

Sisteme de certificare- cladiri verzi

EURO-Fereastra, Bucuresti, 14 mai 2013

The logo for AGC is centered in a white square. It features the letters 'AGC' in a bold, blue, sans-serif font. A small red square is positioned between the 'A' and 'G'. Two horizontal white lines extend from the left and right sides of the white square, crossing the text.

AGC

GLASS UNLIMITED

AGC Group – prezenta in mai multe sectoare de activitate

1) Sticla



2) Electronics & Display



3) Chemicals



AGC Group – prezenta pe 4 continente

Cifra de afaceri: peste €11 miliarde euro

- 54,000 angajati
- mai mult de 200 companii
- Sediul central in Tokyo
- cotata pe bursa, Tokyo Stock Exchange
- in 2012 : alianta cu INTERPANE
- lider mondial in productia de sticla

Note: 2006 figures

... din Spania pana in Rusia

■ Commercial / Distribution

■ Production / Processing

▶ No. 1 in Rusia, Europa Centrala, Italia si Benelux

▶ R&D Centre

▶ 20 floats

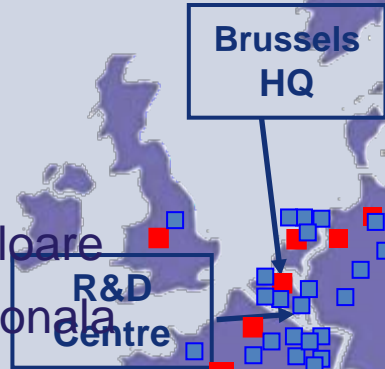
▶ ± 100 production sites

▶ Leader in high-tech & produse din sticla cu plusvaloare

▶ retea de vanzari internationala

▶ 15,000 angajati

▶ vanzari: aproximativ 2 miliarde EUR

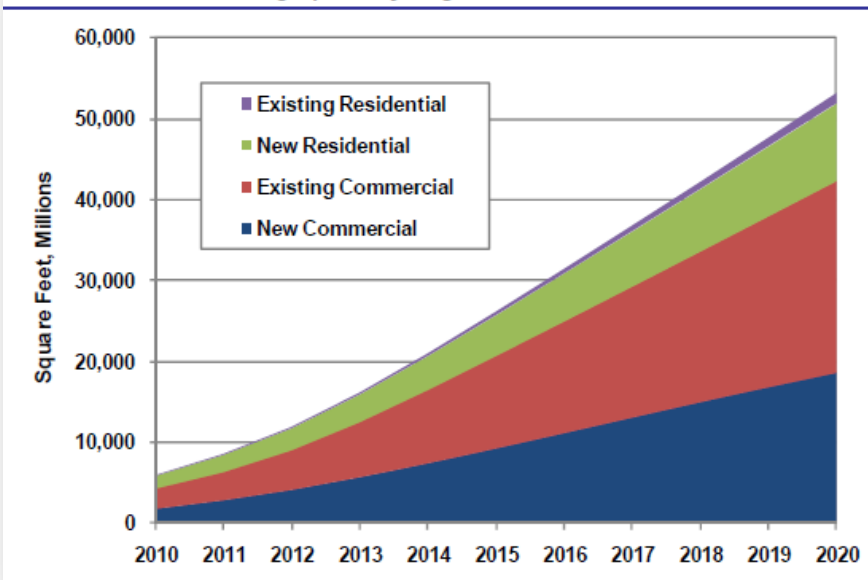


cativa factori importanti:

in Europa, in anii urmatori ne asteptam la:

- noi **reglementari mai dure** din partea Comisiei Europene/ Nationale
- piata va considera **cladirile verzi** ca un « standard »;
- marirea **preturilor energiei**
- constientizarea importantei **sustenabilitatii**

Certified Green Building Space by Segment, World Markets: 2010-2020



(Source: Pike Research)

...Asa incat multi investitori in real estate se vor indrepta catre **certificarea de cladiri verzi**, intrucat lipsa acestei certificari va avea consecinte financiare serioase.

Ce este o cladire verde?

Cladire verde (sau sustenabila) se refera la o structura si la procesul de a o exploata in decursul anilor **in mod responsabil fata de mediu**, folosind **resursele la modul cel mai eficient**, de la proiectare, constructie, mentenanta si renovare, pana la demolare.

Este nevoie de o **strasa conlucrare** intre proiectanti, arhitecti, ingineri si client in toate fazele proiectului.

Procesul este laborios si este intotdeauna util **sa se adapteze sitului** real.

De ce cladiri verzi? Pentru ca:

- resursele planetei sunt limitate
- limitam distrugerea ecosistemului
- pretuim sanatatea ocupantilor cladirilor
- programul 20/20/20
- pe termen lung se economisesc bani



Care sunt beneficiile certificarii?

cladirile certificate primesc documente care:

- permit **diferentierea si comparatia** cu alte cladiri
- furnizeaza un sistem de permite **reducerea costurilor de exploatare**, imbunatatind conditiile de lucru ale ocupantilor
- ajuta companiile sa demonstreze practic si real **responsabilitatea sociala**
- **stimuleaza cererea pietii** pentru cladiri sustenabile

principalele sisteme de certificare

BREEAM®



DGNB®

Deutsche Gesellschaft für Nachhaltiges Bauen e.V.
German Sustainable Building Council



proprietati "tehnice"

parametrii opto-energetici

siguranta

atenuare fonica

...

Impact asupra mediului

reciclare

inovatie

LCA

EPD

certIFICATE DE PRODUSE VERZI

Care sunt principiile de certificare?

- schema voluntara
- categoriile analizate transced legislatia nationala:

BREEAM	LEED	DGNB	HQE
<ul style="list-style-type: none">• Management• Health & well being• Energy• Transport• Water• Materials• Waste• Land Use & Ecology• Pollution• Innovation	<ul style="list-style-type: none">• Sustainable site• Water efficiency• Energy & Atmosphere• Materials & Resources• Indoor environmental quality• Innovation & Design Process	<ul style="list-style-type: none">• Ecological quality• Economical quality• Socio-cultural quality• Process quality• Site use	<ul style="list-style-type: none">• Eco-construction• Eco-management• Comfort• Health

Sursa: A comparison of green building certifications in Europe: How does it apply to practice in Luxembourg. PWC, January 2013.

