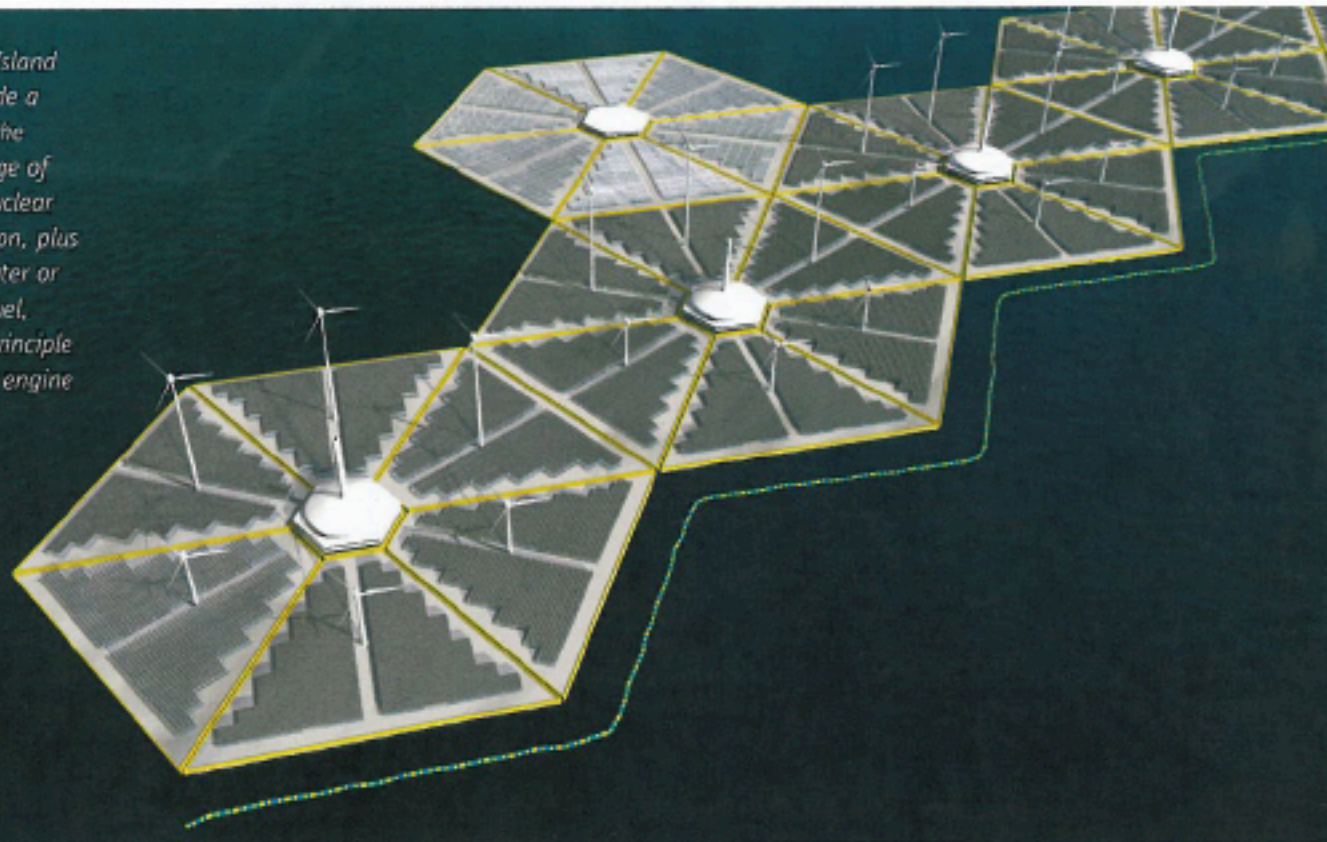
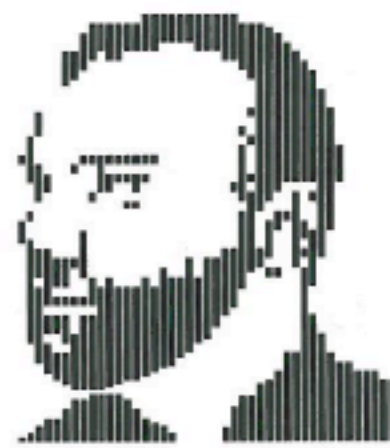


