

‘We definitely made the right move’: Life in a prefabricated home that can be built in days

Scandinavian Homes was one of first low energy building companies in State and continues to set the standard

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Published in THE IRISH TIMES Nov. 13, 2022 05:00 AM



When it became apparent that the 19th century cottage of Anne Ryan and Frank Savino, up the road from the main entrance to Castletown House, in Celbridge, Co Kildare, needed a new roof, they put the main theme of Ryan's first book into practice.

The book, *Balancing Your Life* (2002), as well as a later work, *Enough is Plenty* (2009), underpin the couple's approach to life. So, rather than get into debt to fund the project, they looked for an alternative option.

"We would have needed to borrow to do this work and have always been keen to minimise debt. We had a very long garden behind the house and a friend suggested building on it. We did some research and liked the low-energy [Scandinavian Homes](#) product and concluded that it was the best low-energy, timber-frame house available in Ireland at that time. So, we visited Lars Pettersson's show house in Moycullen, Co Galway, as well as a couple of Scan Homes owned by other people and we liked them," recalls Ryan.

As it happens, they were fortunate that the size of the original site allowed them to still retain "a reasonably sized garden by suburban standards" and they didn't have to go in search of a new site.

The house is filled with light. Photograph: Alan Betson/The Irish Times

Living room area. Photograph: Alan Betson/The Irish Times

Dining area. Photograph: Alan Betson/The Irish Times

Having sold their house to the son of a neighbour for a fair price, Ryan and Savino were able to cover all the costs of their new build.

Ultimately, the couple settled on Scandinavian Homes' Nordica 83 design, which has a footprint of 83 sq m.

"Inside you could have any layout of rooms that you liked. We chose a large open-plan kitchen-living room, a bathroom, study-spare room and utility room, which is a standard feature of all the houses downstairs. We also opted for an attic conversion, with two rooms and a bathroom," explains Savino.

He adds that they also “chose to have a plaster exterior rather than the timber finish”.

The most striking aspect of their new house was “how little energy or fuel from electricity or a wood-fired stove it took to heat the rooms and how long the rooms stayed warm, because of the heavy insulation”.

Regular upkeep jobs entail cleaning the ventilation filters and outlets, as well as oiling naked timbers on eaves and window frames regularly

It means that the couple says they are “probably, less concerned than others” about the huge hike in energy prices this winter.

They were also impressed by how dry the house was in comparison to conventional homes.

“Since installing PV cells and a battery, we make more use of the electric underfloor heating. For backup we have a stove, although we use that less and less. It is a super-efficient Danish stove, which minimises particulate emissions, but even so, we realise that burning wood is not desirable,” Ryan explains.

“The passive solar heating is considerable on sunny days in spring, autumn and winter, as we have a bank of windows facing southwest. We shade these windows in hot weather of course.”

The multifunctional spare room in the home. Photograph: Alan Betson/The Irish Times

Study area in the spare room. Photograph: Alan Betson/The Irish Times

With the house almost two decades old now, Ryan and Savino are “very pleased” at how the house has stood the test of time.

“Our house is snug, draft-free and easy to heat, we definitely made the right move when we bought it,” says Frank.

Frank explains that the regular upkeep jobs entail cleaning the ventilation filters and outlets, as well as oiling naked timbers on eaves and window frames regularly.

However, they are aware also that as the house ages, they will need support from Scandinavian Homes for the more substantial maintenance tasks, such as door and draft-proofing replacements; the intensive cleaning of the ventilation system and for other spare parts.

The Scan Home story

Thirty-one years after his parents Lars and Linda established the company, Nils Pettersson, a mechanical engineer, works with his father running the day-to-day business whilst his parents also take some time out to embrace a new venture growing organic hazelnuts.

It is Linda's mother, Maura, who could be credited with the inspiration for the business. She was a regular visitor to the couple's cosy wooden house in Lars' hometown of Lysekil, on the west coast of Sweden, and prevailed on him with her mother-in-law charms to build her one back in Moycullen.

Thus, well ahead of the trend towards building energy-efficient houses in Ireland, the pioneering company was born.

Pettersson grew up with his brother and sister in one of the first houses built soon after his parents moved back to Moycullen.

"I always had the plan to join the business in the back of my head. In NUIG I studied mechanical engineering as I found this area most interesting but did my thesis on the structural engineering of multistorey timber frame buildings," he says.

A few years previously, we had an energy consultant review the house so that he could make recommendations about anything we might improve. He said he couldn't think of any changes to recommend

With 364 houses built since 1999, and as the whole concept of modular homes becomes more mainstream, Pettersson reflects on how planning regulations have become so strict.