- exista un evaluator independent
- se acorda puncte la fiecare categorie
- se emite un certificat

Comparatia principalelor sisteme

	BREEAM	LEED	DGNB	HQE
Target buildings	<ul style="list-style-type: none"> • New building • Extension • Existing building • Major renovation • Shell & Core 	<ul style="list-style-type: none"> • New building • Extension • Existing building • Major renovation • Shell & Core 	<ul style="list-style-type: none"> • New building • Existing building • Renovation 	<ul style="list-style-type: none"> • New buildings • Renovation • In-Use
Scoring	<ul style="list-style-type: none"> • Unclassified • Passable • Good • Very good • Excellent • Outstanding 	<ul style="list-style-type: none"> • Certified • Silver • Gold • Platinum 	<ul style="list-style-type: none"> • Bronze • Silver • Gold 	<ul style="list-style-type: none"> • Passable • Very good • Excellent • Exceptional
International Schemes	<ul style="list-style-type: none"> • Office • Retail • Industrial • Specific purposes • BREEAM In-Use • Bespoke 	<ul style="list-style-type: none"> • Offices, • Commercial Interior • LEED ND • LEED Existing Buildings 	<ul style="list-style-type: none"> • Offices, • Retail • Industrial • Specific purposes 	<ul style="list-style-type: none"> • Tertiary • Renovation • In Use

Sursa: A comparison of green building certifications in Europe: How does it apply to practice in Luxembourg. PWC, January 2013.

Comparatia principalelor sisteme

	BREEAM	LEED	DGNB	HQE
Fees (on m2)	<ul style="list-style-type: none"> •Registration •BRE Quality Assurance •Assessor 	<ul style="list-style-type: none"> •Registration •US GBC fees 	<ul style="list-style-type: none"> •Registration •DGNB fees •Auditors fees 	<ul style="list-style-type: none"> •Registration •Certivéa Fees
Exp on 10.000m2	•(AMO) * *	•(AMO)	•(AMO) * * * *	•(AMO) * * *
Complexity of the process	Medium-	Medium-	Complex	Medium+
Certification	BREEAM assessors BRE QA	(LEED accredited professional) USGBCI	DGNB auditors DGNB	HQE auditors Certivéa

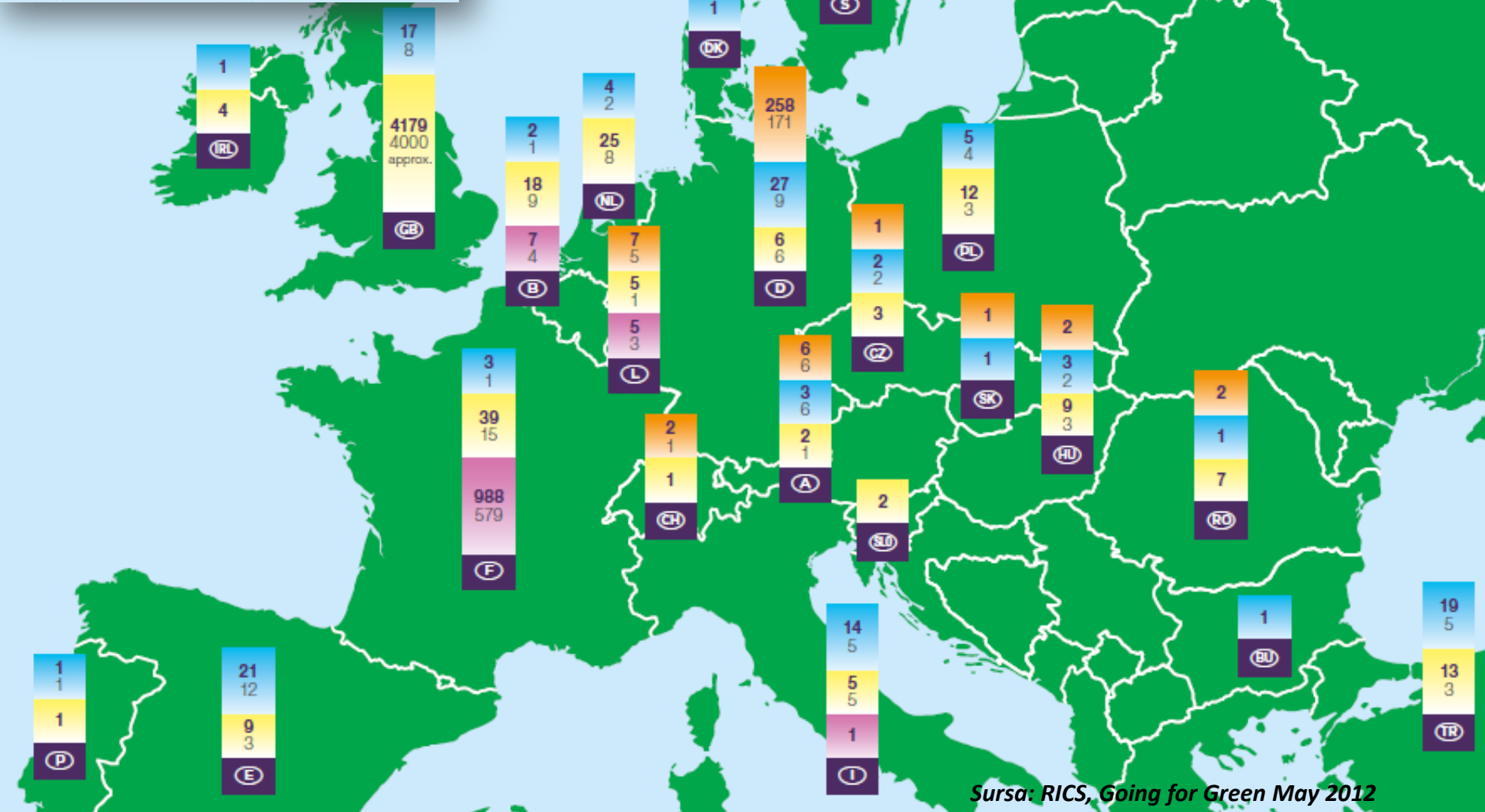
Sursa: A comparison of green building certifications in Europe: How does it apply to practice in Luxembourg. PWC, January 2013.

pentru CINE este utila certificarea?