An Energy Island could provide a quarter of the megawattage of a typical nuclear power station, plus drinking water or hydrogen fuel, using the principle of the heat engine



THE SUBJECT BY PETER KELLY



Dominic and Alex Michaelis are floating the idea of energy islands to generate power, writes Sara Sarre

In the battle for an ecological future, engineer Dominic Michaelis and his son Alex, the architect known for giving David Cameron's west London home a green makeover, have taken the principle of OTEC (Ocean Thermal Energy Conversion) and created Energy Island: an archipelago of artificial islands that could produce electricity, clean water and food, bringing OTEC into the 21st century.

Michaelis senior describes the project, developed together with Southampton University, as 'an exciting new architecture: to build Shakespeare's precious jewel set in the silver sea'. Crucially, unlike with other energy generation schemes, the pair has created an aesthetic. The complete Energy Island would be 500m across providing 22ha of surface. The floating platforms, hexagonal so that they can link together to create larger energy plants when needed, are made of reinforced concrete and protected by wave energy converters in the lee of which would be a harbour. The wind generators are designed to tower 100m above each platform. 'So that from a distance, they would appear as masts of a ship and give the platform more visibility; a mysterious structure out at sea,' says Dominic.

The central solar power tower, with its field of tracking mirrors focused on to a central mast, would provide both solar energy and visual focus. The OTEC component would be at the island's centre and generate 250MW, a quarter the power of a standard 1,000MW nuclear station.

'This centrepiece could have different architectural expressions, but, since form follows function, the workings of the Open Cycle OTEC system, one that produces energy and desalinated water, would dictate its characteristic form,' Dominic adds.

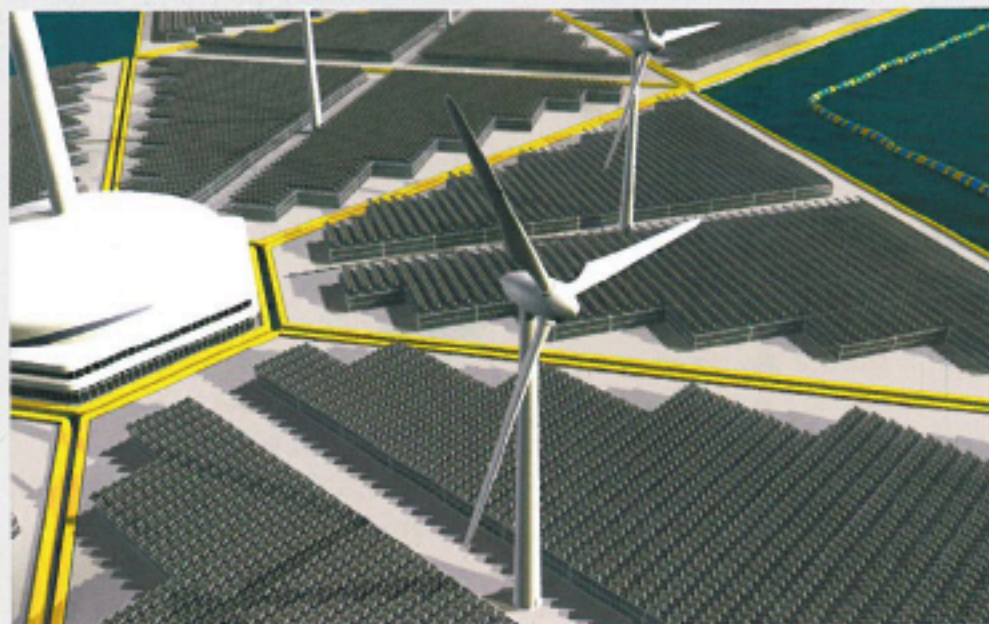
Each island would contain service buildings, factories, greenhouses, housing for staff and visitors and below it, pens for fish farming. 'It would operate in a similar way to an oil rig, with about 25 people living there to control the energy systems and food farms. Teams of workers would spend six weeks on the island and six weeks off,' says Alex. The large quantities of desalinated water produced – 1.2m litres for every megawatt of energy – would be exported by supertanker to countries with a water shortage or could be used to produce hydrogen fuel, using electrolysis. It would take more than 50,000 installations to satisfy total world demand for energy, but Michaelis senior believes that is not impossible.