“Planning was actually not a big issue in the beginning when our houses were clad with a horizontal timber panel. Then around 2000 planning totally went against timber-cladding on the outside and we switched to the white rendered cement board to make them blend in more. Today there would be a 100 per cent refusal rate for a house with timber on the outside as “it does not fit in”,” he says.

From Scandinavian Homes’ experience, Pettersson says: “Planning only looks at the site, the appearance of the house and if the specific person should be allowed to build in this location. There are no brownie points for building an efficient or sustainable house.”

Pettersson explains that from the outset they built their houses like standard Swedish houses: they were not passive, but were still miles more insulated and efficient than a standard house.

“In the early 2000s Lars looked into making the houses super-efficient and in 2005 we built our first passive house which is still our show house and office in Galway. The passive specification become more and more popular until today effectively every house we build is passive,” he explains.

A passive house is designed to need minimum energy to remain at a comfortable temperature of 20 degrees with space heating only required for two of the months of the year.

The concept was developed through a collaboration between Bo Adamson, of Lund University and Wolfgang Feist from the German Institute for Housing and the Environment in 1988.

Something that might surprise however, given the energy efficiency of the homes, is that they do not perform well in the Ber ratings.

In Kildare, Ryan and Sovino were perplexed by the fact that when they needed to get a Ber rating in 2020 – to qualify for a grant for PV cells (solar or photovoltaic cells) – it was rated pretty low.

“Yet, a few years previously, we had an energy consultant review the house so that he could make recommendations about anything we might improve. He said he couldn’t think of any changes to recommend,” says Sovino.

Pettersson acknowledges the frustrations.

“You could design the most energy-efficient house on the planet and it could still fail the Ber and be illegal to build: it is a crude box-ticking exercise which is particularly bad for extremely efficient houses.”

He notes that Swedish houses have been far more efficient for decades and the general standard is much higher.

“It is also far easier to use new or ‘breakthrough’ technologies as they have experience and engineering culture closer to heart, in Ireland things are quite slow to change.”

From the beginning, the Petterssons found it easier to source their materials in Sweden and have a factory in Lysekil where they employ four people, with 17 more working full-time or as subcontractors here.

“After the houses are built in our factory, they are loaded on to articulated trucks and sent to Ireland. We have four standard house widths with different names, Atlantica, Baltica, Nordica and Hibernia. The houses can be changed in length and features can be added or removed such as a porch, the internal layout can be totally changed as well as window sizes and locations. We have never built two exactly similar houses as each customer creates their own variant,”

He explains how the streamlined process works: “First the customer draws their house with our architect and then we build a passive raft foundation on the site. We return with a crane and erect the house in four days bringing it to a fully sealed envelope with windows, doors and cladding installed. We come back and render the outside of the house. The house is then completed with local contractors using our kit, drawings and instructions.”

Home for life

Also in the west are Colm and Emma Kavanagh, who moved into their Hibernia 189 home, in the village of Annaghdown, near the shores of Lough Corrib, for Christmas 2019. In their early thirties, Colm works from home as a software developer and Emma, a native of Co Mayo, is a hybrid worker in ATU Galway. The couple had rented in Galway city for some time before their decision to build.

Colm explains: “I am from Annaghdown and our site is near my family home. We had some first-hand experience too as we had seen my brothers’ builds by Scan Homes, and we also happen to know their building crew who are from the local area.”

The next step for them was to attend a show house presentation, which further affirmed their interest in building a modular timber-framed passive house.

“The Hibernia 189 is one of Scan Homes’ single storey house designs. We did do a little tweak with the design of the layout inside and to the timber-clad area at the front. We had initially looked at their Nordica designs, but after sending our ideas over to Scan Home’s architect, Peter Lohr, we soon had our dream home on paper,” Colm says.

“Since a lot of thought and effort is put into the air tightness and insulation of the house, they require very little energy to heat. With the addition of PV panels on the roof, heat recovery in the air handling unit and under floor heating it means we have a very comfortable house without a high cost in electricity bills.”

It is no surprise that this young couple, who got married in April 2021, say they are delighted to have had the opportunity to move to the countryside and their “forever home”.

How much does a Scan Home cost?

Balticas 78 sq m passive house

Foundation + shell + plus “kit” for local contractor to finish the house (includes windows, doors, bathrooms etc) – €105,130

Finished house – €188,107

Balticas 125 sq m super passive house

Foundation + shell + kit – €159,556

Finished house – €274,325

Hibernia 105 sq m super passive house

Foundation + shell + kit – €133,220

Finished house – €232,960

Hibernia 202 sq m super passive house

Foundation + shell + kit – €204,685

Finished house – €348,943