- **Clientii, dezvoltatorii, fondurile de investitii** pentru a demonstra performantele sustenabile ale cladirilor intr-un mod rapid, comprehensiv, vizibil si recunoscut de jucatorii de pe piata.
- **Agentii imobiliari ce vor putea explica beneficiile** ce vor putea explica beneficiile cladirii catre chiriasi sau cumparatori
- **Proiectanti, arhitecti** ca metoda de imbunatire a proiectarii
- **Managerii** care vor putea reduce mai usor costurile cu exploatarea, vor putea masura si elabora noi strategii de imbunatire pe viitor.
- **Chiriasii / proprietarii care** vor avea un mediu de viata/lucru placut, sanatos si nu foarte scump de intretinut.

DGNB	Source: www.dgnb.de Status: 7 May 2012
LEED	Source: www.gbci.org Updated: 27 March 2012
BREEAM	Source: www.greenbooklive.com Status: 30 April 2012; BRE statistics September 2009
HQE	Source: www.certivea.fr Status: 11 April 2012

Included are all building certificates (commercial and residential apartment buildings).
The top figures in bold refer to 2012 data; the figures below refer to 2011.



Ce proprietati « verzi » are sticla?

Performante tehnice:

controlul stralucirii, atenuare fonica, izolatie termica, controlul insoririi, iluminat natural, siguranta (ranire, cadere, foc, explozii..), antibacteriana,..

Sustenabilitatea produsului si inovatii de-a lungul lantului de aprovizionare:

- NU se emit substante periculoase pentru mediu/oameni
- se folosesc materiale local
- se tine seama de amprenta de carbon si LCA
- un sistem de management ce tine seama de proceduri stricte (de ex ISO 14001)...



cum se obtin creditele?

BREEAM Europe Commercial 2009

Management (MAN)

- MAN1 – Commissioning (2 credits)
- MAN2 – Constructors' Environmental & Social Code of Conduct (2 credits)
- MAN3 – Construction Site Impacts (4 credits)
- MAN4 – Building User Guide (1 credit)
- MAN12 – Life Cycle Cost Analysis (2 credits)

Health & Wellbeing (HEA)

- HEA1 – Daylighting (1 credit)
- HEA2 – View Out (1 credit)
- HEA3 – Glare Control (1 credit)
- HEA4 – High Frequency Lighting (1 credit)
- HEA5 – Internal & External Lighting Levels (1 credit)
- HEA6 – Lighting Zones and Controls (1 credit)
- HEA7 – Potential for Natural Ventilation (1 credit)
- HEA8 – Indoor Air Quality (1 credit)
- HEA9 – Volatile Organic Compounds (1 credit)
- HEA10 – Thermal Comfort (2 credits)
- HEA11 – Thermal Zoning (1 credit)
- HEA12 – Microbial Contamination (1 credit)
- HEA13 – Acoustic Performance (1 credit)
- HEA14 – Office Space (2 credits)

Energy (ENE)

- ENE1 – Energy Efficiency (15 credits)
- ENE2 – Sub-metering of Energy Uses (1 credit)
- ENE3 – Sub-metering of High Energy Load & Tenancy Areas (1 credit)
- ENE4 – External Lighting (1 credit)
- ENE5 – Low or Zero Carbon Technologies (3 credits)
- ENE6 – Building Fabric Performance & Avoidance of Air Infiltration (1 credit)
- ENE7 – Cold Storage (3 credits)
- ENE8 – Lifts (2 credits)
- ENE9 – Escalators and Travelling Walkways (1 credit)

Transport (TRA)

- TRA1 – Provision of Public Transport (4 credits)
- TRA2 – Proximity to Amenities (1 credit)
- TRA3 – Alternative Modes of Transport (3 credits)
- TRA4 – Pedestrian and Cyclist Safety (2 credits)
- TRA5 – Travel Plan (1 credit)
- TRA6 – Maximum Car Parking Capacity (2 credits)
- TRA7 – Travel Information Point (1 credit)
- TRA8 – Deliveries & Manoeuvring (1 credit)

Water (WAT)

- WAT1 – Water Consumption (3 credits)
- WAT2 – Water Meter (1 credit)
- WAT3 – Major Leak Detection (1 credit)
- WAT4 – Sanitary Supply Shut Off (1 credit)
- WAT6 – Irrigation Systems (1 credit)
- WAT7 – Vehicle Wash (1 credit)
- WAT8 – Sustainable On-site Water Treatment (2 credits)

influenta sticlei AGC

BREEAM Europe Commercial 2009 AGC issues

Management (MAN)

- MAN1 – Commissioning (2 credits)
- MAN2 – Constructors' Environmental & Social Code of Conduct (2 credits)
- MAN3 – Construction Site Impacts (4 credits)
- MAN4 – Building User Guide (1 credit)
- MAN12 – Life Cycle Cost Analysis (2 credits)

Health & Wellbeing (HEA)

