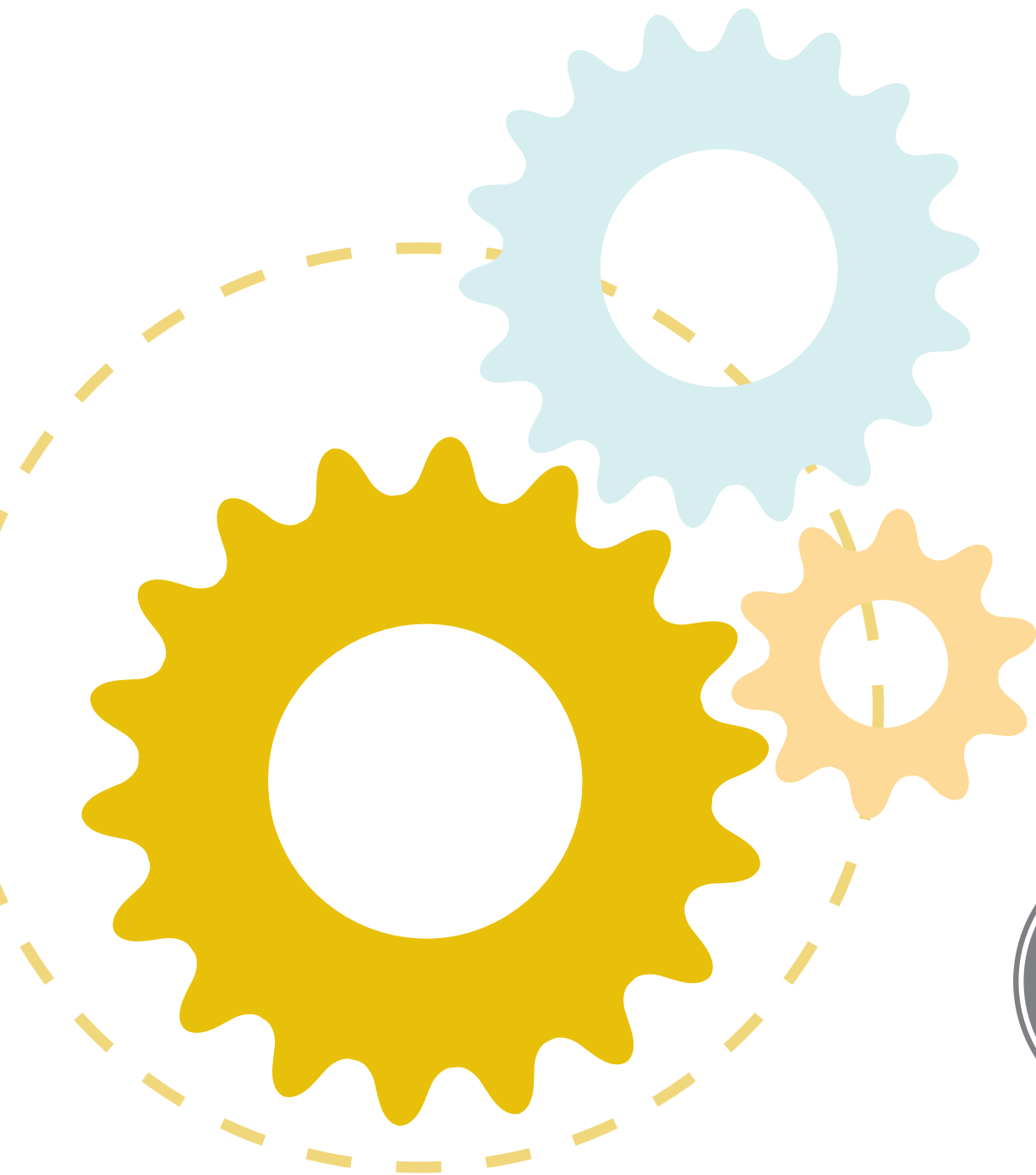


LEED[®] IN MOTION: SWEDEN



LEED® in Motion: Sweden builds on the LEED in Motion report series, launched in 2013. It is the first in a series of LEED in Motion reports focused on countries and regions.

Its purpose is to equip readers with the insight and perspective they need to understand the use of the globally recognized LEED rating system.

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*Data in this report is current
as of April 2014*

INTRODUCTION

Historically, there has been much more energy awareness in Europe than in other parts of the world. Especially in Sweden, a conscientious country with costly energy and where the average summer temperature is 18 degrees Celsius.

As a result, Sweden has long been at the forefront of resource conservation and sustainable building. Indeed, LEED-certified buildings, when built to standards as generally practiced in Sweden, are among the most efficient and sustainable in the world. For example, the LEED Platinum Våla Gård office building, Skanska's serene "farmhouse", is one of the world's most environmentally sound structures, with zero hazardous materials used in its construction.

Likewise, Vasakronan's 22-story historic building, Lilla Bommen, became one of many existing buildings to achieve LEED Gold certification. It is but the latest in a series of structures that the company has developed during the four years it has been using LEED. Most recently, it registered yet another 25 buildings for certification through the highly efficient LEED volume program. This month alone, Vasakronan's LEED volume prototype achieved 71 points, a first in Europe.

This innovative leadership extends beyond giants such as Vasakronan and Skanska. In part, because the Sweden Green Building Council (Sweden GBC), along with Sweden's many practicing LEED professionals, have worked diligently and tirelessly to make LEED more relevant in Sweden. From the development of LEED credits customized to meet Swedish building needs, to EQUA's innovative LEED-centric energy simulation software, important steps are being taken every day to make LEED ever more vital.

Of course, as the world's leading rating system for sustainable building, LEED builds on a strong foundation. As Ulrika Hammargren, sustainability coordinator at IKANO Retail Centres who has worked on ten LEED projects in Sweden says: "[LEED] makes you get a more thorough environmental quality in the building. You don't miss any big issues according to the rating system because the rating system is rather complete and thorough."

The 2013 launch of the newest version of LEED—with its emphasis on transparency in materials and higher levels of overall performance—has reaffirmed what many in Sweden have known for many years: it's important to know what we are putting in our buildings.

For Sweden, this sentiment calcified during an environmental disaster in the 1990s. The construction of the Hallandsås Tunnel resulted in a chemical leak that affected nearby water supplies, fish, and livestock. The public outcry was powerful and universal, and it rapidly led to higher standards and more stringent oversight of Sweden's built environment. The lesson learned, according to Larissa Kaplan, head of the environmental certification group at Skanska Sweden—was put succinctly by Skanska's president: "What are we doing and how are we making sure we are not affecting the environment in a negative way?"

The LEED rating system asks these questions, and more. It challenges project teams on a local level to go above and beyond making the system even more regionally and globally relevant. It encourages high performance and healthy outcomes for all buildings. We thank Sweden for embracing LEED and creating a built environment that is healthier for all people and the planet.

— The U.S. Green Building Council

LEED, or Leadership in Energy and Environmental Design, is a global green building certification system that provides third-party verification of the features, design, construction, maintenance, operation and effectiveness of green buildings.

Developed and maintained by the U.S. Green Building Council, LEED is a simple and effective program for navigating complex, often competing building and environmental issues affecting humans worldwide. It is a tool that can be used to improve the environment, create better performing buildings and enhance public health. With specific achievement paths built in, LEED is designed for use in a variety of climates and localities, often synching with local laws and requirements.

