

CASE 1-5 Living in a Box . . . The Way of the Future?

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Evolve is a pilot project in Denmark using shipping containers as sustainable homes. And, after it's start in 2014, the project has become a rousing success with over 200 homes in use and many more on order across multiple European countries. Sal Hatgan, director of Sustainable Solutions Company (SSCo), notes that thousands of shipping containers are left dormant annually because countries like the United States import more than they export. It's simply too expensive to ship empty containers back to their country of origin.

So, companies such as SSSCo have focused on finding a use for these products. SSSCo is poised to show leadership in the home sector and global sustainable home development movement by quantifying the environmental and social values created by these homes.

Lars Hatgan, CEO, was tasked with determining SSSCo's next steps to ensure that the company maintained a leadership position and expanded market share. Research identified the United States as a key untapped market. Now Hatgan must present and sell a strategy for infiltrating the U.S. market to management.

INDUSTRY BACKGROUND

Statistics show that, in 2013, there were approximately 4 million 25-foot shipping containers "left over." Some people suggested just melting them down and then reusing the steel, but to do that would use a huge amount of energy.

Other past solutions included recycling the containers into swimming pools, restaurants, or even some building units. And given the focus on alternative, reasonable housing, it was inevitable that a company such as SSSCo would attempt to repurpose these units into homes.

Evolve has been a cooperative venture between Sustainable Solutions Company, several engineering and research firms, and the Danish government to develop and test a sustainable housing complex. Consumers in Denmark have been particularly receptive to new and creative forms of housing, given the high cost of homes and limited amount of available property.

SUSTAINABLE SOLUTIONS COMPANY

Sustainable Solutions Company, based in Oregon, was originally created in 2010 as a home improvement company. It moved into energy-efficient home products, such as solar panels, and sustainable home improvement solutions, such as eco-friendly decking and reclaimed wood products.

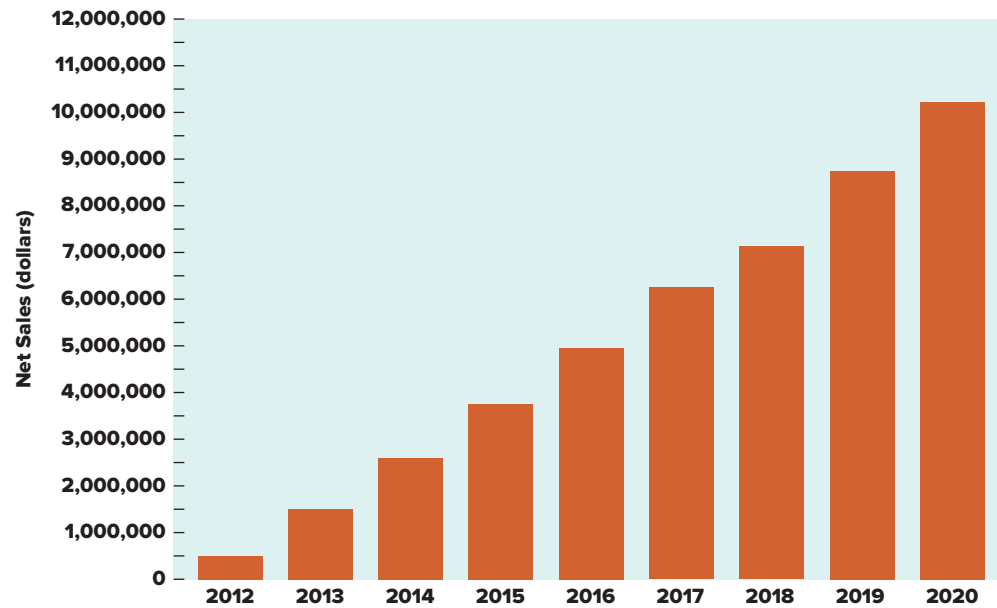
With headquarters in eco-friendly Portland, Oregon, today SSSCo is an international company, providing a range of sustainable products for homes and offices, as well as creative solutions for home building. SSSCo's home building solutions division, which started in 2012, has grown by 75 percent, primarily due to the widespread popularity of shipping container homes. As shown in Exhibit 1, this trend is expected to continue.

The first recognized container shipping home was developed in 2009. Since opening its home building solutions division, SSSCo has become the industry leader in creating new, energy-efficient, sustainable housing. Prices range from a 160-foot one-bedroom home currently offered at \$15,000 to a home made from of six or more containers for about \$250,000. Of course, site development and labor cost extra. And custom homes can be created in any number of sizes and styles, but the prices for those can easily top half a million dollars. Every home reflects SSSCo's commitment to energy efficiency and sustainability, incorporating those elements in fixtures, features, and design.



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Exhibit 1**Net Sales for Home Building Solutions**

SSCo's Sustainability Strategy In order to become the world leader in sustainable home solutions and to address social, economic, and environmental responsibility, SSSCo has identified three main goals to help achieve its vision:

1. Creating value for customers.
2. Developing new products for the housing market.
3. Providing long-lasting and creative solutions to individual needs.

SSCo will focus on the challenges of demographic growth, urbanization, and climate change as well as resource scarcity to achieve a competitive advantage.

SSCo and Denmark Denmark has long been a champion of environmental accounting; it often uses statistics to promote the increased relationship between the environment and economy and its impact on policy. This made Denmark the perfect candidate for an initial shipping container housing development.

