

Creating a Business Case for Low & Zero Carbon Buildings



Alexandra Notay
Research Director – ULI Europe

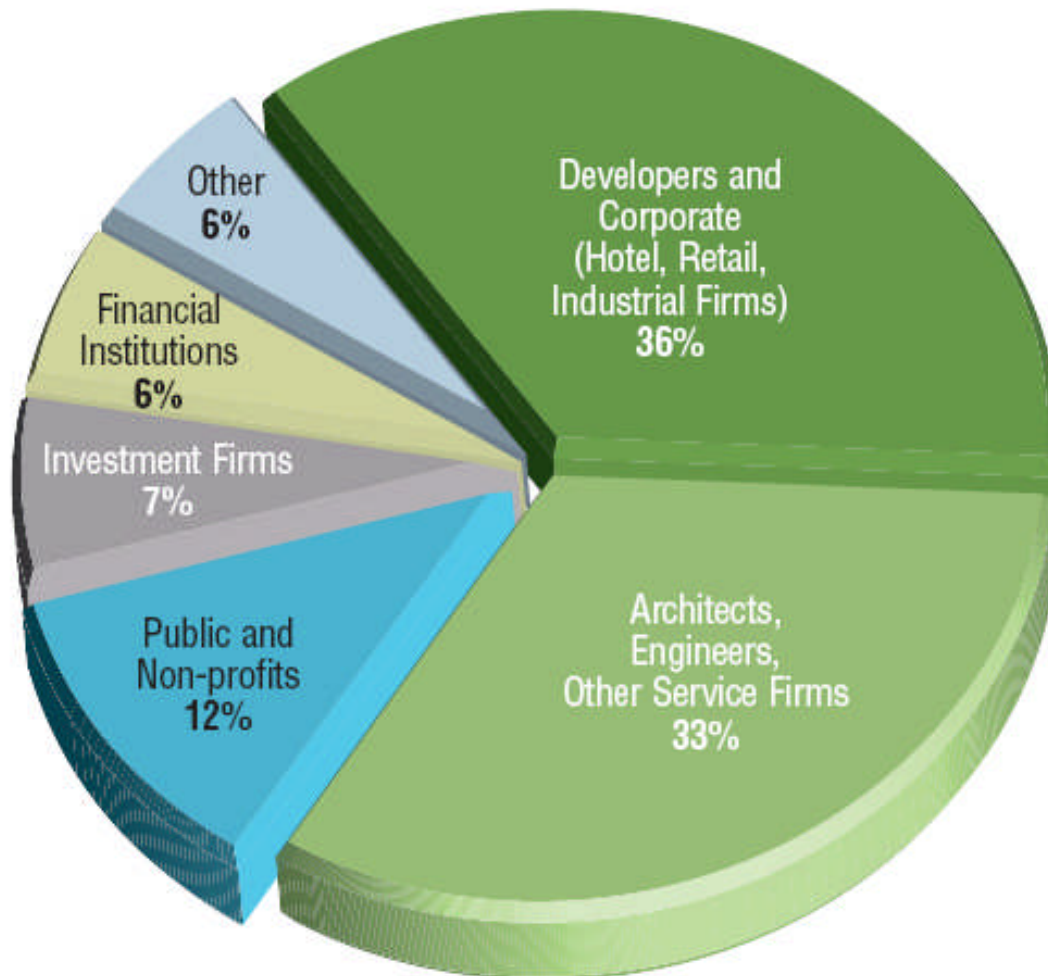
Urban Land Institute



ULI's mission is to provide leadership in the responsible use of land and in creating and sustaining thriving communities worldwide.

Founded 1936, USA

35,000 global real estate professionals



5 Global Policy Priorities



- Sustainability, Climate Change and Energy
- Infrastructure
- Housing (particularly ‘workforce’/affordable)
- Capital Markets
- Public Leadership

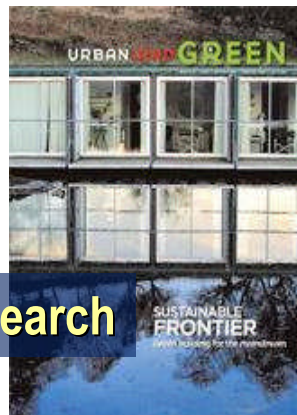
“...route to a valued conversation...”