Every day, more than 140,000 square meters of space in more than 140 countries and territories certifies with LEED. Over 63,000 projects are currently participating in the commercial and institutional LEED rating systems comprising nearly 11 billion square meters of construction space worldwide. Building projects earn points to achieve one of four different levels of LEED certification: Certified, Silver, Gold or Platinum.

With the support of LEED development committees, volunteers, practitioners, the LEED International Roundtable and more than 30 green building councils around the world—including the Sweden GBC—LEED is continually evolving and being optimized for various building types in all global markets.

FOREWORD

from Pierre Olofsson, CEO at Skanska Sweden

As there are only winners and no losers when going green, it is simply the right thing to do.

While energy efficiency is still a key reason for going green, an increasing number of clients also show interest in other positive effects of green building. For example, green buildings with more daylight and better air-quality enhance the well-being of the users and offer them the best possible conditions to out perform. Setting clear targets and offering a reward in the form of third-party certification plays a crucial role in addressing these interests in the built environment. Since its appearance in the U.S., the LEED rating system has provided a framework for realizing these targets in Skanska's projects.

In 2008 we entered the next stage, with the aim of increasing the pace and spreading green construction worldwide. That year, Skanska AB decided to adopt the LEED rating system as its global certification system of preference. This decision was followed by ambitious LEED targets set by our Commercial Development units reinforcing Skanska's ambition to become the leading green project developer and contractor. Now, only six years later, our LEED project portfolio currently contains more than 240 registered and certified projects of which roughly 25% are located Sweden, the country where Skanska was founded.

LEED Gold and Platinum buildings currently delivered by Skanska are positioned well into the green zone of our Color Palette, Skanska's strategic framework and primary communication tool, but do not yet have a near zero environmental impact as defined by our Deep Green ambitions. The Color Palette™ has been developed to measure the company's performance on its journey to Deep Green™.

While Skanska's ultimate ambition is to deliver Deep Green projects to our customers and help deliver a Deep Green society, we realize that this involves a journey of which the success largely depends on the adoption of the principles of green building by the industry as a whole. The LEED rating system that evolves through a process of industry consensus has proven to be an extremely powerful tool in educating the building industry from developers down to material suppliers and creating the demand and supply chain capacity to deliver better performing buildings. Therefore, Skanska sees LEED as a complementary but essential tool to succeed on its Journey to Deep Green™.

In contrast to what most people in the industry think, building Green doesn't necessarily need to cost more. The key to success is to make green an integrated and natural part of the process from the first day of planning and through the entire life of a building. What we—owners, authorities, developers, builders, tenants and even users—decide to do today will have a lasting impact. The use of certification systems, such as LEED, and their continual drive for stringency on a global level greatly help reduce that impact.

Pierre Olofsson
CEO, Skanska Sweden



FOREWORD

from Fredrik Wirdenius, CEO at Vasakronan

We recently had our LEED Volume prototype approved for 71 points, which is a great start to this process for us.

Our corporate mandate at Vasakronan is to generate a profitable, risk-balanced and long-term return from property investments in Sweden. Alongside this mandate, our business operations must be conducted both ethically and with consideration for the environment.

The way I see it, we should be financially viable, but not if it has a negative impact on the environment, people or society. And, we should put as much energy as possible into what we can affect positively and with the greatest impact. It's a challenge, since our current market systems don't put a price tag on external effects like climate change. But I'm convinced that the only right way to run a long-term profitable business is by taking responsibility for the impact one causes.

Our sustainability work consists of financial and environmental efforts, along with social responsibility.

All of these actions are based on the ten principles outlined in the UN Global Compact, along with Vasakronan's Code of Conduct and its internal policies and guidelines. The work is goal-oriented and long-term.

On the environmental side, we've achieved success by setting clear goals that are easy to communicate. When we declared that we would reduce Vasakronan's energy use to a level 50 percent below the industry average, everybody said it was impossible. But a goal like that forces you to think differently. From a financial perspective, it has a lot to do with making business deals that you feel good about. It is far more rewarding to earn a hundred crowns using a renewable energy source than it does with oil.

Another of our long term sustainability goals is to have a 100 percent environmentally-certified property portfolio. We started to work with environmental certifications in 2008, but mostly on the new construction and major renovation side. During the last few years, we have seen an increased demand for certified properties both in the tenant market and in the sales market, which led to our decision to certify every one of our properties. But with a portfolio of nearly 200 existing buildings, it is quite a challenge. We simply had to find a better way to certify a lot of buildings in a short time, and that's where the LEED volume certification process comes in. We recently had our LEED volume prototype approved for 71 points, which is a great start to this process for us. We also wanted to find a certification system that was measuring the full impact that buildings have during the operations and maintenance phase, and not only the energy consumption for example, and that is another reason why LEED is a good fit for us.

As a result of our high environmental ambitions in the new construction field, and by certifying at a minimum level of LEED Gold, we have been able to start issuing Green Bonds, which direct proceeds towards environmental sustainability or climate change solutions. In November 2013 we were proud to be the first company in the world to issue a Green Bond.

Today our operations at Vasakronan's properties are climate neutral and require almost no fossil fuels. Despite these achievements, we still want to reduce our energy consumption even further, which is why we invest around SEK 50 million each year to reduce energy use in our existing building portfolio. Successful sustainability efforts require management to prioritize environmental issues. They can never be brushed aside. I'm incredibly proud of the fact that we've managed to integrate sustainability into our business model so successfully. A few years ago, our employees were somewhat skeptical about sustainability. But, we've moved past that and today, the pride they feel about the work we do is tangible.



Fredrik Wirdenius

CEO at Vasakronan

WHY LEED?

Today, Sweden's architects, construction firms, energy companies, city planners, enterprises and politicians are working together to create the sustainable cities of tomorrow. In fact, people in 140 countries and territories around the world use LEED because of its:

1. Global recognition
2. Emphasis on site location
3. Focus on reduced water use
4. Focus on reduced energy consumption
5. Health and worker productivity aspects

LEED in Sweden

Sweden is home to **57 LEED-certified projects**, totaling **1.1 million gross square meters of space**. From hospitality to retail, single projects and those using LEED volume certification, the projects in Sweden represent the diversity and breadth inherent in LEED.

Registered LEED projects in Sweden consistently go on to achieve the highest tiers of certification, with 23 percent of all certified projects earning Platinum certification and 67 percent achieving Gold. Six projects were certified in the first part of 2014, and if this trend continues, Sweden will see a 33% increase over 2013's number of certified projects. With an additional 67 projects in the queue, there is strong evidence of Sweden's continued affinity for LEED.

In Sweden...

LEED Certification Levels



5%



5%



67%



23%

- Average percent savings from baseline energy code for LEED for Building Design and Construction projects: **42%**
- Average performance period ENERGY STAR rating for LEED for Existing Buildings: Operations and Maintenance projects: **89**
- Average Walk Score: **68/100**

HOW LEED WORKS IN SWEDEN

When built to the standards generally practiced in Sweden, LEED-certified buildings are among the most efficient and sustainable in the world. LEED credits and strategies are meant to push the limits of convention for maximum outcomes. Outcomes are measured in five key areas:



ENERGY AND ATMOSPHERE



WATER



WASTE



TRANSPORTATION



HUMAN EXPERIENCE

Popular LEED Credits in Sweden

BD+C

Optimize Energy Performance

To achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.