- HEA1 – Daylighting (1 credit)
- HEA2 – View Out (1 credit)
- HEA3 – Glare Control (1 credit)
- HEA4 – High Frequency Lighting (1 credit)
- HEA5 – Internal & External Lighting Levels (1 credit)
- HEA6 – Lighting Zones and Controls (1 credit)
- HEA7 – Potential for Natural Ventilation (1 credit)
- HEA8 – Indoor Air Quality (1 credit)
- HEA9 – Volatile Organic Compounds (1 credit)
- HEA10 – Thermal Comfort (2 credits)
- HEA11 – Thermal Zoning (1 credit)
- HEA12 – Microbial Contamination (1 credit)
- HEA13 – Acoustic Performance (1 credit)
- HEA14 – Office Space (2 credits)

Energy (ENE)

- ENE1 – Energy Efficiency (15 credits)
- ENE2 – Sub-metering of Energy Uses (1 credit)
- ENE3 – Sub-metering of High Energy Load & Tenancy Areas (1 credit)
- ENE4 – External Lighting (1 credit)
- ENE5 – Low or Zero Carbon Technologies (3 credits)
- ENE6 – Building Fabric Performance & Avoidance of Air Infiltration (1 credit)
- ENE7 – Cold Storage (3 credits)
- ENE8 – Lifts (2 credits)
- ENE9 – Escalators and Travelling Walkways (1 credit)

Transport (TRA)

- TRA1 – Provision of Public Transport (4 credits)
- TRA2 – Proximity to Amenities (1 credit)
- TRA3 – Alternative Modes of Transport (3 credits)
- TRA4 – Pedestrian and Cyclist Safety (2 credits)
- TRA5 – Travel Plan (1 credit)
- TRA6 – Maximum Car Parking Capacity (2 credits)
- TRA7 – Travel Information Point (1 credit)
- TRA8 – Deliveries & Manoeuvring (1 credit)

Water (WAT)

- WAT1 – Water Consumption (3 credits)
- WAT2 – Water Meter (1 credit)
- WAT3 – Major Leak Detection (1 credit)
- WAT4 – Sanitary Supply Shut Off (1 credit)
- WAT6 – Irrigation Systems (1 credit)
- WAT7 – Vehicle Wash (1 credit)
- WAT8 – Sustainable On-site Water Treatment (2 credits)

cum se obtin creditele?

BREEAM Europe Commercial 2009

Materials (MAT)

- MAT1 – Materials Specification (4 credits)
- MAT2 – Hard Landscaping and Boundary Protection (1 credit)
- MAT3 – Re-use of Façade (1 credit)
- MAT4 – Re-use of Structure (1 credit)
- MAT5 – Responsible Sourcing of Materials (3 credits)
- MAT6 – Insulation (2 credits)
- MAT7 – Designing for Robustness (1 credit)

Waste (WST)

- WST1 – Construction Site Waste Management (3 credits)
- WST2 – Recycled Aggregates (1 credit)
- WST3 – Recyclable Waste Storage (1 credit)
- WST4 – Compactor / Baler (1 credit)
- WST5 – Composting (1 credit)
- WST6 – Floor Finishes (1 credit)

Land Use & Ecology (LE)

- LE1 – Re-use of Land (1 credit)
- LE2 – Contaminated Land (1 credit)
- LE3 – Ecological Value of Site and Protection of Ecological Features (1 credit)
- LE4 – Mitigating Ecological Impact (5 credits)
- LE6 – Long Term Impact on Biodiversity (2 credits)

Pollution (POL)

- POL1 – Refrigerant GWP - Building Services (1 credit)
- POL2 – Preventing Refrigerant Leaks (2 credits)
- POL3 – Refrigerant GWP - Cold Storage (1 credit)
- POL4 – NO_x Emissions from Heating Source (3 credits)
- POL5 – Flood Risk (3 credits)
- POL6 – Minimising Watercourse Pollution (1 credit)
- POL7 – Reduction of Night Time Light Pollution (1 credit)
- POL8 – Noise Attenuation (1 credit)

Innovation (INN)

- INN1 – Innovation (10 credits)

influenta sticlei AGC

BREEAM Europe Commercial 2009 AGC issues

Materials (MAT)

- MAT1 – Materials Specification (4 credits)
- MAT2 – Hard Landscaping and Boundary Protection (1 credit)
- MAT3 – Re-use of Façade (1 credit)
- MAT4 – Re-use of Structure (1 credit)
- MAT5 – Responsible Sourcing of Materials (3 credits)
- MAT6 – Insulation (2 credits)
- MAT7 – Designing for Robustness (1 credit)

Waste (WST)

- WST1 – Construction Site Waste Management (3 credits)
- WST2 – Recycled Aggregates (1 credit)
- WST3 – Recyclable Waste Storage (1 credit)
- WST4 – Compactor / Baler (1 credit)
- WST5 – Composting (1 credit)
- WST6 – Floor Finishes (1 credit)

Land Use & Ecology (LE)

- LE1 – Re-use of Land (1 credit)
- LE2 – Contaminated Land (1 credit)
- LE3 – Ecological Value of Site and Protection of Ecological Features (1 credit)
- LE4 – Mitigating Ecological Impact (5 credits)
- LE6 – Long Term Impact on Biodiversity (2 credits)

Pollution (POL)

- POL1 – Refrigerant GWP - Building Services (1 credit)
- POL2 – Preventing Refrigerant Leaks (2 credits)
- POL3 – Refrigerant GWP - Cold Storage (1 credit)
- POL4 – NO_x Emissions from Heating Source (3 credits)
- POL5 – Flood Risk (3 credits)
- POL6 – Minimising Watercourse Pollution (1 credit)
- POL7 – Reduction of Night Time Light Pollution (1 credit)
- POL8 – Noise Attenuation (1 credit)

Inno- vation (INN)

- INN1 – Innovation (10 credits)

cum se obtin creditele?

