



Energy Transparency

How do consumers perceive the current energy mix?

What's the answer of large corporations?

Morten Albaek

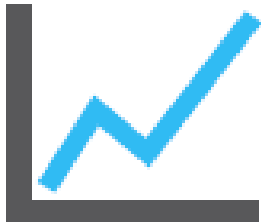
Chief Marketing Officer

Global MarCom & External Relations, Vestas

The Burning Platform

The world today is confronted by two main trends...

Increasing global **Energy Demand**



Global electricity demand is expected to increase with 4.5% each year for the next 10 years.

A mounting **Climate Crisis**



Energy related **CO₂ emissions will increase 20% by 2035** causing an average global temperature **in excess of 3.5° C**

Mankind is born **Sensible**

And will act, react and prioritise sensibly if only presented with insight and **Facts**

As the world leader in the wind industry, we **understand our obligation** to not only ourselves and our shareholders, but also to the wind industry and the renewable industry as a whole.

We are **relentlessly committed** to coming up with solutions and business cases that advance the adoption of wind globally.

Which is why Vestas is
committed to
Transparency

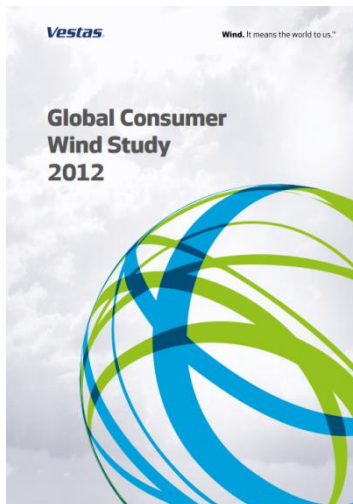
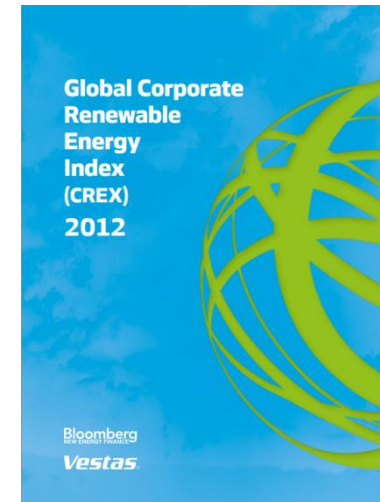
- ...for consumers
- ...for corporations
- ...for investors
- ...for NGOs
- ...for policy makers
- ...for the planet

The Energy Transparency Challenge

Are global companies reacting to these big challenges and in line with the consumer demand?

Facts about the CREX index

The Corporate Renewable Energy Index ranks companies according to their voluntary renewable energy procurement. CREX's main goal is to clearly **identify the level of renewable energy used by corporations** around the world and provide much-needed transparency to companies, investors, policy makers, NGOs and last but not least consumers. In 2012, the CREX includes more than 300 companies from 26 countries.



Facts about the GCWS

The Global Consumer Wind Study (**GCWS**) is a global study focusing on **consumers' preferences regarding energy**, their demand for products made with renewable energy, as well as In 2012, the study was conducted among ~24,000 consumers from 20 countries.

Energy Transparency for Corporations

Main Findings from CREX - Global data



In 2011, of the 389 CREX companies in 26 countries, 35 companies **secured 100% of their total electricity consumption from renewable energy**



Companies obtain renewable electricity a number of ways, with **direct investment being the most popular**, at 40% of renewable electricity purchases in 2011, closely followed by RECs at 38%



CREX found that companies **invest in renewable energy for a variety of reasons**, including fulfilling sustainability goals, enhancing their brand, retaining and motivating employees, security supplies



Business Drivers for Corporations

Investing in renewable energy represents a strong business case

- 1 CREX companies use renewables mainly **to secure their energy supply** with a **stable cost per MW/h** as an additional benefit.
- 2 Respondents also indicated that renewable energy generates **attractive Returns on Investment**.
- 3 Decreasing wind turbine prices and lower operation and maintenance costs have made wind competitive with coal and hydro on **Cost of Energy**

Japanese Corporations & CREX

Good participation but overall low amount of RE procured

27

Companies participated in the CREX survey

+146 TWh

Of Electricity Usage in 2011

15,4%

Is the amount of Renewable Energy procured by Japanese corporations in 2011

71st

OJI Paper Co is the highest ranking Japanese company in the CREX index with 55% of RE Usage



Energy Transparency for Consumers

Main Findings from GCWS – Japanese data



85% of Japanese consumers is currently concerned with the country's **dependence** on imported fossil fuels



Almost 70% of respondents believe that renewable energies are a good solution to **mitigate climate change**



Only 4% of the surveyed believes that Japan is **pioneering** the adoption of RE



64% of Japanese have a positive attitude on having **wind turbines** in proximity of their daily lives



48% of national consumers would **support paying a premium** for products utilizing renewable energy

“Consumers will reward companies who will help change the energy mix”

Solid base for future development

The good news is that Japan and its corporations have two big advantages...