Alternative Transportation—Public Transportation Access

To reduce pollution and land development impacts from automobile use.

Measurement and Verification—Base Building

To provide for the ongoing accountability of building energy consumption over time.

Low-Emitting Materials—Paints and Coatings

To reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

O+M

Optimize Energy Efficiency Performance

To achieve increasing levels of operating energy performance relative to typical buildings of similar type to reduce environmental and economic impacts associated with excessive energy use.

Existing Building Commissioning— Investigation and Analysis

Through a systematic process, to develop an understanding of the operation of the building's major energy-using systems, options for optimizing energy performance and a plan to achieve energy savings.

Indoor Air Quality Best Management Practices—Reduce Particulates in Air Distribution

To reduce exposure of building occupants and maintenance personnel to potentially hazardous particulate contaminants, which adversely affect air quality, human health, building systems and the environment.

USGBC has recently developed the LEED® Dynamic Plaque™ to provide real-time, on-going building performance information. By visually illustrating many of the intangible aspects of building performance, the plaque enables building occupants to take the necessary steps for ensuring the building operates as it was intended. Learn more at [LEEDON.io](https://www.usgbc.org/leedonio)



New LEED Credits Help Sweden Meet Its Goals

LEED and Materials

“[From a materials standpoint], the latest version of LEED gives us credit for what we are already doing in Sweden,”

- **Ulrika Hammargren**

Sustainability Coordinator at IKANO Retail Centres
Hammargren has worked on ten LEED projects in Sweden.

The Materials & Resources section of the latest version of LEED employs lifecycle thinking at both the whole-building and product levels. Credits reward projects for reusing as much material as possible, as well as optimizing design to use less material overall. Now, LEED paints a more complete picture of the materials and products being used, increases stringency and enables project teams to make more informed decisions. Buildings that come as a result of this enhanced decision-making will have a greater overall benefit for the environment, human health, and the surrounding community.

LEED Volume Certification

LEED volume certification meets the special needs of companies ready to apply LEED on a larger scale. Certifying in volume advances a number of buildings through the process by focusing on their similarities—no matter where they are in the world.

Sweden is the first European country to have a volume O+M prototype approved. The Swedish real estate magnate Vasakronan uses this program. *See page 19 for the Vasakronan interview.*

LEED International Roundtable

The LEED International Roundtable is a team of practitioners and green building industry experts from across the globe. These members add deep insights about regional and local technical requirements, market dynamics and social aspects, helping LEED grow as a global rating system. As a result, LEED is able to maintain its rigor as a world-wide tool that provides support for regional and local needs.

The collective objectives of the International Roundtable are to study LEED credits across all rating systems, evaluate their applicability in countries and recommend locally appropriate alternatives, while maintaining LEED’s global consistency and technical stringency.

Sweden Green Building Council

“We see great potential in collaborating with our European colleagues as part of a regional “hub”, as we share many of the same issues such as implementation of European directives on waste handling, environmental product declarations and energy efficiency. It also enables us to manage our resources collectively, and to define common solutions. This is of particular importance to new partners on the LEED International Roundtable, who can greatly benefit from the assistance of more established members.”

-**Sue Clark, LEED AP BD+C**


LEED Manager
Sweden GBC

Sweden GBC is a nonprofit organization that has promoted green building since 2009. As a member of the LEED International Roundtable, Sweden GBC believes it is an important venue to keep abreast of the successes and challenges of other international green building colleagues. As a green building council, Sweden GBC has, historically, had close working relationships with the other Nordic green building councils. The LEED International Roundtable provides Sweden GBC with an improved forum to connect with the larger European network on such initiatives as the European Alternative Compliance Paths for LEED for Existing Buildings, as well as the ongoing work on Building Design and Construction Alternative Compliance Paths for Europe.




Regional Priority Credits

Sweden GBC, in their capacity on the LEED International Roundtable—along with other Nordic green building councils—was instrumental in selecting specific LEED credits for Sweden that further enhance the rating system’s applicability for the country. They include:





LEED 2009 FOR NEW CONSTRUCTION & MAJOR RENOVATIONS

	SSc5.1	Site Development—Protect or Restore Habitat
	WEc3	Water Use Reduction
	EAc1	Optimize Energy Performance
	EAc2	On-Site Renewable Energy
	EQc8.1	Daylight and Views—Daylight
	SSc4.1	Alternative Transportation—Public Transportation Access

LEED 2009 FOR CORE & SHELL

	SSc5.1	Site Development—Protect or Restore Habitat
	WEc3	Water Use Reduction
	EAc1	Optimize Energy Performance
	EAc2	On-Site Renewable Energy
	EQ8.2	Daylight and Views—Views
	SSc4.1	Alternative Transportation—Public Transportation Access

LEED 2009 FOR SCHOOLS

	SSc5.1	Site Development—Protect or Restore Habitat
	WEc3	Water Use Reduction
	EAc1	Optimize Energy Performance
	EAc2	On-Site Renewable Energy



EQc8.2 Daylight and Views—Views



SSc4.1 Alternative Transportation—Public Transportation Access

LEED 2009 FOR HEALTHCARE



SSc5.1 Site Development—Protect or Restore Habitat



WEc3 Water Use Reduction



EAc1 Optimize Energy Performance



MRc1.1 Building Reuse—Maintain Existing Walls, Floors, and Roof



EQc8.2 Daylight and Views



SSc4.1 Alternative Transportation—Public Transportation Access

LEED 2009 FOR RETAIL



SSc5.1 Site Development—Protect or Restore Habitat



SSc1 Site Selection



EAc1 Optimize Energy Performance



EAc2 On-Site Renewable Energy



MRc5 Regional Materials



SSc4.1 Alternative Transportation—Public Transportation Access

LEED 2009 FOR COMMERCIAL INTERIORS



SSc3.1 Alternative Transportation—Public Transportation Access



WEc1 Water Use Reduction



MRc3.1 Materials Reuse



MRc5 Regional Materials



EAc1.1 Optimize Energy Performance—Lighting Power



EQc8.1 Daylight & Views—Daylight

LEED 2009 FOR COMMERCIAL INTERIORS - RETAIL



SSc3.1 Alternative Transportation—Public Transportation Access



SSc2 Development Density & Community Connectivity



MRC3.1 Materials Reuse



MRC5 Regional Materials



EAc1.1 Optimize Energy Performance—Lighting Power



EQc8.1 Daylight & Views—Daylight

LEED 2009 FOR EBOM



SSc4 Alternative Commuting Transportation



WEc2 Additional Indoor Plumbing Fixture Efficiency



EAc1 Optimize Energy Performance



EAc4 On-Site and Off-Site Renewable Energy



MRC7 Solid Waste Management—Ongoing Consumables



EQc2.4 Daylight and Views

Pilot Credits

LEED Pilot Credits facilitate the introduction of new credits to the LEED rating system. The process allows projects to test more innovative credits that haven't been through the complete drafting and balloting process. Currently in Sweden, courtesy of the leadership of Sweden GBC, two proposals for new credits are being explored:

Moisture-Resistant Construction – Energy efficiency measures such as airtight building envelopes and lower ventilation volumes can create problems with moisture and humidity in buildings, which in turn can cause lasting effects on indoor air and environment quality. This pilot credit intends to put in place a well-rounded plan for moisture-resistant construction at all stages of

project design and construction, following the guidance of the Swedish building regulation on moisture and humidity control.