Outreach

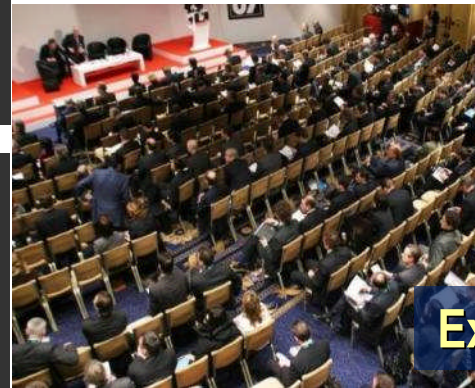


Knowledge

Research

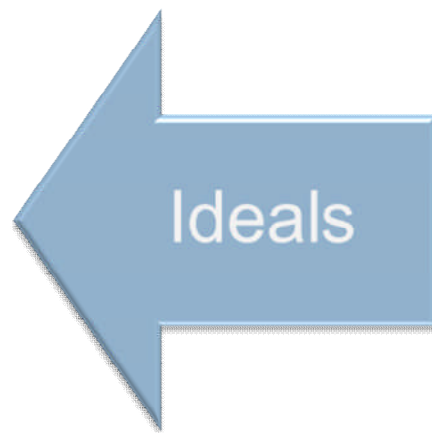


Exchange



Background

- Sir Stuart Lipton's Nichols Prize gift
- Increased industry focus on energy efficiency
- Existing buildings
- Economic crisis = pressure to act to reduce costs
- Avoid "green-wash and geek-speak"



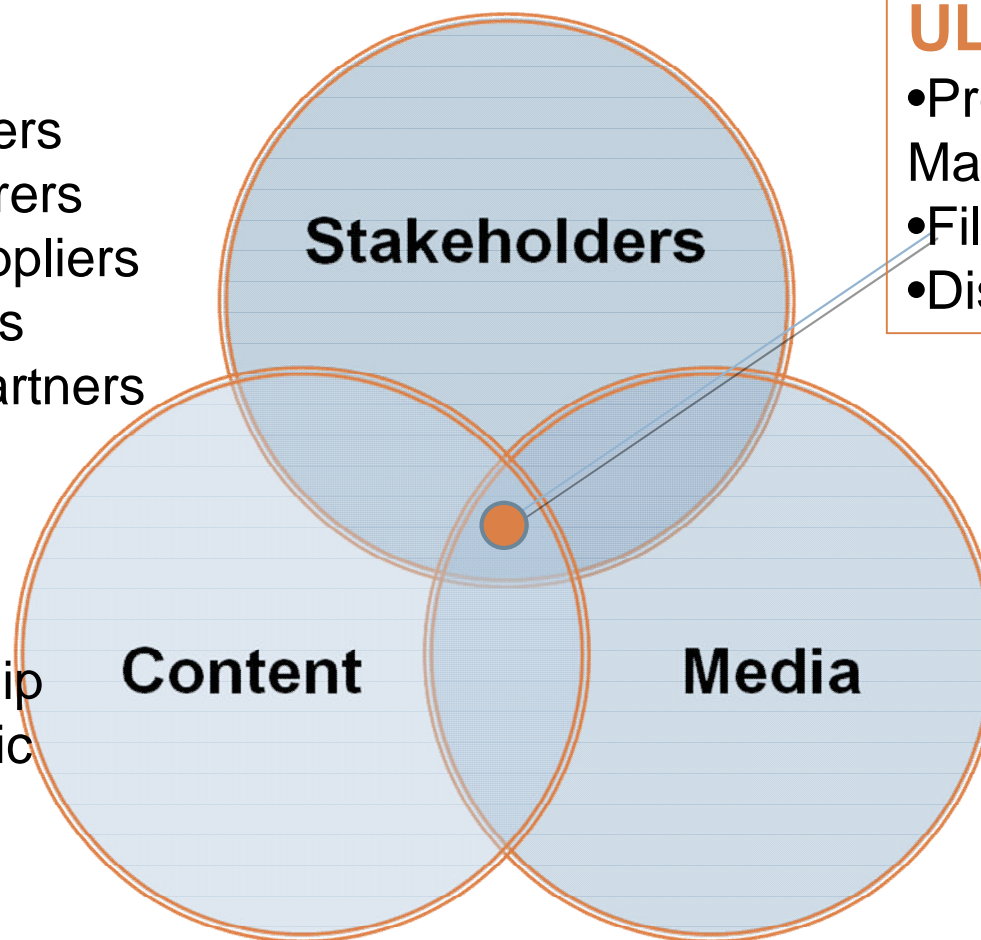
Collaboration & Partnership

Users

- ULI members
- Manufacturers
- Energy suppliers
- City leaders
- Content Partners
- Public