1

Almost 79% of the surveyed consumers **would prefer to have their electricity sourced from renewable energies** and 84% is hoping for increase of them to the overall energy mix in the next 5 years

2

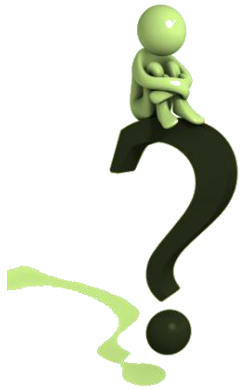
National and Local Government together with Citizens are the 3 forces that are **believed to drive the adoption of Renewable Energies** in the future

How to empower consumers?

So now it's all about increasing transparency...

Consumers have **strong preferences** for brands using renewable energy – and are willing to reward these brands – but **more information is needed**

Over 64% of Japanese consumers state there is **inadequate information on the energy used** to produce the brands they regularly buy



WINDMADE™

WindMade™ is a consumer label that allows companies to **communicate their commitment** to wind to consumers

WindMade™ **empowers consumers to select products made with renewable energy**

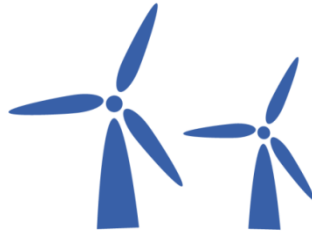
Companies worldwide are already engaging

Vestas as your strategic partner

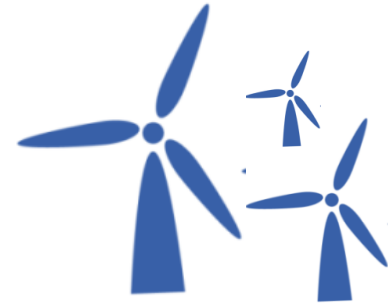
Vestas aims to be the facilitator of this transparency and the strategic partner for any company that wants to invest in wind energy.



In 2012 Methanex installed **three Vestas V52-850 kW wind turbines with a total of 2.55 MW**



In 2012 IKEA bought **30 V90 wind turbines from Vestas** to be installed before 2015



Google over the past 3 years have **invested over USD 900 million in renewable energy**, including a USD 157 million investment for two projects with Vestas turbines part of the Alta Wind Energy Center in Southern California

Japan is also following the global trend

Several companies are looking into RE investment



WINDMADE™

Ikeuchi Towel First Japanese company to be labelled WindMade for sourcing 100% of its electricity consumption from wind power.



The renewables development arm of Japanese telecoms giant **Softbank** – is teaming up with conglomerate Mitsui and Green Power Investment to build and operate a 48MW wind farm in western Japan.



Goldman Sachs Group Inc. (GS), the New York-based bank planning as much as 300 billion yen (\$3.19 billion) in renewable energy investments in Japan.

Wind is part of the solution for Japan

Vestas is ready to support it with its capabilities across the value-chain

Wind can solve Japan's current energy challenge because:

- It is increasingly price competitive – and the lowest cost among renewables
- It's predictable in terms of costs – no fuel price fluctuations and predictable OPEX
- It's fast to install – typically about 2-5 years from start to finish
- Clean and water-free in use – no GHG emissions or water consumption
- And independent of foreign control.

Vestas®

Wind Project Planning

Power Plant Solutions

- ✓ SiteHunt
- ✓ SiteDesign
- ✓ Electrical PreDesign
- ✓ Power Plant Controller

Construction

Different Scopes

- ✓ Supply & supervision
- ✓ Supply & commission
- ✓ Supply & Installation
- ✓ EPC/Turnkey

Procurement

Turbines and Options

- ✓ 2 MW Platform
- ✓ 3 MW Platform
- ✓ Next Offshore generation
- ✓ Options

Power Plant Optimisation

- AOM 1000** - Service on demand
- AOM 2000** - Basic service
- AOM 3000** - Full service - flat fee
- AOM 4000** - Guaranteed availability
- AOM 5000** - Guaranteed LPF