Activity-Based Workplaces – In Sweden, organizations like Microsoft, Skanska, Vasakronan and engineering firm Bengt Dahlgren are embracing the global trend towards flexible, activity-based office environments as a way to attract top employees and encourage employee engagement. This pilot credit promotes the optimization of indoor work environments with recommendations and design considerations for diverse workspace configurations, and the processes and tools to achieve this.

ASHRAE and LEED

ASHRAE (formerly the American Society of Heating, Refrigerating and Air-Conditioning Engineers) looks at energy efficiency through the comparison between a baseline building and the designed building. The baseline building is comprised of performance requirements for different bits and pieces which, when completed, give a total estimated energy performance. Then the designed building is modeled in a similar way, with actual designed performance values, and the result is a total energy performance. The energy cost difference between the two performance values is what gives points for energy in LEED.

Swedish building regulations are performance-based and require a certain level of energy performance instead of detailed requirements on every part as ASHRAE does. This allows the energy models to be looked at in a more holistic sense compared to the models we create for LEED compliance. Also, because the energy laws in Sweden are quite stringent, much more so than ASHRAE, we are often achieving quite a lot of points for our energy performance which has contributed to 90% of our buildings certifying at Gold and Platinum levels.

Technology and LEED in Sweden

The green building industry continues to promote technological solutions. In fact, much of the technology in Sweden accommodates LEED. For example, EQUA, a software company, has developed an energy simulation software used almost universally on LEED projects across the country. Their software generates ASHRAE baseline models for different occupancy types (including retail) and also integrates the District Energy Systems guidance developed in collaboration with USGBC.

There are 30 people in the company and more than half of them have PhDs in mathematics, physics or engineering. Their customers are building consultants, HVAC designers, larger construction companies (like Skanska) and LEED professionals.

From the desk of EQUA's CEO Per Sahlin

Sweden is cold and there has always been a strong concern about keeping the heating expense reasonable. Double glazing, for example, has been the standard for more than a hundred years. Consequently, the interest in computer modeling of buildings started early, with the first dynamic heat balance based software tools being developed already in the early sixties. These programs were getting very old already in the 1980s. There was a need, public demand, for a new generation of software. That's the reason IDA Indoor Climate and Energy (IDA ICE) was developed here in Sweden. People understood this software was needed. The basic thing with IDA ICE in contrast to other simulation tools is that it's based on a completely general simulation platform. It's not limited to buildings. You can model pipe networks, process plants, tunnels, or anything that can be described by EQUations. This generality is attractive for buildings because there's no end to the complexity of systems and controls you can model. And efficient buildings tend to have sophisticated, thereby complex, control and HVAC systems. You have all kinds of processes going on in modern buildings that are foreign to the less general tools. The traditional tools do not even know, e.g., a PI controller, the most fundamental element of a feedback control system.

WHERE IN SWEDEN IS LEED BEING USED?

Klara Zenit

Vasakronan



LEED for Existing Buildings Operations & Maintenance (2009)

Gold (67 points)

page 18

Ericsson Borgarfjord

Ariem



Located in Kista (Stockholm)

LEED for Core and Shell (2009)

Gold (73 points)

page 15

Lilla Bommen

Vasakronan



LEED for Existing Buildings Operations & Maintenance (2009)

Gold (68 points)

page 12

Väla Gård

Skanska



LEED for New Construction (2009)

Platinum (95 points)

page 17

Ideon Gateway

Ikano/ Skanska



LEED for Core and Shell (2009)

Platinum (84 points)

Gothenburg

Stockholm

Helsingborg

Lund

LILLA BOMMEN

Facts

Location: Gothenburg, Sweden

Rating system: LEED for Existing

Buildings: Operations and Maintenance (Gold)

Certification Date: January 2013

Built: 1986-1989 by Skanska Property West AB

Purchased: in 2001 by Vasakronan, Sweden's largest property management company

Designer: Ralph Erskine, renowned British-Swedish architect

LEED Consultant: Piacon, Pia Öhrling with sub-consultant ThorntonTomasetti

Project Size: 442,160 sq. ft. (41,078.0082 sq. meters); 22 stories

- Popularly referred to as Läppstiftet or "Lipstick" because of its red top.

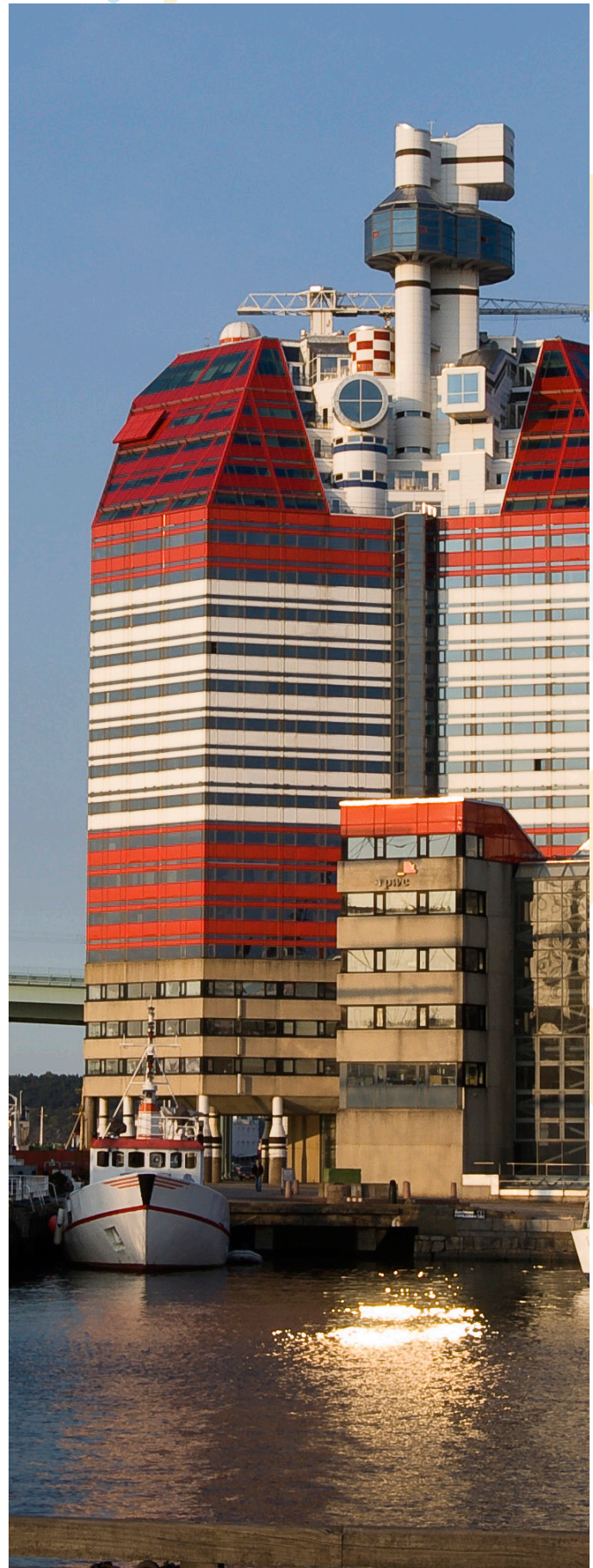
History

The name Lilla Bommen, or *Little Boom*, is derived from Gothenburg's proud seafaring history, which dates to the 1600s. Because of its location, on the banks of the Göta River, the city had become a shipping center, with ready access to the Kattegatt, the North Sea, and the Atlantic. For fortification, city leaders constructed high walls and a moat with channels. At the time, those channels were the only passage ways into the city and so, for added security, each channel was equipped with a boom that was lowered at night.