LEED 2009 for New Construction and Major Renovations

Sustainable Sites (SS)

- SSp1 – Construction Activity Pollution Prevention (required)
- SSc1 – Site Selection (1 point)
- SSc2 – Development Density and Community Connectivity (5 points)
- SSc3 – Brownfield Redevelopment (1 point)
- SSc4.1 – Alternative Transportation - Public Transportation Access (6 points)
- SSc4.2 – Alternative Transportation - Bicycle Storage & Changing Rooms (1 point)
- SSc4.3 – Alternative Transportation - Low-Emitting & Fuel-Efficient Vehicles (3 points)
- SSc4.4 – Alternative Transportation - Parking Capacity (2 points)
- SSc5.1 – Site Development - Protect or Restore Habitat (1 point)
- SSc5.2 – Site Development - Maximize Open Space (1 point)
- SSc6.1 – Stormwater Design - Quantity Control (1 point)
- SSc6.2 – Stormwater Design - Quality Control (1 point)
- SSc7.1 – Heat Island Effect - Nonroof (1 point)
- SSc7.2 – Heat Island Effect - Roof (1 point)
- SSc8 – Light Pollution Reduction (1 point)

Water Efficiency (WE)

- WEp1 – Water Use Reduction (required)
- WEc1 – Water Efficient Landscaping (4 points)
- WEc2 – Innovative Wastewater Technologies (2 points)
- WEc3 – Water Use Reduction (4 points)

Energy & Atmosphere (EA)

- EAp1 – Fundamental Commissioning of Building Energy Systems (required)
- EAp2 – Minimum Energy Performance (required)
- EAp3 – Fundamental Refrigerant Management (required)
- EAc1 – Optimize Energy Performance (19 points)
- EAc2 – On-site Renewable Energy (7 points)
- EAc3 – Enhanced Commissioning (2 points)
- EAc4 – Enhanced Refrigerant Management (2 points)
- EAc5 – Measurement & Verification (3 points)
- EAc6 – Green Power (2 points)

influenta sticlei AGC

LEED 2009 for New Construction and Major Renovations – AGC Credits

Sustainable Sites (SS)

- SSp1 – Construction Activity Pollution Prevention (required)
- SSc1 – Site Selection (1 point)
- SSc2 – Development Density and Community Connectivity (5 points)
- SSc3 – Brownfield Redevelopment (1 point)
- SSc4.1 – Alternative Transportation - Public Transportation Access (6 points)
- SSc4.2 – Alternative Transportation - Bicycle Storage & Changing Rooms (1 point)
- SSc4.3 – Alternative Transportation - Low-Emitting & Fuel-Efficient Vehicles (3 points)
- SSc4.4 – Alternative Transportation - Parking Capacity (2 points)
- SSc5.1 – Site Development - Protect or Restore Habitat (1 point)
- SSc5.2 – Site Development - Maximize Open Space (1 point)
- SSc6.1 – Stormwater Design - Quantity Control (1 point)
- SSc6.2 – Stormwater Design - Quality Control (1 point)
- SSc7.1 – Heat Island Effect - Nonroof (1 point)
- SSc7.2 – Heat Island Effect - Roof (1 point)
- SSc8 – Light Pollution Reduction (1 point)

Water Efficiency (WE)

- WEp1 – Water Use Reduction (required)
- WEc1 – Water Efficient Landscaping (4 points)
- WEc2 – Innovative Wastewater Technologies (2 points)
- WEc3 – Water Use Reduction (4 points)

Energy & Atmosphere (EA)

- EAp1 – Fundamental Commissioning of Building Energy Systems (required)
- EAp2 – Minimum Energy Performance (required)
- EAp3 – Fundamental Refrigerant Management (required)
- EAc1 – Optimize Energy Performance (19 points)
- EAc2 – On-site Renewable Energy (7 points)
- EAc3 – Enhanced Commissioning (2 points)
- EAc4 – Enhanced Refrigerant Management (2 points)
- EAc5 – Measurement & Verification (3 points)
- EAc6 – Green Power (2 points)

cum se obtin creditele?

LEED 2009 for New Construction And Major Renovations

Materials & Resources (MR)

- MRp1 – Storage and Collection of Recyclables (required)
- MRc1.1 – Building Reuse - Maintain Existing Walls, Floors and Roof (3 points)
- MRc1.2 – Building Reuse - Maintain Interior Nonstructural Elements (1 point)
- MRc2 – Construction Waste Management (2 points)
- MRc3 – Materials Reuse (2 points)
- MRc4 – Recycled Content (2 points)
- MRc5 – Regional Materials (2 points)
- MRc6 – Rapidly Renewable Materials (1 point)
- MRc7 – Certified Wood (1 point)

Innovation in Design (ID)

- IDc1 – Innovation in Design (5 points)
- IDc2 – LEED Accredited Professional (1 point)

Regional Priority (RP)

- RPc1 – Regional Priority (4 points)

Indoor Environmental Quality (IEQ)

- IEQp1 – Minimum Indoor Air Quality Performance (required)
- IEQp2 – Environmental Tobacco Smoke Control (required)
- IEQc1 – Outdoor Air Delivery Monitoring (1 point)
- IEQc2 – Increased Ventilation (1 point)
- IEQc3.1 – Construction Indoor Air Quality Management Plan - During Construction (1 point)
- IEQc3.1 – Construction Indoor Air Quality Management Plan - Before Occupancy (1 point)
- IEQc4.1 – Low-Emitting Materials - Adhesives & Sealants (1 point)
- IEQc4.2 – Low-Emitting Materials - Paints & Coatings (1 point)
- IEQc4.3 – Low-Emitting Materials - Flooring Systems (1 point)
- IEQc4.4 – Low-Emitting Materials - Composite Wood & Agrifiber Products (1 point)
- IEQc5 – Indoor Chemical & Pollutant Source Control (1 point)
- IEQc6.1 – Controllability of Systems - Lighting (1 point)
- IEQc6.2 – Controllability of Systems - Thermal Comfort (1 point)
- IEQc7.1 – Thermal Comfort - Design (1 point)
- IEQc7.2 – Thermal Comfort - Verification (1 point)
- IEQc8.1 – Daylight & Views - Daylight (1 point)
- IEQc8.2 – Daylight & Views - Views (1 point)

influenta sticlei AGC

LEED 2009 for New Construction And Major Renovations – AGC Credits

Materials & Resources (MR)

