Renewable Energy @ IKEA: An Approach to On-Site Generation

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OVERVIEW OF IKEA
The Origins of IKEA

- The letters in IKEA come from the name of our founder, Ingvar Kamprad, when – at age 17 – he founded the company
- He grew up on a farm called Elmtaryd, in Agunnaryd (a parish in Southern Sweden)

- IKEA has grown into a worldwide business
  - More than 340 stores in 42 countries
  - 1084 suppliers extend reach into 53 countries
  - Catalog distribution to 212 million people worldwide in 29 different languages
The Unique IKEA Concept

• **Our Vision:**
  – To make a better everyday life for the many

• **Our Mission:**
  – To provide well-designed, stylish, functional home furnishings at affordable prices

• **Our Approach:**
  – Furniture & accessories
  – All under one roof
  – 10,000 items available on-site
  – See product, take home, assemble on same day
  – Products designed/produced exclusively by IKEA
Our Unique Stores

• **Furniture Showroom**
  - Approx. 3 complete home interiors
  - 50 inspirational room settings
  - Living room, media, office, dining, kitchen, bedroom, Children’s IKEA

• **Marketplace with accessories**
  - Cookware, tableware, rugs, bedding, bath, storage, home organization, lighting, pictures/frames, plants/wicker

• **Self-serve Furniture Area**
  - Now also with a picking service

• **Swedish food offering**
  - Restaurant, Bistro, Foodmarket

• **Supervised kids play area**
Inside Our Numbers

- World’s leading home furnishings company
- Privately held; most operations in Sweden
- 690 million people visited IKEA in 2012
- Global sales for 2012: $34.6 billion
  - Germany: 14%
  - U.S.A.: 12%
  - France: 9%
  - Italy: 6%
  - Russia: 6%
- U.S. Sales for 2012: $4.1 billion
- Recently focused on U.S. Expansion
## Countries with IKEA Stores

- Australia
- Austria
- Belgium
- Bulgaria *
- Canada
- China
- Croatia *
- Cyprus
- Czech Rep.
- Denmark
- Egypt *
- Estonia *
- Finland
- France
- Germany
- Greece
- Hungary
- Iceland
- India *
- Indonesia *
- Ireland
- Israel
- Italy
- Japan
- Jordan *
- Kuwait
- Latvia *
- Lithuania *
- Malaysia
- Netherlands
- Norway
- Poland
- Portugal
- Qatar *
- Romania
- Russia
- Saudi Arabia
- Serbia *
- Singapore
- Slovakia
- Slovenia *

(* = entered recently;  * = new country with plans announced)
CORPORATE SUSTAINABILITY COMMITMENT
People and Planet Positive

- Sustainability Strategy
  - 3 Focus Areas
    - More sustainable life at home
      - Offering products and solutions for customers
    - Energy and resources independent
      - By 2020, generating the amount we consume
    - Better life for people and communities
      - Ensuring suppliers and vendors share IKEA values
Vertically Integrated Pipeline

• Not Just a Retail Operation
• The IKEA Group
  – Product design & development
  – Materials sourcing and production
    • Suppliers, manufacturers
  – Distribution
  – Customer services
    • Recycling of batteries, bulbs, mattresses, etc.
  – Global philanthropy **IKEA FOUNDATION**
    • UNICEF’s largest corporate contributor
Sustainable Pipeline Practices

• Sustainable supplies
  – 50% sustainable wood sourcing by 2017
  – 100% of cotton from ‘Better Cotton Initiative’ by 2015
    • Funding programs, sustainable cultivation, less chemicals
  – Lyocell (wood pulp cellulose fiber) used in lieu of cotton & polyester when suitable
  – UTZ-certified cocoa/coffee; ASC/MSC-certified seafood

• Sustainable products
  – Solar-powered lighting
  – Innovative materials (wood waste, banana leaves)
  – Recycled materials (paper, PET) & recyclables
  – Growing extent of organic foods in our offer
  – Energy/water-efficient appliances
Sustainable Retail Practices

• Shopping Experience
  – Innovated concept of flat-packing furniture items
  – 1st major retailer to phase-out plastic shopping bags
  – 1st major retailer to phase-out sale of incandescents
  – Will be going fully LED (sale and use) by 2016
  – Installing EV charging stations @ 17 U.S. locations

• Physical Measures
  – 6 LEED-certified buildings (one per region)
  – 2 stores with green-roofs
  – Diverting more than 70% of waste from landfill
  – 20% cut in energy from conservation audits
  – Skylights in Self-serve Furniture Area
  – Water-conserving restrooms
A Global Energy Initiative

- IKEA globally has allocated approx. $1.8 billion to invest mostly in solar thru 2015.
  - There are nearly 100 solar projects completed
    - 300,000 solar panels installed on IKEA buildings
    - Nearly 40% are U.S. locations
  - Other IKEA countries proceeding with projects:
    - Belgium, Canada, China, Germany, Italy, Japan, Spain, Switzerland, U.K.
  - We own 137 wind turbines in Europe
    - Optimistic of U.S potential
Why Care about Renewables?

• Sustainability is a cornerstone of our business.
  – Our Swedish heritage results in a company culture of respect for community and environment.
  – We can be a good business while doing good business.
  – Allows IKEA to lead by example.