Providers

- ULI membership
- Civic, Academic
- Arup
- Private Sector



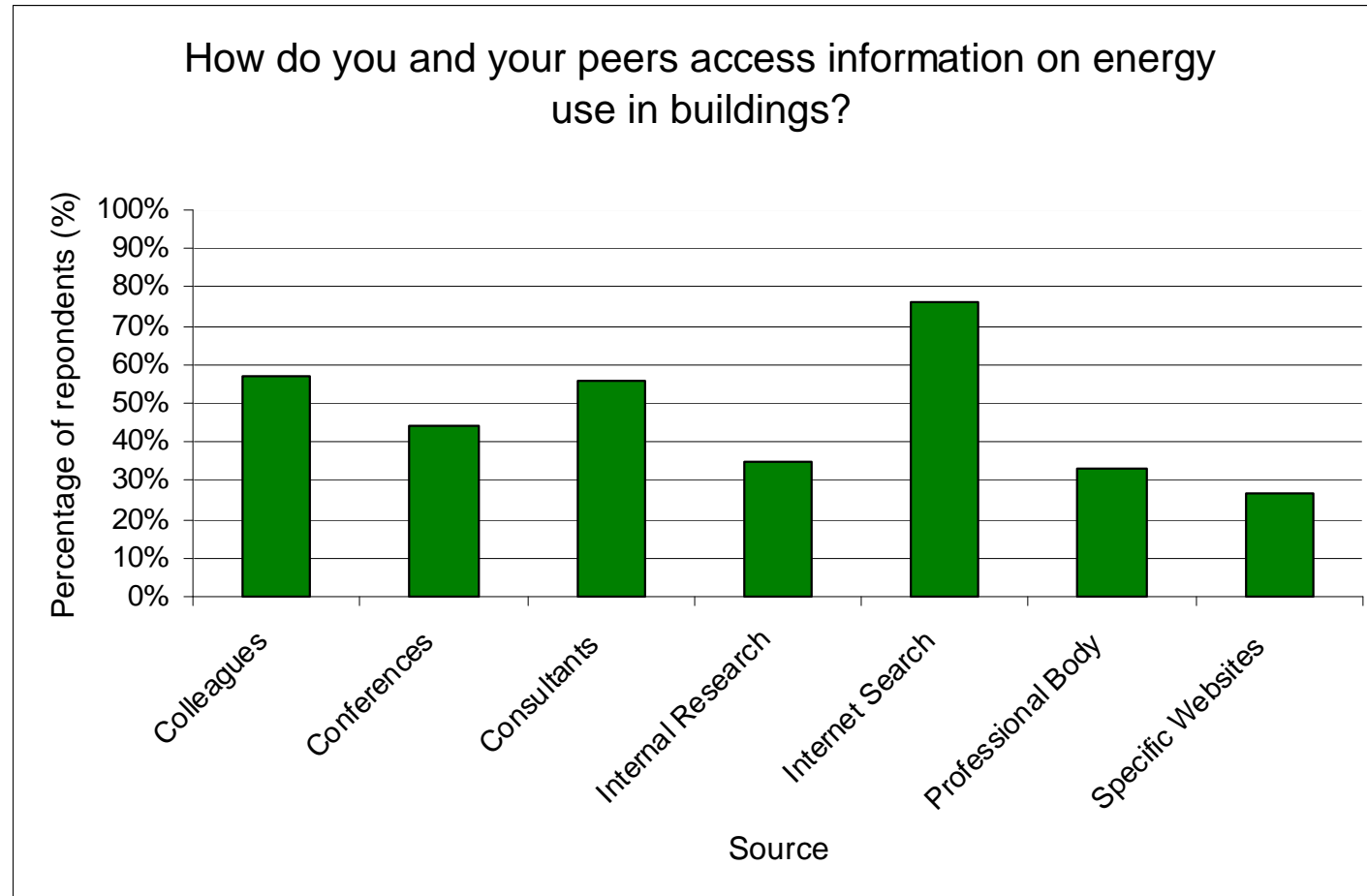
ULI

- Project Management
- Filter Information
- Disseminate

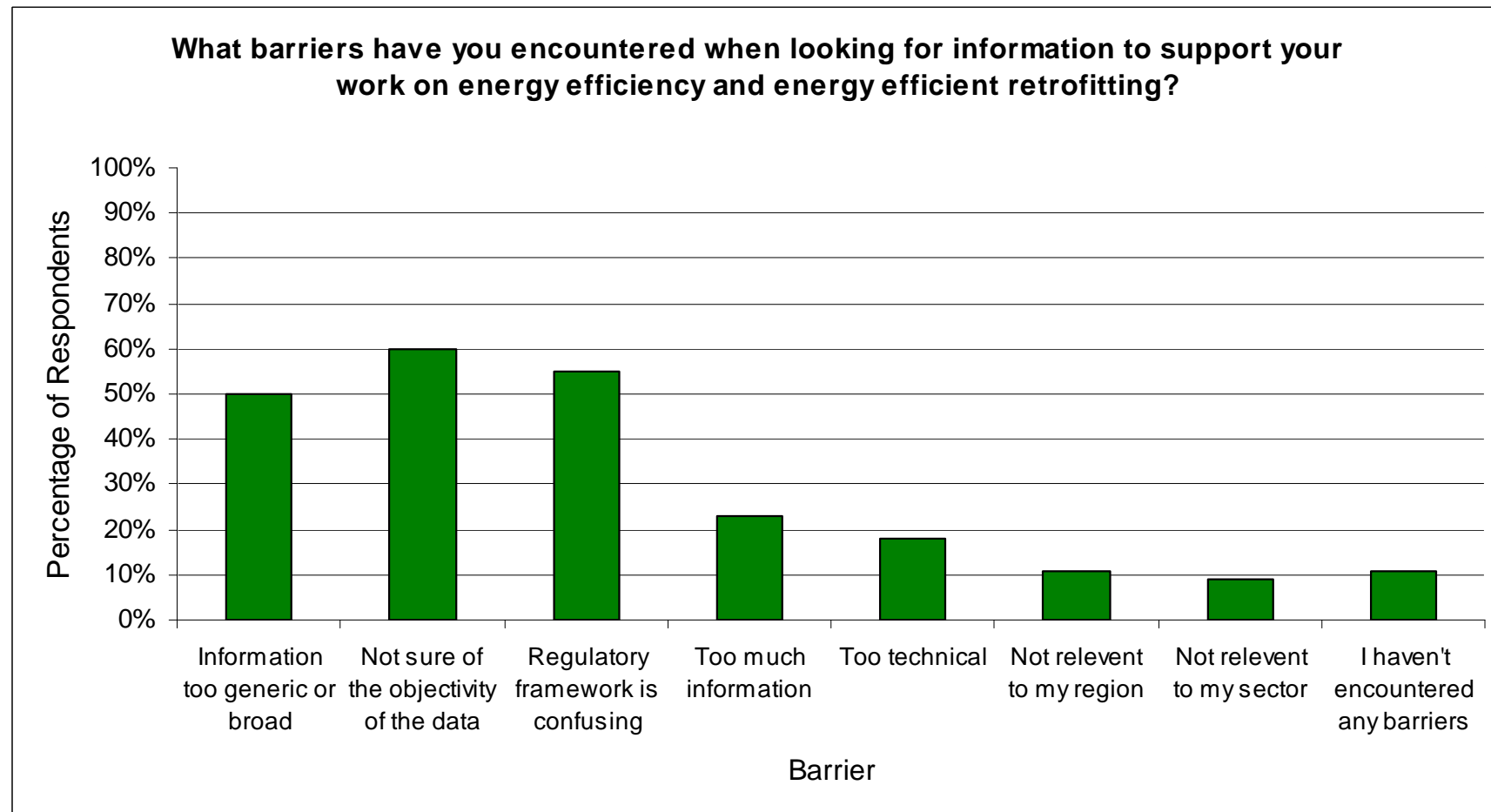
Communication

- Trade Press
- Urban Land
- Web sites
- Events/Awards

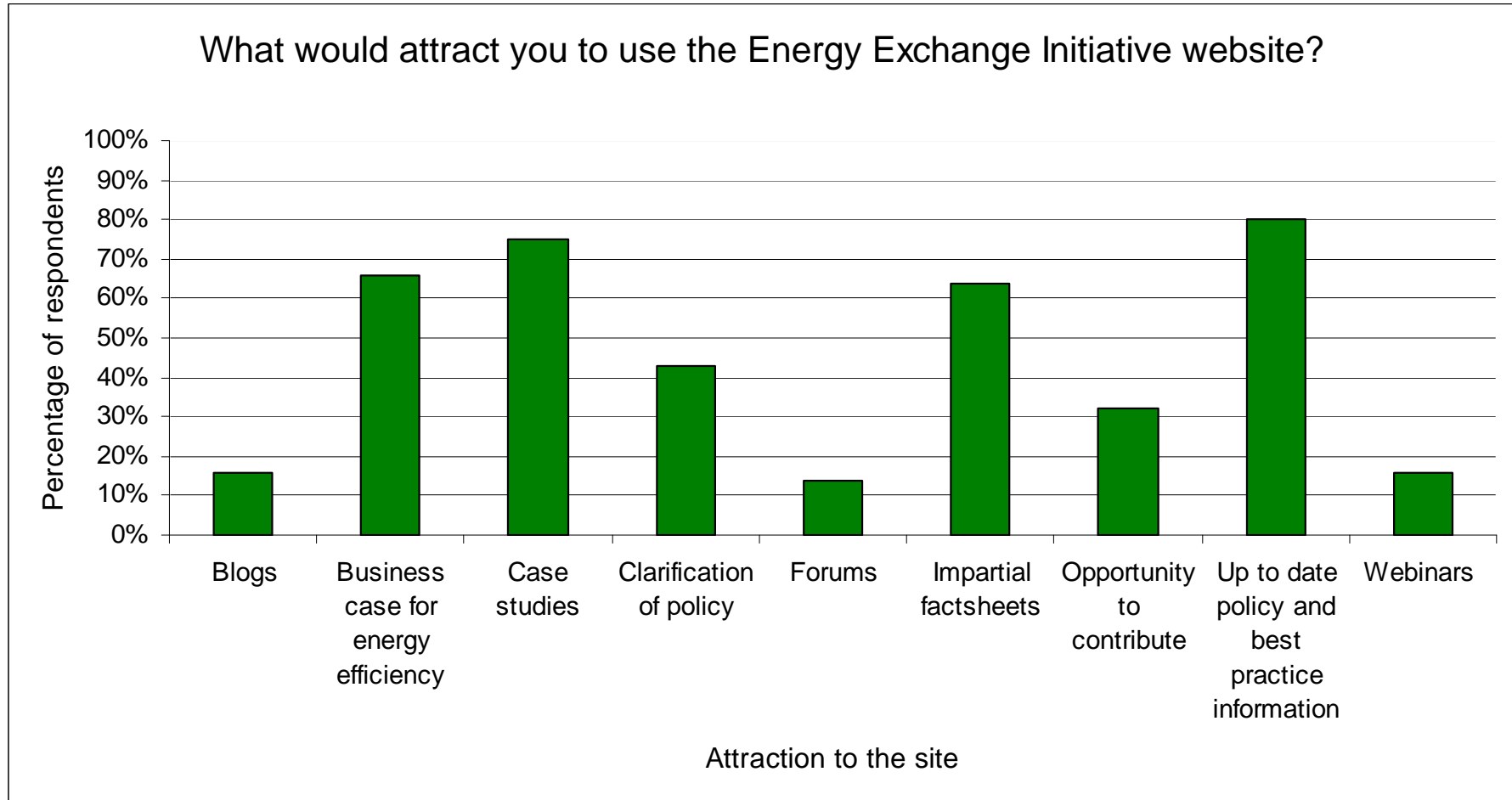
Survey results 1



Survey results 2



Survey results 3



Focus of Site



- ❑ Research has led to a specific focus of the site:
- ❑ Non-domestic only
- ❑ Pan-European
- ❑ Energy efficiency and retrofitting, rather than new build
- ❑ Covers efficiency of energy use, rather than energy supply



Tell us more about yourself - so we can filter the information relevant to you

34 Results for *Developer, Office and Design*



Case Studies

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tadiniscing

More info



Policies

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tadiniscing

More info



Energy Efficiency and Retrofitting Tips

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tadiniscing

More info



Business Case Reports

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tadiniscing

More info



About Us

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt.