- MRp1 – Storage and Collection of Recyclables (required)
- MRc1.1 – Building Reuse - Maintain Existing Walls, Floors and Roof (3 points)
- MRc1.2 – Building Reuse - Maintain Interior Nonstructural Elements (1 point)
- MRc2 – Construction Waste Management (2 points)
- MRc3 – Materials Reuse (2 points)
- MRc4 – Recycled Content (2 points)
- MRc5 – Regional Materials (2 points)
- MRc6 – Rapidly Renewable Materials (1 point)
- MRc7 – Certified Wood (1 point)

Innovation in Design (ID)

- IDc1 – Innovation in Design (5 points)
- IDc2 – LEED Accredited Professional (1 point)

Regional Priority (RP)

- RPc1 – Regional Priority (4 points)

Indoor Environmental Quality (IEQ)

- IEQp1 – Minimum Indoor Air Quality Performance (required)
- IEQp2 – Environmental Tobacco Smoke Control (required)
- IEQc1 – Outdoor Air Delivery Monitoring (1 point)
- IEQc2 – Increased Ventilation (1 point)
- IEQc3.1 – Construction Indoor Air Quality Management Plan - During Construction (1 point)
- IEQc3.1 – Construction Indoor Air Quality Management Plan - Before Occupancy (1 point)
- IEQc4.1 – Low-Emitting Materials - Adhesives & Sealants (1 point)
- IEQc4.2 – Low-Emitting Materials - Paints & Coatings (1 point)
- IEQc4.3 – Low-Emitting Materials - Flooring Systems (1 point)
- IEQc4.4 – Low-Emitting Materials - Composite Wood & Agrifiber Products (1 point)
- IEQc5 – Indoor Chemical & Pollutant Source Control (1 point)
- IEQc6.1 – Controllability of Systems - Lighting (1 point)
- IEQc6.2 – Controllability of Systems - Thermal Comfort (1 point)
- IEQc7.1 – Thermal Comfort - Design (1 point)
- IEQc7.2 – Thermal Comfort - Verification (1 point)
- IEQc8.1 – Daylight & Views - Daylight (1 point)
- IEQc8.2 – Daylight & Views - Views (1 point)

AGC Glass Europe- cum facem noi pentru ca voi sa obtineti mai multe credite

Raw Materials & Energy

- Regional supply priority for sand, cullet.
- Natural soda supply priority (footprint reduction).
- Renewable energy: increase of our green electricity supply.

MRC5

LEED
Environmental
Issues

Manufacture Operations

- ISO 14001: AGC float sites and soda & sand suppliers
- The amount of energy required to produce 1 T of flat glass is **10%** of what it was 100 years ago.
- Regional priority: over 100 sites from Spain to Russia, near our customers.

MAT5

MRC5

Transportation

- 64 % of all raw materials is transported by **ship or train** =77,000 trucks per year off the road
- Multi-modal priority to reduce AGC footprint.
- Little-to-no waste packaging of our products thanks to transport mode.

MRC5

WST1

IEQc4.2

IEA9

Product eco-design

- Very low emitting materials as per ISO 16000.
- Innovative products: 50% of the products to be marketed in 10 years do not exist today
- No hazardous substances as per REACH Regulation and Cradle to Cradle Certified^{CM} products
- Glass is **100% recyclable**: 30% recycled glass in AGC products composition.

INN1

IDc1

MAT1

IDc1

MRC4

70% of AGC R&D budget is devoted to sustainable products, solutions and manufacturing.

Valoarea produselor Cradle to Cradle Certified^{CM}



- AGC a fost **primul** producator european de sticla ce a obtinut certificare C2C **silver level**.
- acest lucru demonstreaza pozitie AGC in ceea ce priveste **inovatia**.
- In LEED v3, Cradle to Cradle certified products pot primi **puncte suplimentare (1..5)** la categoria Innovation in Design; si inca 1 punct in categoria Pilot Credit 43: Certified Products.

Stopray Ultra 50: **Produsul Inovativ al Anului**, premiile Consiliului Român pentru Clădiri Verzi- ROGBC



AGC

puteti alege orice culoare de sticla va place, le avem pe toate; sticla AGC este oricum **GREEN!**

In Cluj, cladirile certificate LEED, BREEAM sau DGNB + clasa A conform legii 372 beneficiaza de reducerea cu 50% a impozitului pe cladiri

CONSILIUL LOCAL AL MUNICIPIULUI
CLUJ-NAPOCA

PROIECT AVIZAT
SECRETAR
Jr. Aurora Zimare

5/24.05.2012

HOTĂRÂRE

privind reducerea impozitului pe clădiri aferent imobilelor cu o performanță energetică superioară și care dețin o certificare oficială, recunoscută la nivel mondial (LEED, BREEAM sau DGNB), ca și „construcții verzi”.

Consiliul local al municipiului Cluj-Napoca întrunit în sesiunea extraordinară, Examinând proiectul de hotărâre privind reducerea impozitului pe clădiri aferent imobilelor cu o performanță energetică superioară și care dețin o certificare oficială, recunoscută la nivel mondial (LEED, BREEAM sau DGNB), ca și „construcții verzi” – proiect la inițiativa consilierilor Laszlo Attila, Molnos Lajos, Somogyi Gyula, Irsay Miklós, Csorna Botond;

Analizând referatul nr. 156826 din 21/05/2012 al Direcției de taxe și impozite, precum și Nota de fundamentare nr. 153112/17.05.2012 prin care se propune reducerea impozitului pe clădiri aferent imobilelor cu o performanță energetică superioară și care dețin o certificare oficială, recunoscută la nivel mondial (LEED, BREEAM sau DGNB), ca și „construcții verzi”.