The project is not without precedent. French inventor Georges Claude, a student of Arsène d'Arsonval, known more for the invention of the neon lamp than for harnessing the power of the ocean, built the first OTEC platform in 1930 off Cuba. The prototype wasn't particularly successful and produced only 22,000W of electricity (enough to provide heating for five well-insulated houses) but it was a start. Over

the years, various governments and investors have blown hot and cold over OTEC. US president Jimmy Carter's renewable energy programme invested over \$200m, but cutbacks were made under Ronald Reagan. Now, climate change concerns coupled with high oil prices have created an opportunity for OTEC once again.

To date, Energy Island has no significant financial backing although the Michaelises are taking on a business manager to help prepare a business plan and raise funds. 'We have a number of potential clients, one from the Philippines. And we only need one contract to get us going,' says Alex. The energy island group is also in the process of entering Virgin's Earth Challenge, judged by Sir Richard Branson, Al Gore and James Lovelock among other eco heavyweights. The prize is \$25m for an innovative solution to global warming.

Nuclear, oil and gas plants lose half of their generated heat into rivers, seas or the atmosphere. At equal size, an Energy Island could make up for the warming damage done by two 'conventional' energy generation plants. That a pinpoint on the ocean, 1/2,000 of its surface, could provide 10,000 Mtoe (Million Tons of Oil Equivalent) a year and provide 6bn inhabitants of planet Earth with sufficient energy, plus 2,500 litres of desalinated water a day, using a process that cools the sea, sounds too good to ignore.



When the Euro was first introduced in 1999, the relentlessly anti-EU Times newspaper commissioned its art critic to analyse the new currency's graphic design. Unsurprisingly, he found it lacked the soul and visual finesse of the good old sterling.

The co-opting of aesthetic opinion for political or self-aggrandising purposes cropped up repeatedly in the campaign period of the London mayoral election. The Telegraph's art critic Richard Dormant wrote an article entitled Why Boris is Good for Culture stating that: 'I can think of a dozen good reasons not to vote for Livingstone, but as an art critic, for me the most urgent is that a third term will give him a license to destroy London's unique village-like communities.' To reinforce his argument, Dormant even brought in Tracey Emin's anti-Ken stance as supporting evidence, despite having previously described her as a 'phoney' and 'the biggest ego in the business'. **Dormant was clearly speaking less as an art critic, and more as someone with a dewy-eyed nostalgia for a disappearing London.**

In The Observer, Stephen Bayley vaguely criticized Livingstone's architectural record, yet it was more a 1,000-word boast that he'd found out how the Design For London organization worked. His analysis concluded with his best moment of narcissism yet: 'There's an entry in The Penguin Dictionary of Twentieth Century Quotations which I know well because it's by me,' he wrote reorientating the pressing concerns of the day to their usual focus.

Amazingly, the one person you'd expect to give a conservative critique of Ken's sympathy for tall buildings – Simon Jenkins in the Sunday Times – didn't. He just seemed delighted at the spectacle of a personality-led election: 'The candidates have exchanged badinage, adjusted each other's clothes in public and threatened to punch each other's noses,' he cheered.

Rowan Moore's contribution in the Evening Standard was far more forensic: 'The physical legacy of Livingstone's first two terms is a series of massive commercial developments, within which there are high-quality, well-maintained and privately controlled open spaces, and outside which there is a sea of public grot.' Even so, **he gave no equivalent dissection of Johnson's position, presumably thanks to the paper's long-standing hatred of 'Red Ken'.**

Johnson's most direct pronouncement on architecture during the campaign was: 'Where are our ornate features that will one day be restored?' Surely a proposition that involved the return of stone gargoyles deserved some attention from our architecture critics?