More info



Products & Services

Supported by:

More info



Energy News

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt.

More info



Become a ULI Member

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt.

More info

Partners: **ARUP** **Chelsfield** **Gensler**

Search

Go

Architect

Design Group Trude Hooykaas (OTH)

Developer

ING Real Estate Development

Engineer

Aronsohn raadgevende Ingenieurs

Other

Project adviser: INBO Adviseurs Bouw, Woudenberg Initiative and design: Trude Hooykaas Installations: Huygen Installatie adviseurs, Rotterdam Building physics: Lichtveld, Ruls & Partners BV, Nieuwegein Project management: Grontmij / Kato & Waalwijk, Gorinchem

Contractor

M.J. de Nijs en Zn.

Size

12500m²

Sector

commercial

Developer

ING Real Estate Development

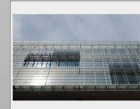
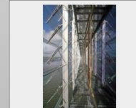
Type

refurbishment

Submitted

Josie Baum, ULI

Images



See Detailed Drawings



Download PDF



About this Project

Kraanspoor (translated as crane way) is a light-weight transparent office building of three floors built on top of a concrete crane way on the grounds of the former NDSM (Nederlandsche Dok en Scheepbouw Maatschappij) shipyard, a relic of Amsterdam's shipping industry. This industrial monument, built in 1952, has a length of 270 meters, a height of 13,5 meters and a width of 8,7 meters. A street length and width. The new construction on top is the same 270 meters long, with a width of 13,8 meters, accentuates the length of Kraanspoor and the phenomenal expansive view of the river IJ. Fully respecting its foundation, the building is lifted by slender steel columns 3 meters above the crane way, appearing to float above the impressive concrete colossus.

The challenge of the design was to utilize the maximum allowable load of the existing crane way. The concrete crane way functions as a By using a hollow infra- floor system, the piping and wiring are tucked away in the floor allowing for a maximum clear height.

The glass building is clear and simple in plan. The newly built construction is characterized by its transparent double-skin climate façade of glass: the outer layer of moveable motor-driven glass louvers appear as lace-work around the building, the inner façade is of hinged timber windows with a full height from office floor to ceiling. This climate façade allows natural ventilation of the offices and acts as a buffer against heat in the summer and cold in the winter. The concrete infra- underfloor of only 70mm allows for concrete core activity. The water from the IJ river is pumped up and used for heating as well as cooling via a water pump.

The pre-existing facilities have been utilised in the building's new function. The former four old stairwells still remain as entrance to the building and are foreseen with panorama lifts and new stairs. The two gangways/catwalks alongside the concrete crane way function as fire-escape routes. In the heart of the original concrete structure, underneath the new structure, is extensive archive/storage space.

Technical Specifications

- The transparent double-skin climate façade of glass: the outer layer of moveable motor-driven glass louvers appear as lace-work around the building, the inner façade is of hinged timber windows with a full height from office floor to ceiling. This climate façade allows natural ventilation of the offices and acts as a buffer against heat in the summer and cold in the winter.
- The concrete infra- underfloor of only 70mm allows for concrete core activity.
- The water from the IJ river is pumped up and used for heating as well as cooling via a water pump.

Energy Efficiency and Retrofitting Tips

Guide to energy efficiency and retrofitting 'quick wins' capital investments for your climate. Based on Arup's Survival Strategy for Existing Buildings and adapted by our members and users of The Exchange.

★ Quick Wins

★ Light Refurbishment

1. Relax room temperature set points
2. Optimise outside air free cooling
3. Raise building users' awareness of energy consumption
4. Energy consumption targets and monitoring
5. Ensure controls / energy consuming systems are working

Relax room temperature set points

Description

Building manager modifies setpoints to increase the range between the upper and lower limits for both humidity and temperature.

Environmental Benefit

★★★★ (High)

Cost

☆☆☆☆ (None)

Please filter by climate type:

Temperate

Continental

Dry



Temp Humidity Controller

Prepared By

Sara Turnbull, Senior Consultant, Arup

Reviewed By

Chris Twinn, Director, Arup



About Us

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt.