Având în vedere avizul comisiei de specialitate;

Având în vedere dispozițiunile art. 253 alin(2) precum și 286 alin(1) din Legea 571/2003 Codul Fiscal, cu modificările și completările ulterioare;

Potrivit dispozițiilor art. 36, 39 și 45 din Legea nr. 215/2001 a administrației publice locale, republicată, cu modificările și completările ulterioare,

HOTĂRĂȘTE:

Art. 1. Pentru persoanele juridice, Consiliul Local stabilește cota minimă de impozitare stabilită în conformitate cu art.253 alin(2) din Codul fiscal, pentru clădirea aflată în „clasa energetică A” și care deține o certificare oficială recunoscută la nivel mondial(LEED, BREEAM sau DGNB), ca și „clădire verde” începând cu anul fiscal 2013.

Art. 2. Pentru persoanele fizice, Consiliul local acordă o reducere cu 50% de la plata impozitului pe clădirea, folosită ca domiciliu, aflată în „clasa energetică A” și care deține o certificare oficială recunoscută la nivel mondial(LEED, BREEAM sau DGNB) ca și „clădire verde” începând cu anul fiscal 2013.

Art. 3. Acordarea facilităților se face la cerere însoțită de următoarele acte:

- Procesul verbal de recepție la terminarea lucrărilor elaborat de serviciul de urbanism
- Certificatul de performanță energetică „clasa energetică A”
- Certificatul internațional „Clădirea verde” recunoscut la nivel mondial(LEED, BREEAM sau DGNB)

-Declarația de conformitate eliberată de Consiliul Roman Pentru Clădiri Verzi

Art. 4. Cu îndeplinirea prevederilor hotărârii se încredințează Direcția de taxe și impozite locale.



Cladiri verzi- pro si contra

:-) **aspectul cel mai criticat: costul.** Totusi, raportat la economiile generate in timp, in general este mai eficient economic sa construiesti si exploatezi o cladire verde. Beneficiile indirecte (de ex sanatatea fizica si psihica a ocupantilor) sunt de asemenea importante

;-) studiile arata ca **pe o perioada de 20 ani**, este foarte probabil ca unele cladiri verzi **sa economiseasca** intre \$53 si \$71 per square foot construit (\$ 570- \$ 765/ mp construit).^[*]

;-) realitatea arata ca in toate cladirile verzi se aplica un **nivel mai ridicat al chiriei** (minim +15%); preturile de vanzare si rata de ocupare sunt mai mari

* wikipedia.com respectiv Langdon, Davis. The Cost of Green Revisited. Publication. 2007.

studiu de caz: importanta certificarii Cradle to Cradle



- In 2012, AGC Glass Europe a livrat sticla pentru proiectul **Park 20|20** in Hoofddorp (NL) pentru vitraje **Cradle to Cradle Certified^{CM}** .
- datorita certificarii **C2C Silver** produsele AGC au fost alese.

produse AGC :

700 m² Stopray Vision 50 –sticla de control solar.
500 m² sticla clara care a fost serigrafata

noul sediu al AGC Glass Europe- *Brussels area, Belgium*

am folosit certificarea intr-un proiect dezvoltat pentru noi:

- fatade de sticla si parasolare de sticla.
- “**Green**” ca si constructie, dar si in administrare
- Folosind sticle AGC pentru fatade si design interior in combinatie cu materiale naturale (lemn, piatra,..) ne asteptam sa obtinem un rating **BREEAM “Very Good”**.



Architectural references: Philippe SAMYN and PARTNERS + BEAI, architects & engineers. **Project completion:** end of 2013.

proiecte finalizate cu succes



Main Point Karlin –
Prague – Czech Rep.

PSJ INVEST
architect: DaM

aspire for:
LEED PLATINUM

AGC Planibel Energy^N



Crown Square Warsaw
– Poland

Ghelamco group
Konior and Partners
Architects

BREEAM – very good

AGC Stopray Vision-50T



Amera Tower Cluj
Napoca – Romania

LEED- GOLD !!!

AGC Planibel Green

sursa: www.construction21.eu



Galeo,
Issy les Moulineaux
France

Bouygues

HQE
AGC Glassiled





Green Corner
Warsaw – Poland

SKANSKA

LEED: Platinum

AGC Stopray
Vision-60T

projects under construction



Manchester
Metropolitan
University Business
School & Student
Hub, Manchester
architect: FCB studios
BREEAM: EXCELENT

AGC Stopray Vision 50T on ClearVision + Stopsol Supersilver Clear

projects under construction



**Porta Nuova VARESINE –
Milano, Italy**

**expected LEED:
Silver/gold**

AGC Stratophone Stopray
Vision 50 on ClearVision

The Shard, London – UK

Project: *The Shard, Tooley Street, London*
Architect: *Renzo Piano Building Workshop, Paris*
Constructor: *Sellar Group, London*
Inaltime: *306 m*
Fatada: *Permasteelisa Scheldebouw, NL*
Produce: *ipasol bright white, ipasol neutral 61/33
low iron, iplus E low iron*
productie DGU *Interpane Plattling/Flachglas Wernberg*