In 1989, when Lilla Bommen was completed, there were few tall buildings in Gothenburg. Consequently, it was considered a daring design, albeit one that was tied closely to the city's rich history and current status as Sweden's chief seaport. Most notably, many who have sailed past Lilla Bommen remark that, from the water, it resembles the mast of a ship.

Vasakronan

- Building portfolio valued at \$86 billion USD
- Vasakronan is jointly owned by the First, Second, Third and Fourth Swedish National Pension Funds.
- Nine LEED projects in its portfolio
- Recently they had their LEED volume prototype approved for 71 points (LEED Gold).



Why LEED?

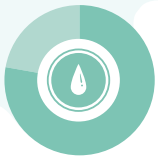
“LEED challenged our team to adapt plans, programs and policies from a company who is likely already one of the most sustainable real estate companies in the world. This required establishing equivalency between Swedish high performance building standards and international standards. Our team agreed that finding a way to compare performance on a global scale established important metrics and working with Vasakronan to do this through the LEED O+M system has been a great experience for all of us.”

- **Colin Schless**, LEED AP BD+C
Project Director
Thornton Tomasetti

LEED Certification Process

“Vasakronan is very good at operating and managing its buildings. They know most about each one’s performance, especially in regards to energy and IEQ. But even if the company performs very well in most areas—and they do—the LEED O+M process compelled them to go through the operations and maintenance process of the building in great detail. And that review highlighted several areas that were subsequently improved. Not a bad thing.”

- **Pia Öhrling**
Project Consultant



WATER EFFICIENCY (WE)

11/14 Possible Points

Water Efficiency efforts achieved an indoor potable water use reduction of 26% as compared to the LEED EB:O&M baseline. An important strategy employed to achieve this was the installation of aerators on all faucets. The building already had low flush toilets and a permanently installed water metering system to measure total potable water use for the building and associated grounds.



SUSTAINABLE SITES (SS)

15/26 Possible Points

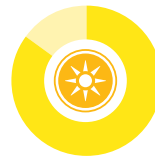
Lilla Bommen earned most of its Sustainable Sites credit due to the building’s location, which had excellent connections to public transportation. The commuter survey showed a 62.5% reduction in conventional (single-occupant vehicle) commuting trips.



INDOOR ENVIRONMENTAL QUALITY (IEQ)

4/15 Possible Points

In demonstrating its concern for the health and well being of the building’s occupants, the Lilla Bommen LEED project team earned credits for its air quality management plan, enhanced ventilation system, particulate reduction air filtration media, and green cleaning policies.



ENERGY AND ATMOSPHERE (EA)

30/35 Possible Points

Energy and Atmosphere credits were earned based on a computerized building automation system, use of off-site renewable energy, the findings of detailed energy audits, full compliance with Fundamental Refrigerant Management, and carbon-neutral emissions reduction reporting.

LILLA BOMMEN: AN OCCUPANT EXPERIENCE

Tenant Interview: Elise Brankell, CFO Nordisk Vindkraft



Nordisk Vindkraft develops, constructs and operates their own wind farms as well as on behalf of external clients. Nordisk Vindkraft has built, and is building, onshore wind farms to the equivalent of 380 MW in Scandinavia, and the parent company RES has developed over 7.500 MW installed wind power capacity worldwide.

Do you think it is good that Lilla Bommen has become environmentally certified?

Yes, absolutely. We are strongly committed to contributing renewable energy to the energy market and our business concept is to contribute to a sustainable society. We want to make a difference not just by building and operating wind farms but also through sustainable choices in all we do. Choosing the right building for our office, reducing travel by plane and car and recycling waste, etc. is a must for us.

When we decided to locate our Swedish head office to Lilla Bommen there were no certified buildings available. Last year when we decided to expand the office, this was a prerequisite for us, and we would have moved had Lilla Bommen not been certified.

Have you noticed a difference being in a LEED-certified building?

Yes, it makes a difference to have the office facilities in a building with high environmental standards, especially since we belong to a group company with high sustainability goals. We have key indicators to perform against and we perform well as a result of the environmentally certified office where it is easy to recycle waste, travel to and from without a car and with good facilities for video and internet conferences.

Why did you choose Lilla Bommen for your office?

The Lilla Bommen office was initially chosen because of its central location. Most of our employees live in, or close to, Gothenburg and it is important that they can walk, bike or public transportation to work. Furthermore, the office location is very convenient when it comes to business trips due to its proximity to the train station and to airport buses. We strive to avoid travelling by plane, but when necessary, it really is a good thing not having to take a taxi to the airport. We are walking distance to the city center, which facilitates meetings with important suppliers and also offers a wide variety of lunch choices and the possibility to run errands.

Is there good daylight, views and indoor air quality?

The location is good from a sustainable perspective and it is therefore attractive to employees. Lilla Bommen is a very nice building and it is beautifully situated close to the water and close to the city centre.

The views are fantastic, especially over the harbor but also over Gothenburg since we are a few floors up. There is plenty of daylight and nice interiors with wooden floors and good air quality. We have a good indoor environmental quality except a small problem with high temperatures due to sun exposure on one side of the building. We are hoping this will be solved by Vasakronan's ongoing project of exchanging the current windows to newer windows with less heat transmission.

Do you think an office with good working conditions contributes to better health and productivity?

Absolutely! It is not only the good working conditions, but also the possibility to make sustainable choices (in travel, recycling, etc). If you do good things you will feel like a better person. It is therefore very important for everyone to know that the building is certified and that our day-to-day work is performed in a sustainable way in the office.

ERICSSON BORGARFJORD

Location: Borgarfjord, Sweden

Rating system: LEED for Core and Shell (Gold)

Certification date: August 2013

Developer/contractor: Arcona

Property owner: Areim

Tenant: Ericsson

LEED consultant: WSP, Pia Öhrling

Borgarfjord 3 is an office building situated in the Sweden's "Silicon Valley," Kista, 20 minutes north of Stockholm by subway or 15 minutes by commuter train.

Borgarfjord 3 was originally built in 1984 and underwent a major renovation in 2010, the renovation moved the 1980s piece of architecture into a modern, activity-based office. Windows were replaced to enhance energy efficiency and to promote more daylight and views. All major installations were replaced but the structure and facades were kept thanks to the flexible concrete structure. The project scored 73 out of 110 LEED points.

