Build like AN EGYPTIAN

Matthew Hirtes visits ITER's Casas Bioclimáticas in Tenerife to find a test village of houses that borrows techniques from the past to build for the future.

Photographs: Tenerife Tourism

"When we talk about bioclimatic houses, people think we mean ecological housing," explains Instituto Tecnológico y de Energías Renovables' (Technological Institute of Renewable Energies') Sendi Marrero. Pausing to shake her head, she continues with a semi-pained expression on her face."But whilst the two aren't exactly opposites, they're definitely not one and the same."

We are at ITER's Casas Bioclimáticas in south-east Tenerife. The affable Sendi resumes her lecture to me, her only student for the day. "Bioclimatic houses are all about adapting to the climate in which they're constructed."

The concept, although trumpeted by the local Tenerife government as a way of creating sustainable architecture for the 21st century and beyond, is not an entirely new one. Ms Marrero tells me that it was the ancient Egyptians who first took advantage of their environment to build houses in tune with it. In all the properties in this village, there's usually also a water feature – a nod to the Arabic tradition of using water to beat the heat, its cooling properties limited not only to touch but sound as well. Sendi also points out that traditional Canarian houses, particularly with the use of interior patios, were sensitive to the native meteorological character.

Yet each house in this contrived village where tourists have been invited to test drive the properties since the project opened its doors to the public back in March 2010, at a price mind, is different. And most are more space age than Neanderthal in design. To the extent that when I later settle into my home for the night, Vivienda El Dispositivo, I half-expect Tinky Winky to pop round to greet their new neighbour.

Vivienda Arcilla has a seashell roof that helps insulate against the heat.

OPPOSITE PAGE: **Each house has a very different design taking into account the climatic conditions of the place, using recycled and recyclable materials, and optimising the environmental conditions (renewable energy integration, water and waste processing etc).**

THIS PAGE: **The coast at El Medano is within walking distance of the village.**

In 1995, the Tenerife government, mindful of its need to utilise renewable energy sources given its isolated island location, organised a contest for architects from around the world. Their brief was to design energy-efficient houses which could serve as templates to be replicated elsewhere, and 397 entries submitted by architects from 38 different countries were whittled down to 25 winners. Except the village comprises 24 houses.

The ever-informative Marrero explains that the Polish finalist pulled out at the last minute, piqued that he hadn't been awarded first prize. That accolade went to the Madrid team of César Ruiz-Larrea Cangas and co whose Vivienda La Geria is a homage to the famous wine region of Lanzarote. Here *los zocos*, semi-circular walls built from volcanic rock, buffer the vines from the strong wind.

It's equally gusty in this part of Tenerife which borders the resort of El Médano, understandably popular with windsurfers. So the goal of this particular team of architects was to combat the wind which whistles day and night. The result? Well, according to the bilingual book about the dwellings presented to me on arrival, that would be "a micro-climatic space protected from wind [which] is guaranteed by the use of an enclosure walled with volcanic rocks. A sequence of rocky circles with a 20-metre diameter placed along the landscape and pedestrian path gives architectural meaning to the whole landscape."

It's lunchtime so Sendi makes her excuses and leaves. Raiding the fullish fridge, one of the few utilities plugged in, I chance upon a carton of free-range eggs. Given the glare of the fierce late summer sun, I could probably fry them by merely cracking them open, but I scramble them on the hob just as two boffins stick their heads through my front door in a brief scientific tour of duty of what is a living, breathing laboratory.

I have a few hours to myself now, and head down to the bay at El Medano, which translates as 'the sand dune' in search of somewhere to take a siesta. I soon find that night has fallen, and return to my home for the night. It's exhausting doing nothing, especially in this heat.

El Muro has three bedrooms and a living space that opens out onto the terrace, which is covered in photovoltaic solar panels, to take advantage of the views.

I awake to tuck into a more healthy than hearty breakfast before my scheduled guided tour of the village with Sendi. Before we set out, she playfully chastises me for leaving the tap running, even though it must be ever so slightly because I couldn't detect even the merest of drips.

I note however the look of approval on Sendi's face when she glances at the recycling bins I've managed to fill, and all in the correct containers too. It feels like I'm back at school again. Perhaps she will draw a happy face on my notepad.

Prior to the tour, I'd been of the opinion that nothing could beat a stay in El Dispositivo, whose external water feature I'd already been enjoying that morning. Along with the bright orange sunlounger which I couldn't decline reclining on. Until I visit the other dwellings, that is. I particularly like the seashell roof of my neighbour, Vivienda Arcilla. As easy as it is on the eye, it's more functional than merely aesthetically pleasing. Sendi tells me to imagine being on a beach. I cast my mind back all of 12 hours. "Now, if your feet touch the sand they're going to burn, but if they touch shells they're not. The shells help insulate the warmth."

As we visit the other houses, Marrero explains the four key elements which are the cornerstone of a bioclimatic house. Number one is orientation. Here, due to compass-related positioning, bedrooms are kept sun-free by the houses´ north-south divide which sees the living quarters positioned to take fuller advantage of the rays from above.

Number two is the *muros*, the walls. As in the conventional property, they protect from both heat and cold. Not that I'm seeing much evidence of the latter in this sun trap of an island.

Cubierta, cover, is number three with the houses here designed to keep the sun and wind out, up to a point. The fourth is ventilation. Air needs to circulate throughout the properties to keep them cool.

As we visit the remainder of the houses, Sendi asks me to guess the nationality of the architect. It's often easy to spot where an architect's place of birth imprints on their design. The American winning entry is a dead giveaway, for example. As you enter Vivienda El Cangrejo, the wood used gives off a heady whiff of hickory. Where possible, building materials were sourced from Tenerife, but despite its international fame as a holiday destination, Tenerife is a small island that's not big on forest so timber was imported from Scandinavia and North and South America.

Returning to our talk and walk, Sendi and I find ourselves outside the Centro de Visitantes. The Visitors' Centre houses a cafeteria, exhibition space, shop and conference facilities for up to 200 delegates. More kid-friendly is the Paseo Tecnológico, Technological Walkway, which attracts around 8,000 visitors a year – the majority made up of local schoolchildren. All the displays here are in both English and Spanish, and there are ducks and fish to gawp at in the mini canal.

If Don Quixote a) wasn't a fictional character and b) discovered a time machine to travel to 2013, he might well tilt at the windmills looming above him. There's something, as there is in the neighbouring natural monument of Montaña Pelada (Bald Mountain), about them, namely their height, which makes them dwarf their immediate surroundings. But these are friendly giants who ensure the development remains self-sufficient in power supply with zero CO_2 emissions.

Returning to El Dispositivo to bid *adios* and pick up my overnight bag, Sendi then drives me to the bus stop of the nearest town, San Isidro, in order for me to make my connection to the capital, Santa Cruz de Tenerife. Perhaps it's not goodbye after all but rather *hasta luego*, see you later, as Sendi turns saleswoman to convincingly suggest I return to the *casas* with my family. Well, why not? They're certainly homes sweet homes.

More info

ITER's Casas Bioclimáticas offer a range of two-, four-, five- and six-bedroom houses from €136 up to €210 a night. For further information, you will find them at Polígono Industrial de Granadilla, s/n, 38600, Granadilla de Abono, Tenerife.
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