More info ▶



Products & Services

Supported by:

More info ▶



Energy News

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt.

More info ▶



Become a ULI Member

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt.

More info ▶

Partners: ARUP Chelsfield Gensler

Search

Go

Policy

Here you can find out about all of the regulatory requirements that apply across Europe and in your country, with brief summaries of all legislation covering energy efficiency and buildings. There is also information on emerging policies, and commentary pieces on how some companies have dealt with new regulations.



Filter these items - get the information relevant to you.



Pan European Policy

Information on the key pieces of legislation affecting all Member States of the European Union.

More info



National Policy

Information on all policies in place in specific countries across Europe.

More info



Commentary

Commentary pieces on current and emerging policy from industry members.

More info



Benchmarking Debate

A collection of reports discussing the various environmental benchmarking schemes in the industry.

More info



About Us

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt.

More info



Products & Services

Supported by:

More info



Energy News

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt.

More info



Become a ULI Member

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt.

More info

Partners: ARUP Chelsfield Gensler

Search

Go

The Energy Performance of Buildings Directive

Governing Body

The European Parliament and The Council of the European Union

Jurisdiction

Pan-European

Date

December 2002

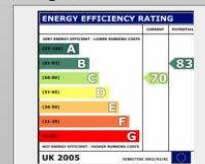
Source

EuroACE

Website

www.euroace.org

Images



Download Report

Commentaries

Summary

The EPBD of the European Parliament and Council, on the energy performance of buildings, came into force on 4 January 2003. It greatly affects awareness of energy use in buildings, and is intended to lead to substantial increases in investments in energy efficiency measures within these buildings.

All related Legislation needed to be placed by 4 January 2006 by Member States, and it affects all buildings, both domestic and non-domestic. The Directive has been implemented in different ways by different countries, and over different time periods.

Key Impacts

This Directive lays down requirements as regards:

- the general framework for a methodology of calculation of the integrated energy performance of buildings (Article 3);
- the application of minimum requirements on the energy performance of new buildings (Article 5);
- the application of minimum requirements on the energy performance of large existing buildings that are subject to major renovation (Article 6);
- energy certification of buildings (EPCs and DECs - Article 7); and
- regular inspection of boilers and of air-conditioning systems in buildings and in addition an assessment of the heating installation in which the boilers are more than 15 years old (Article 8 and 9).
- inspection of boilers and air-conditioning systems are carried out in an independent manner by qualified and/or accredited experts, whether operating as sole traders or employed by public or private enterprise bodies (Article 10).

About Us

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt.

More info

Products & Services

Supported by:

More info

Energy News

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt.

More info

Become a ULI Member

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt.

More info

Partners: ARUP Chelsfield Gensler

Search Go

Supporters of the Energy Efficiency Exchange

This page recognises those organisations who kindly support the Energy Efficiency Exchange.

If you are interested in becoming an Exchange Partner, there are a number of different ways to become involved. Please contact Josie Baum at jbaum@uli.org for more information.

Exchange Primary Partners:

ARUP Chelsfield

Exchange Partners:

Union Investment Gensler

Exchange Collaborators:



Exchange Knowledge Partners:



About Us

How the ULI Energy Efficiency Exchange started, and where we're going

More info

Products & Services

Page under construction

More info

Energy Updates

News, Events and Twitter updates from The Exchange and our partners

More info

Become a ULI Member

Find out more about the Urban Land Institute and the benefits of becoming a ULI member

More info

Partners: ARUP Chelsfield Gensler

 Search

Project Status / Next Steps



Phase I – completed October 2009

- ☐ Professionals & Leadership workshops
- ☐ Member survey, leadership interviews
- ☐ Initial content acquisition
- ☐ Website design & beta-test
- ☐ Corporate supporter group established

Phase II – by March 2010

- ☐ Additional content development and partnerships
- ☐ Site launch - media partners, ULI events
- ☐ Establish Advisory Board

Phase III – 2010-2011

- ☐ Product page, links, Webinars, forums/blogs
- ☐ Memberships/subscription revenue through tiered access
- ☐ Outsource maintenance to external parties

www.uliexchange.org



Alexandra Notay
Research Director – ULI Europe
anotay@uli.org
+44 207 487 9571