Sustainable Sites (19 of 28 points)

- Location is close to public transport and local services
- Good facilities for bikers
- No new parking and reserved spaces for green cars

Water Efficiency (6 of 10 points)

- Choice of plants that do not need watering combined with the location in a temperate climate zone
- Low flush toilets with dual flush 2/4 liter

Energy & Atmosphere (25 of 37 points)

- The building is very energy efficient compared to ASHRAE and scored full points on EAc1 Optimize energy performance.
- Green electricity
- District cooling with low impact on global warming

Material & Resources (10 of 13 points)

- 95% of the existing walls, floors and roof were reused
- 23% recycled content in building materials (based on cost)
- 21% regional materials (based on cost)

Indoor Environmental Quality (4 of 12 points)

- An Indoor Air Quality plan was used during construction
- 100% outdoor air and air flows according to Swedish standard gave full points on increased ventilation
- Low emitting paints
- The new windows enabled daylight to 81% of the regularly occupied area.

Innovation in Design (6 of 6 points)

- Exemplary Performance for: public transport, reuse existing walls floors and roof and IAQ-plan
- Pilot credit for Sustainable Wastewater Management due to the low flush toilets

- Innovation credit for Public Outreach. The project has been used to spread knowledge on LEED in courses and seminars.
- A LEED AP was involved in the project.

Regional Priority (3 of 4 points)

- The project was registered before the Swedish regional priority credits were developed so the following global regional priority credits were used: Water Efficient Landscaping, Innovative Wastewater Technologies and Optimize Energy Performance.

Challenges

This was one of the first LEED projects in Sweden so it was a challenge to calculate energy performance until USGBC and the Sweden GBC agreed on how to treat District Energy Systems.

According to ASHRAE, renovated buildings should calculate energy efficiency for building envelope compared to before and after renovation instead of compared to ASHRAE minimum values. This was a disadvantage for the building since the existing building had better envelope than ASHRAE. GBCI approved the use of ASHRAE minimum values.

It was difficult to prove that the wind power electricity fulfilled Green-e criteria until the European Alternative Compliance Paths for EBOM were released. GBCI approved the use of the European EBOM ACP for the project.

It was difficult to pass the prerequisite for water efficiency since the standard flow for low flow faucets in Sweden is much higher than the baseline.

Benefits

There was new knowledge for the whole project team. Only two in the team had been on a LEED project before.

There was focus on areas that we normally did not have focus on in Sweden like: facilities for bikers and parking spaces for green cars, water efficiency, where to place the outside smoking area, recycled and regional materials and comparing the design with ASHRAE.



VÄLA GÅRD

Location: Helsingborg, Sweden

Rating system: LEED for New Construction (Platinum)

Certification date: March 2013

LEED consultant: Tanja Arnesson, Skanska

Highest LEED score in Europe
(at the time of its certification in March 2013)

LEED Dashboard

Energy and Atmosphere 35/35

Materials and Resources 6/14

Indoor Environmental Quality 12/15

Sustainable Sites 23/26

Water Efficiency 9/10

Innovation in Design 6/6

Regional Priority 4/4

The Väla Gård office building in Helsingborg, in the southern part of Sweden, is hailed by Skanska as their “greenest office building to date.” No hazardous materials were used in the construction of the building and there was zero waste sent to landfills.

The project achieved LEED Platinum certification and has, since its inception, aimed to be one of the highest LEED scoring projects in the world. According to Tengbom, the firm that designed Väla Gård, the building had the most LEED points of any newly constructed buildings in Europe and ranked third in the world at the time of certification. The building scored 95 points out of 110 possible in the LEED for New Construction Rating System.

In addition to several energy efficiency features, no hazardous substances were used in the design of the building.

The building also places an emphasis on human health, evidenced by the use of carbon dioxide monitoring sensors and low Volatile Organic Compound (VOC) substances and materials, ensuring high quality indoor air. Natural daylight is also a prominent feature.



KLARA ZENIT

Location: Stockholm, Sweden

Rating system: LEED for Existing Buildings: Operations and Maintenance (Gold)

Certification date: December 2013

LEED consultant: Pia Öhrling, Piacon with subconsultant ThorntonTomasetti

Vasakronan's Klara Zenit is situated in the center of Stockholm, right beside the Stockholm Underground and City station. One side of the building faces one of Stockholm's most popular retail streets: Drottninggatan.

The building was originally owned by the Swedish post and has been renovated several times during the years. The last major renovation was 2000-2003, when the postal facilities were converted to offices and flats. Vasakronan acquired the building in 2010.

Given the short amount of time Vasakronan had owned the building and the complexity of the space itself—with retail, offices and flats—it was a challenge to become one of the first LEED EBOM projects in Sweden. However, Vasakronan's good facility management and the building's location helped the project score well, with the following notable achievements:

- ENERGY STAR rating of 89; it is likely to score higher at recertification, since Vasakronan has focused on energy efficiency since the acquisition and lowered the energy use by 14% already (25kWh/m²)

- The location is close to public transport and local services, and possesses very few, charged, parking spaces, resulted in a reduction in conventional commute trips by an astonishing 95%.
- The choice to use plants that do not need watering and the location's temperate climate zone earned full points on water efficient landscaping.

Some benefits from the LEED certification:

- Thanks to LEED certification, all water faucets were adjusted, resulting in a 30% reduction compared to baseline water use.
- Cleaning audits were performed, resulting in better cleaning standards.
- Waste audits inspired Vasakronan to start a campaign informing tenants about actions they can take to reduce waste. Information was posted in all elevators, citing facts on waste disposal and highlighting that, because most office waste is paper, the best way to reduce waste is through a shift in the behavior of building space occupants.
- Inspired by alternative transport surveys, Vasakronan started a bike promotion campaign that sponsors bike-services for tenants that bike to work.



WHO IN SWEDEN IS USING LEED?



Ledia Youkanis

Portfolio Manager at Vasakronan

“We chose LEED because it is the most well-known system among tenants and investors. Another reason is its broad perspective where environmental impacts from the use of the building are also evaluated. The fact that it has a well-functioning version for existing buildings was also important for us, as we have nearly 200 existing buildings in the portfolio.”

In Sweden, some of the most innovative and successful architectural firms, people and corporations are using LEED. Two key users of LEED in Sweden are Vasakronan and Skanska. Here is Vasakronan's Ledia Youkanis, who oversees their volume certifications.

How does LEED fit into your overall sustainability objectives? At Vasakronan we want to run our business in a sustainable way, economically, socially and environmentally. We aim for a high profit without harming people or the planet. The LEED system gives us economic benefits such as lower costs and higher values, a good indoor environment for our tenants and helps us save natural resources both in construction and operation.

What's the value (marketing, ROI, business development and rental rates) LEED provides to your organization and stakeholders? We see an increased interest for LEED-certified premises among tenants, which affects the rent and occupancy rate. There is also an advantage in transactions, where we see due diligence processes with certified assets and a decreased risk associated with them. Just recently we have also experienced benefits in financing, by the launch of Green Bonds. Only high-level LEED-certified projects are eligible for Green Bonds.

Tell us about Vasakronan's involvement in the LEED volume program?

At Vasakronan we have an ambition to LEED certify all new construction projects because it is important to meet high environmental standards and climate requirements from tenants and the investors market. However the majority of our portfolio is existing buildings. Therefore we have decided to increase the pace and, as the first company in Sweden, use the LEED volume approach to certify all our existing buildings. The goal is to certify 50 percent of the portfolio during 2014 and the volume process gives us an opportunity to achieve that goal in a cost effective manner.

