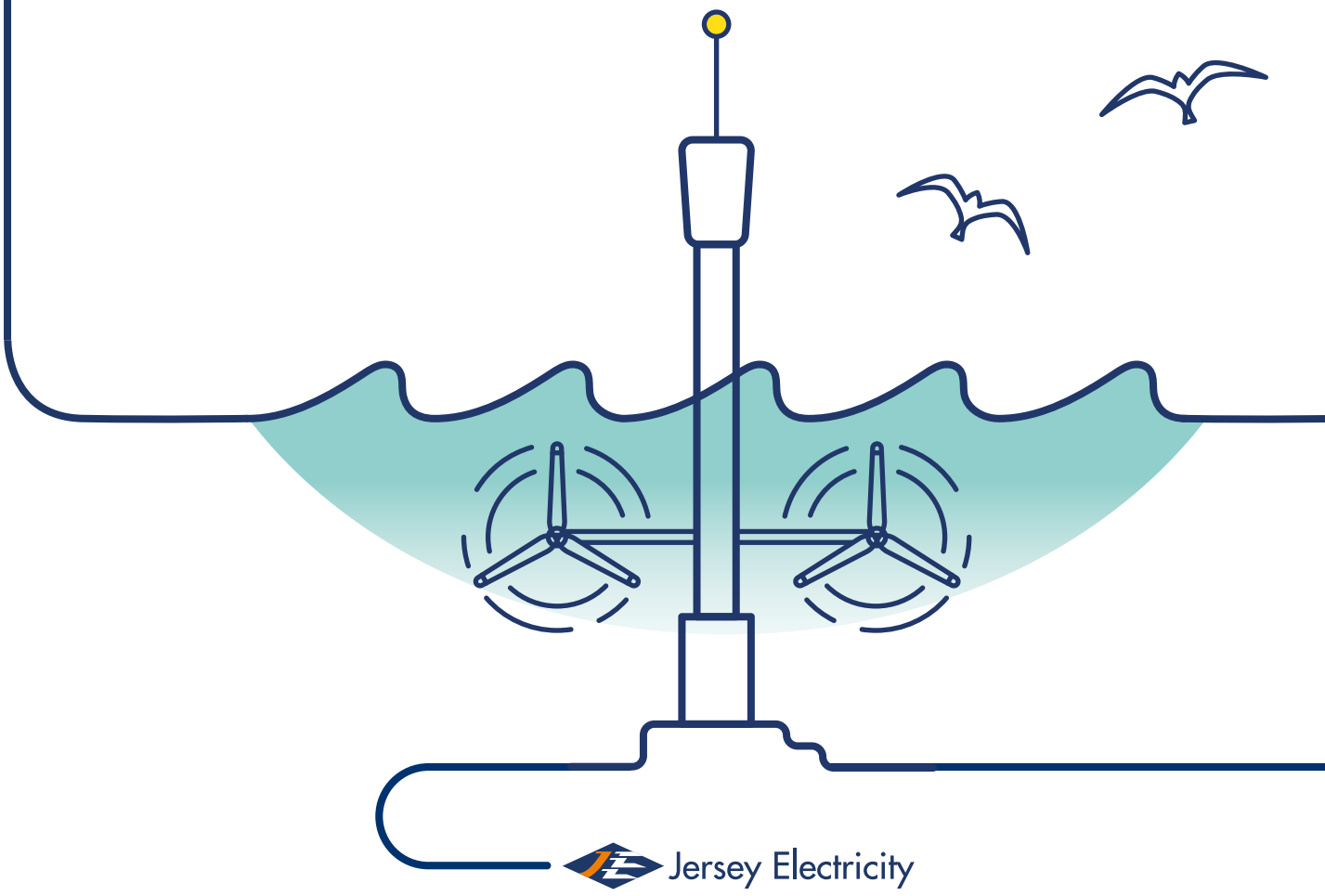


Tidal power would significantly increase prices

- **The impact on electricity prices of building our own tidal power installations in a jurisdiction of Jersey's size is significant.** We estimate the cost of developing and producing power from Jersey waters to be currently around three to five times higher than the price at which we import from France. This cost would have to be recovered in the form of higher prices.

- **We are re-examining offshore wind (as we did back in 2015).** Offshore wind has a more rapidly improving cost structure, albeit it is still more expensive than imported power and intermittent and therefore still needs the grid.
- We believe that tidal power will one day play a part in Jersey's energy mix. We will, therefore, continue to analyse and explore advances in tidal power technologies and work with Government to provide the support, expertise and grid infrastructure to test its future feasibility.

- **Despite the above challenges renewables present, we are committed to developing them as quickly and as affordably as possible.** Their main benefit, however, is to support energy independence and provide more diversity in our supplies.



Jersey Electricity

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