• Solar can provide 20-80% of most IKEA locations’ electricity needs (and thus decreases in costs too).
  – Distribution centers = almost energy-independent
  – As stores’ costs lower, so do prices for our customers

• Globally, new locations are evaluated for renewables
  - Existing locations to be assessed for retrofitted solar
Geothermal Energy @ IKEA

• Tapping into the earth’s temperature to control the temperature of a building

• About 50 locations worldwide
  – Benefits to IKEA
    • Reduces stores’ consumption/costs
    • Bldg’s gas connection not necessary
      – And can melt snow in parking area

• Underground geothermal loop field consists of:
  – 130 wells 500’ deep and 5.5” in diameter
  – 27 miles of underground pipes
  – 15,000 gallons of anti-freeze-like liquid

• Difficult for retrofitting stores
  – Our only U.S. project was for new store
    • Centennial, CO (opened July 2011)
OUR APPROACH TO SOLAR @ IKEA U.S.
Our U.S. Solar Initiative

- PV reach atop 39 of 44 US locations = nearly 90%
  - 34 stores, 4 distribution centers, 1 office
  - Total generating capacity goal: 38 MW; output equals:
    - Reducing 33,788 tons of carbon dioxide from the air
    - Removing 6,625 cars from the road
    - Powering 4,213 homes
- Solar Project Rankings
  - 2\textsuperscript{nd} largest private commercial solar owner-user in US
  - 4\textsuperscript{th} largest private commercial generator atop bldgs
  - Largest arrays in:
    - CO, CT, GA, IL, MD, MI, MN, OH, UT, VA
  - Largest combined owners in:
    FL, IL, TX
Our U.S. Renewable Presence

- Operational PV Systems (39)
- Not Currently Feasible (5)
- Future Stores being Evaluated for Renewables (2)
IKEA Atlanta Store Solar Installation

• By the Numbers
  - 4,312 panels atop IKEA ATLANTA
  - 129,400-square-foot-area of the roof
  - 1,034.9-kW in system generating capacity
  - 1,416,502 kWh in annual electricity production
  - Equivalent yearly to:
    - Reducing 977 tons of CO₂
    - Eliminating the emissions of 192 cars from the road
    - Providing the electricity for 122 homes

• General electricity savings nationally: 20-80%

• Installation Process
  – IKEA does not discuss project costs publicly
  – Solar Integrator: GEHRLICHER SOLAR AMERICA
  – Completion: July 2012
Atlanta
IKEA Savannah Distribution Center
Solar Installation

• By the Numbers
  - 6,076 panels atop IKEA SAVANNAH
  - 182,300-square-foot-area of the roof
  - 1,458.2-kW in system generating capacity
  - 2,045,860 kWh in annual electricity production
  - Equivalent yearly to:
    - Reducing 1,555 tons of CO₂
    - Eliminating the emissions of 277 cars from the road
    - Providing the electricity for 176 homes

• General electricity savings nationally: 20-80%

• Installation Process
  – IKEA does not discuss project costs publicly
  – Solar Integrator: GEHRLICHER SOLAR AMERICA
  – Completion: August 2012
Savannah
Why Install Solar at this Time?

- The technology has become much more straightforward and more accessible.
- The costs associated with purchasing a system have dropped significantly, making them more affordable.
- Most electricity rates are high and solar helps lower our locations’ costs.
  - IKEA locations are big and need electricity.
    - Air-conditioning, lights, phones, security system all are powered by electricity.
    - Stores also have additional lights (for display), elevators/escalators, restaurant/refrigeration.
- Government/utility financial opportunities exist.
- It cannot wait any longer!
Is the IKEA Situation Unique?

- We are not publicly traded (no shareholders)
  - Long-term investment, no Wall Street concerns
  - We pay cash for our own projects (no loans)

- Financing partnerships help offset costs
  - Programs vary by location: cities, states and utilities may offer tax credits or rebates, etc
  - Where applicable we participated

- IKEA owns and operates each of its systems
  - Instead of solar leases or Power Purchase Agreements (just as we buy land and our buildings)
  - We think that if other companies can make money having panels on IKEA roofs, we can do it instead.
  - Large arrays = bulk purchasing
Some Interesting Details

- IKEA contracted with 5 different installers for the many projects to:
  - Help us secure good pricing; and
  - Allow the installers to develop expertise at working on IKEA locations.
- Panels were installed at specific angles and facing a certain direction to maximize sun exposure.
- Some stores needed new roofs or some roof repairs before installation could begin.
- Rather than an array of many panels, several locations instead have a thin membrane application containing solar modules.
Some Solar Challenges

• Solar technology is low-maintenance, but some challenges exist because...
  – it may need large amounts of panels to generate enough electricity.
  – it cannot generate power at night.
  – energy production may be impaired or limited by cloud-cover and/or snow.
    • But, just as one can get sun-burned on overcast days, solar panels still work when it is cloudy.
    • The tilt angles of the panels and the warmth of them helps reduce limits caused by snow.
Sustainable Results

• Community & Customer Relations
  – Positive impact on environment
  – Civic appreciation/support by public officials
  – Respect, trust by organizations
  – Strengthened brand loyalty by customers

• Coworker Relations
  – Increased knowledge of sustainability by coworkers
  – Validation by favorable media coverage
  – Pride in employer by coworkers
  – Cost reductions for stores
Renewable Energy @ IKEA U.S.
Most things remain to be done.

A Glorious Future!
& Sustainable

IKEA