At Vasakronan we have worked for a long time to reduce our environmental impact. For instance we have reduced the overall energy consumption in our buildings by 30% since 2010 and we have also shifted to renewable or climate neutral energy throughout the whole portfolio. The sustainability work is well organized and several sustainability policies and plans have been in place for a long time.

The fact that we already have a lot of the sustainability work in place and are managing our portfolio with a low environmental impact will probably help us to speed up the certification process and achieve quite high levels of certification.

At Vasakronan we experience a growing demand for certified buildings among tenants, but also an increased interest in the tenants own environmental activities. Furthermore, companies tend to stay longer as tenants in certified buildings, which mean higher occupancy rates. Altogether certifying our buildings make us remain an attractive company on the market.

LEED PROFESSIONALS

Building the Necessary Capacity

“Being a LEED AP has definitely given my career a boost. Since I was one of the first APs when LEED really started to take off in Sweden, it meant that I was immediately recognized for having a knowledge and understanding of the system at a time when not a lot of people did.”

– **Larissa Kaplan**, LEED AP BD+C

LEED professionals are key leaders of the green building industry. Earning a LEED professional credential—including the LEED Green Associate; LEED AP (Accredited Professional); LEED Fellow and various certificate designations—denotes qualified expertise in green building. LEED credentials mean much more than just a professional accolade; those who earn them form a network of committed green building practitioners across an array of industries. As Sweden’s commitment to sustainability continues to evolve and grow, more and more of its building professionals are earning their LEED professional credentials.

To date, **84 LEED credentials** have been earned by professionals in Sweden.

Sue Clark, LEED AP BD+C

LEED Manager at
Sweden GBC



Earning LEED Credentials

I earned my LEED AP credential through Canada Green Building Council in 2007, and opted into the specialty credential (LEED AP BD+C) in 2010. When I moved to Sweden in 2011, there were only about 25 LEED APs in the country, but reflecting on LEED’s growth trajectory in other green building markets, it was clear that this number would soon grow.

The LEED Green Associate and LEED AP credentials are a good way of communicating green building knowledge within the industry, and we do see individuals investing in their credentials in anticipation of working on their first LEED project. In the last year, there has been a greater diversity of credentials (LEED AP EB:O&M, LEED AP ID+C) within the LEED professional network in Sweden, and many people are progressing from LEED Green Associates to LEED APs, which we believe reflects the increased interest and commitment to LEED in the Swedish market.

One of the greatest roles of credential holders is outreach. There still exist some misperceptions about LEED or that, as a US-based system, it is difficult to implement in other countries that it is time-consuming and expensive. LEED credential holders act as advocates for the system and can share their knowledge to clarify such misconceptions and tell more of the positive story, such as the cost benefits or the tools that have been developed for international LEED projects. Also, Europe’s highest-scoring LEED project, Våla Gård, is located here in Sweden!

PEOPLE



Ulrika Hammargren

Sustainability Coordinator at IKANO Retail Centres

Hammargren has worked on 10 LEED projects in Sweden.

“LEED provides a system with a bigger perspective. Because not everyone knows everything about waste, water, and such. LEED forces you to evaluate these things and doesn’t allow for shortcuts around the stringencies LEED provides.”

Why is LEED unique? It’s a system that considers many different environmental aspects for both the building and the environment where it’s located. You can easily put a label on it. It’s also a communication tool in the project. I have been in this business for twenty years. Projects often declare, early on: ‘This is going to be the most beautiful, environmentally-friendly building in the world.’ But when you get into the project, you realize you need to cut out something, this is too expensive, that doesn’t fit into the design...LEED provides a system with a bigger perspective. Because not everyone knows everything about waste, water, and such. LEED forces you to evaluate these things and doesn’t allow for shortcuts around the stringencies LEED provides.

Is LEED appropriate and applicable in Sweden? Yes. It makes you get a more thorough environmental quality in the building. You don’t miss any big issues according to the rating system because the rating system is rather complete and thorough.

During the time I’ve worked in the business and participated in the introduction of LEED in Sweden I’ve seen that it was much harder before to prove/communicate that the building was really good from an environmental point of view. Now, if you say that the building is ‘environmentally friendly,’ you need to show it! We now have more knowledge about these issues for buildings. No matter how the LEED system changes, we are in this for the long run. But you

can’t provide only the LEED system. Our society, also the journalists in our country, are very knowledgeable of our built environment and ask tough questions.

Our latest version of LEED places a significant emphasis on keeping bad things out of our buildings. What does this mean for a country like Sweden that has long history of being concerned about the materials used in their buildings? The latest version of LEED gives us credit for what we are already doing in Sweden. In the older versions we had to do additional work to check the material from a LEED-point of view, without getting better environmental performance in the material we finally used. The environmental selection was done with our Swedish databases and demands.

We have projects in Finland. We will say to our contractor: ‘You should do this according to LEED and all materials should be evaluated.’ We used some of the LEED points—these are prerequisites for Finland in Ikano Projects.

How important is indoor air quality? It’s paramount. It’s the only reason, really, otherwise we should not build buildings. It’s why we have buildings. The market wants a good indoor environment experience. If you think about the reason for what buildings are for—housing people—you realize that’s the reason why we have buildings!

What is the state of green building in Sweden? It’s an interesting movement. When I began in the 1990s, few understood it. No one knew how to answer questions like ‘Where does waste go when you demolish a building?’ People then would say, ‘Well, you just throw it away.’ Now, there are both hard figures and many people understand waste to landfill and such. You get a really good feeling about it.



Pia Öhrling

LEED consultant and LEED AP at Piacon AB

“In Sweden we have had a strong focus on energy, IEQ and choose building materials with environmental declarations and without hazardous substances. LEED has introduced new important factors like promoting less use of cars and more focus on water. To certify the operations and management of existing buildings is also something new to Sweden. Many property owners work hard to reduce energy but there are plenty that need to do more.”

Why have you chosen to use LEED? I use the certification my clients choose but I chose to start working with LEED because I wanted a broader perspective on sustainability. In Sweden we have had a strong focus on energy, IEQ and to choose building materials with environmental declarations and without hazardous substances. LEED has introduced new important factors like promoting less use of cars and more focus on water. To certify the operations and management of existing buildings is also something new to Sweden. Many property owners work hard to reduce energy but there are plenty that need to do more.

How does LEED fit into your overall sustainability objectives? Very well. Our goals are to help our clients to have more sustainable buildings and LEED can help them do that. But on energy we need to aim for the highest scores since Swedish buildings generally seem more energy efficient than American.

What's the value (marketing, ROI, business development and rental rates) LEED provides to your organization and stakeholders? Since we are one of a few LEED-experts in Sweden, quite a large share of our turnover comes from certification work and education on LEED and other certification systems.

Is disclosure of material ingredients part of your organization's overall sustainability metrics? If so, why is this important to you? It is always part of our clients (the property owners) sustainability metrics. In Sweden we have a long history of demanding disclosure

of material ingredients and avoiding hazardous materials in building projects. It has become standard practice for property owners to work with these issues. It is not a goal anymore; the goal is instead to try to faze out the remaining hazardous substances that are difficult without compromising quality. The success of the disclosure in Sweden is thanks to cooperation between property owners, contractors and the building material industry.