BREEAM: EXCELENT

The Shard, London



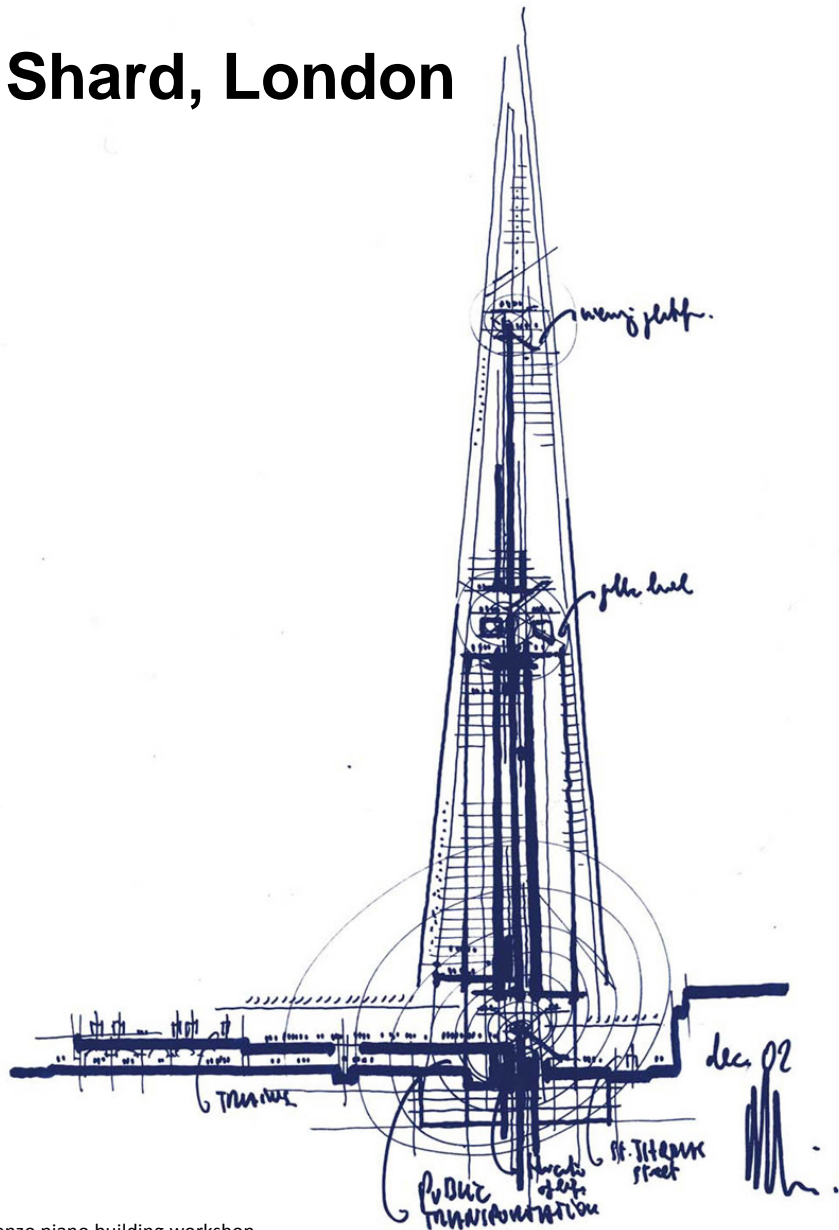
photo credits: <http://www.designboom.com/architecture/renzo-piano-the-shard-in-london-now-complete/>

The Shard, London



photo credits: <http://www.designboom.com/architecture/renzo-piano-the-shard-in-london-now-complete/>

The Shard, London



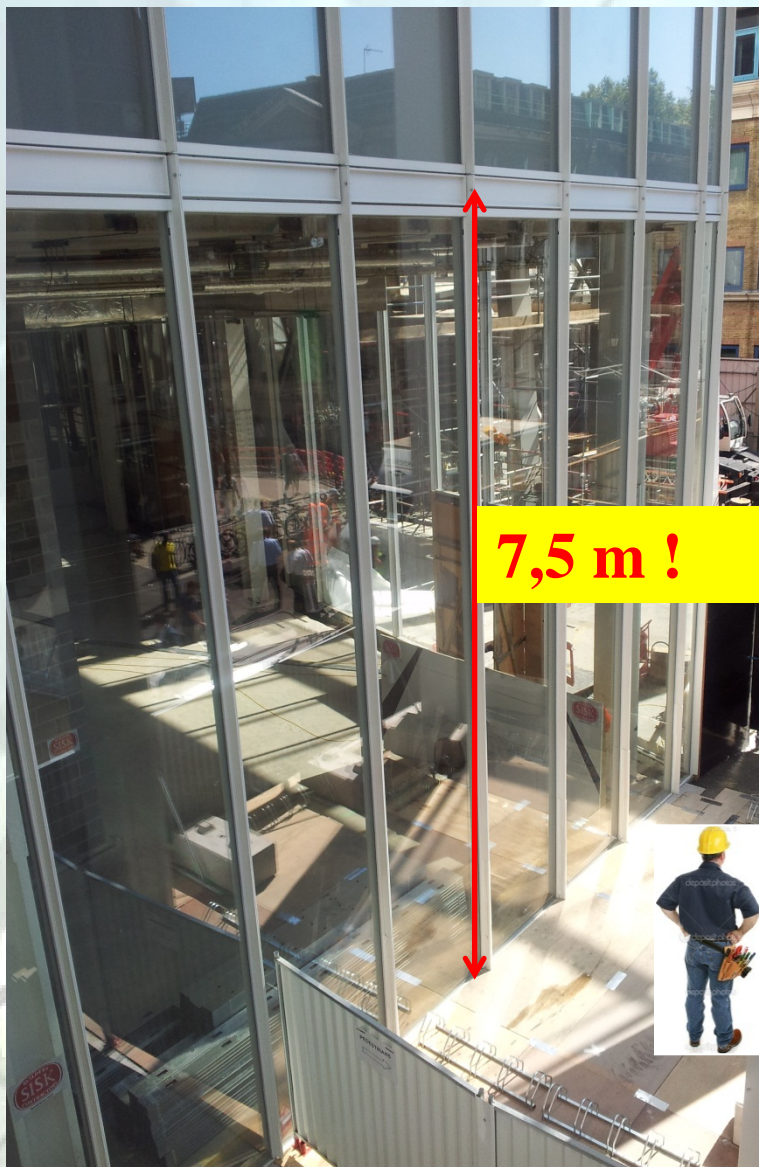
drawing © renzo piano building workshop

photo credit: <http://www.designboom.com/architecture/renzo-piano-the-shard-in-london-now-complete/>

AGC



The Shard, London



**Geam dublu izolator
1483 mm x 7530 mm**

iplus E pos. #2

**exterior VSG 66.2 ipawhite
bagheta distantier 16 mm
interior VSG 66.2 ipawhite**

silicon gri



**Va multumesc pentru atentie!
Dragos Matei**