The average price of housing in Denmark is about \$220 per square foot, while shipping container homes are about half that cost (at \$100 per square foot). And the Danish government has supported this endeavor by absorbing some of the development costs through a variety of subsidies and entitlements.

SSCo and the SER Research Methodology As the world population increases, there is renewed focus on urbanization and wealth accumulation. Together, these dynamics have resulted in a higher consumption of natural resources, which has had significant

implications for the environment as well as the global community. SER (Social and Environmental Responsibility, a worldwide forum dedicated to corporate environmental accountability) has developed a standardized approach to measure the impact of these problems in a variety of geographic settings. Their approach addresses regulations and standards, stakeholder actions, and market dynamics.

Initially, there was little competition in the shipping container home market; however, given the supply of containers and interest in alternative housing forms, the market has become increasingly competitive. So, consumers and now municipalities often have based their decisions on direct financial costs only. Social and environmental costs were rarely accounted for because relevant data were not easily or readily available. However, SER's research methodology now offers baseline data from a variety of sources, including the Evolve project.



Downtown Copenhagen, Denmark: ©Loren W. Linholm

Exhibit 2
Comparison of BLCO of Shipping Container Homes versus Traditional Builds (per square foot costs)

	Container	Traditional
Financial costs	\$100	\$220
Environmental and socioeconomic costs		
Weather resistance	50	150
Heating/cooling	22	58 (Heat pump)
Land disturbance	10	45

Note: These costs were estimates based on average traditional new home builds in the United States. However, comparable percentages apply to all current locales in which SSCo is operating.

SSCo, in conjunction with SER, has used this analysis to develop an approach called Bottom Line Cost of Ownership (BLCO). This estimates the total cost of acquisition and operation of an asset over the entirety of its ownership period. In the case of container homes, the BLCO included costs such land development, architectural fees, container cost, maintenance, taxes, and insurance. In addition, it quantifies socioeconomic and environmental costs and benefits to society, such as reuse of the shipping containers, lower carbon footprint, and other energy efficiencies.

BLCO analysis of shipping container homes showed significantly lower costs, as depicted in Exhibit 2.

OPPORTUNITY FOR CONTAINER HOMES IN THE UNITED STATES

U.S. Growing Interest in Sustainable Homes

There is a growing demand in the United States for sustainable homes, especially as a garage suite, in-law apartment, lake front or woodland getaway, or tiny house. In addition, cities and planned communities are taking steps to fight urban sprawl by allowing more density in established neighborhoods. Finally, new home buyers are intrigued by finding an affordable alternative to apartment living.

The U.S. Home Building Industry In the United States, housing units grew from about 132 million in 2011 to about 137 million in 2017.¹ A custom-built, 1,000-square-foot home costs about \$200,000. A similar size container home would cost half that amount. During a time when more and more people are focused on becoming homeowners, the pull of shipping container homes becomes obvious. Just look at home building shows on television! Where, originally, many shows focused on larger homes, increasingly we are seeing shows focused on Tiny Homes and RV Living.

In addition, we are seeing more financial support and tax incentives provided by the federal and local governments, to support energy-efficient and sustainable homes. This applies to individual consumers and municipalities. Although it is clear that, as a country, the United States is struggling to find momentum in promoting this type of home construction, increased awareness makes the U.S. a prime candidate for SSCo's offerings.

¹Statista, "U.S. Residential Housing—All Statistics & Facts" (2018), <https://www.statista.com/topics/1618/residential-housing-in-the-us>.

SSCo's COMPETITION IN THE UNITED STATES

Several other companies, including HomeToGo and Custom Homes, have entered the market with an initial focus on the United States. HomeToGo focuses on small units of one or two bedrooms and offers only simple builds containing the basics. Custom Home offers larger units (often 6 to 8 containers) with high-end custom finishes and exterior add-ons, such as pools. SSCo carries a full line of offerings, which—at this point—gives them a competitive edge.

In addition, SSCo has started to focus on disaster relief, a reasonably new market for container homes. This alternative can help those who have lost their homes in hurricanes, forest fires, floods, and so on—offering a fast and reasonable alternative to completely rebuilding their original home.

FURTHERING BLCO

Considering all of the factors influencing home building in the United States, Hatgan believes that the future of container homes is strong. And as the U.S. focuses more on making rapidly expanding cities more sustainable, efficient, and livable, container building will grow in popularity.

Hatgan, though, now needs to convince SSCo executives that the BLCO method, already successful in the Denmark pilot, could benefit SSCo in the U.S. market as well. He knows the advantages of this methodology, but how can he effectively bring it to a larger, more competitive market? What points should he focus on specifically relating to the United States? How much emphasis will the U.S. place on this research methodology? And will the methodology be successful here as it was in Denmark?

It's time for Hatgan to develop a presentation that will convince SSCo executives that this is the correct path.

QUESTIONS

1. What would you describe as the societal by-products of U.S. home building, especially in urban areas?
2. How can SSCo use the BLCO method to gain competitive advantage in the United States?
3. What are the market and nonmarket advantages and risks faced by SSCo in the U.S. market? Are these risks relevant in other countries as well?
4. What are some advantages and disadvantages of utilizing these types of sustainability methodologies and metrics for measuring success, especially across international markets?