What measures have you put in place to ensure your LEED project continues to perform highly and improve over time? That decision is up to the property owner but we recommend things like sub metering and building user guides. If we have the opportunity we also recommend certification of operations and maintenance.

Are there specific policies or incentives in your country that have encouraged the use of LEED? Have these influenced your decision to pursue LEED? We have seen a tendency that large international companies (e.g. Ericsson) prefer certified buildings when looking for spaces to rent. Preferably buildings certified according to an international standard, like LEED. That has influenced property owners to choose LEED (or BREEAM) for buildings where they expect international tenants. The first Swedish LEED certified building (Liljeholmstorget) got a lower interest rate due to their LEED Platinum certification.

Are there specific LEED credits that you often pursue when beginning a project? Which credits, in your opinion, remain the most critical and why? For NC/CS version 2009 we have found green roofs with diverse habitat very useful when aiming for LEED Platinum and the decision for green roofs must be taken early in the project. The baseline for water efficiency is hard to achieve compared to Swedish standards so it is important to decide about faucets early otherwise you might not be able to get the prerequisite. For energy, we usually build energy efficient and score high without changing so much but appointing a commissioning agent and prepare sub-metering is something you do quite early. For EBOM it is important to start with defining what needs to be done. American tradition differs from Swedish and since many basics about the building must be explained in English it is important to define who shall do what and

what documentation is needed. If your building has flats it is very important to check the prerequisite for smoking since blower door testing probably will be required and if the flats are not airtight enough the certification might be jeopardized.

How does LEED align with your local and regional best practices? Some best practices are higher than LEED, e.g. energy and fresh air rates. Some are lower than LEED, e.g. water efficiency.

Can you name a specific challenge with the LEED rating system you faced when you were implementing LEED?

What was your solution? Water baseline. In Sweden we traditionally have lower flush toilets than America (about half of the baseline) but lavatory faucets normally have

much higher flows. (This is probably due to different technical solutions in the different countries: Sweden has larger pipes for toilets so lower flush is needed but the pressure in the tap water system is usually lower which means higher flows are needed for lavatory faucets). However, since we had difficulty passing the prerequisite there was a demand for faucets with lower flows and this influenced the manufacturers to develop faucets with lower flows. They are still not as low as the baseline (2 liter/min) since that would probably not allow for hygienically washing of hands, due to the lower pressure, but the flow is reduced from 12 liter /min to 4-5 liter /min.



Larissa Kaplan, LEED AP BD+C

Skanska

Kaplan heads the environmental certification group at Skanska Sweden and has been personally involved in dozens of LEED projects.

“I believe all people are competitive in nature. And in this case, LEED takes that competition and turns it into a benefit for the environment. Our Skanska projects are constantly competing to outdo each other internally and our competitors do the same.”

Why do you use LEED? At Skanska, we decided to use LEED internationally in 2008 for three major reasons:

1. LEED addresses the environmental impact of the building beyond the actual building itself (more holistic approach)
2. Provides us with a third party verification of our efforts.
3. Allows for the comparison of our projects over country borders which is key to our global portfolio.

Aside from the fact that we are decreasing our environmental impact through the buildings we build, there is always the business aspect. One thing—what becomes interesting—I believe all people are competitive in nature. And in this case, LEED takes that competition and turns it into a benefit for the environmental. Our Skanska projects are

constantly competing to outdo each other internally and our competitors do the same. Then of course we are all competing against each other as well.

With the pilot credits, we have been very active with these to truly challenge us to go beyond the stringency of LEED. To think outside of the box. The pilot credits are a fantastic way of sharing best practices from country to country and challenging each other to be more innovative.

How are you increasing the stringency of LEED through the pilot credits?

For example, we did some research through our pilot credit working group regarding how people function and work in their office. What increases their productivity and desire to work? What reduces illness? We put together a list of some of the things provided through working regulations in Sweden. For example, there are a lot of companies that provide massages for their employees. There's a whole list of different things that contribute to a better overall well-being for employees. We are doing some of them but not all of them. We are taking into consideration things that would be great. Let's say there's a list of ten of them, we may fulfill three. Our suggestion for the pilot credits is that we must do six. The pilot credit process has just begun.

What is behind this drive to constantly up the game with green building in Sweden? Aside from the fact that the market—companies buying green building or renting space as well as people renting or buying green homes—is driving the industry in that direction, I believe that Sweden has had a strong sense of environmental responsibility for a long time. A lot longer than I have lived here and even longer than the LEED system has existed!

For Skanska, our environmental journey really kicked off after something went wrong. The Hallandsås project was a watershed moment for the company and quite honestly for the rest of the industry. Our president often refers to it as the eye opening moment: ‘What are we doing and how are we making sure we are not affecting the environment in a negative way?’

Materials—there have been years and years of research at the universities in Sweden: what is the environmental impact but also the human population when we don’t think of the chemical content we are building into our buildings and also there’s a lot from materials we are using to run the machines. If we are talking about leaking diesel engines, well, that has nothing to do with the materials being put into the building but the building process as a whole.

What has been your personal experience with LEED? I came to Sweden before Skanska made that decision to go with LEED. Then, when the decision was to go for LEED it was a challenge for me. I knew about LEED and of course, as an American, could easily read the language and understand the standards but at that time, I was not familiar with the Swedish language or the Swedish construction industry. What I have seen in the past five years—aside from my personal journey—is that LEED is no

longer closed off. When I first started working with LEED in Sweden, I got the impression: ‘Fine. Great. Use LEED. It’s a U.S. system and we’re not going to make changes for international projects.’ Now it’s much more of an open door policy. The USGBC is still sticking to its main guns with LEED—the ability to compare buildings across the globe—but they are recognizing that there are all of these great things going on in the rest of the world too. I see LEED now being much more of a knowledge-sharing network. It is no longer closed off. It’s not a U.S. perspective. It’s a global perspective. I see the system taking the best from all worlds, driving this and yet, still keeping this ability to compare buildings across the globe. LEED is making it a world issue, a global issue. An attempt to speak the same language.

How is the latest version of LEED playing out in Sweden?

Skanska is currently running a pilot project. We have done an evaluation of what the impact is going to be when we start certifying all our buildings according to the latest version. We have said that all of our self-developed commercial projects will be minimum LEED Gold but when we move up to the latest version, there is a risk that they will be LEED Silver in part due to the more stringent requirements on materials. It’s a challenge but it has to do with getting the right information. In the past, the LEED requirements have been based on a different way of evaluation when it comes to materials, mainly U.S. standards. However, in the new version, the documentation requirements have changed which allow more international standards to be used. And that’s what our distributors and material suppliers are used to being judged against. It’s like the stringency has increased but the ability to comply has become easier.

RESOURCES

LEED is meant to help identify connections. From the built environment to the site it occupies, between people and the buildings where they live, work and learn and also connections between one building and another. LEED connects.

Learn more about our international activities and how you can get involved by contacting international@usgbc.org.

Connect with Sweden Green Building Council at sgbc.se

Go to usgbc.org/leed/credentials to learn more about earning your LEED credentials.

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