



Quebec Wood  
Export Bureau



# Wood Preservation Canada AGM:

## *Pressure treated softwood in Europe*

*April 29<sup>th</sup>, 2014, Quebec City, QC*

**Alain Boulet, Wood Construction Manager**

**David Guilbert, Manager Western Europe**

**Sven Gustavsson, Softwood Manager**



Quebec Wood  
Export Bureau



## *Plan*

- 1) **Few words on QWEB**
- 2) **Project description**
- 3) **Project background and actual context in the wood construction industry in Europe**
- 4) **Four market segments for pressure treated softwood:**
  - ✓ N°1: Treated wood frame components with a structural application
  - ✓ N°2: Treated wood components for non-structural application (sidings, decking,...)
  - ✓ N°3: CE marked structural softwood lumber
  - ✓ N°4: Shelters after natural disasters



Quebec Wood  
Export Bureau



Canada Wood  
Produits de bois canadien

# Quebec Wood Export Bureau (QWEB)

## Mission:

*« To develop the markets for the Quebec wood products and to promote the use of wood in the industry »*

## Many partners:

Québec 

Canada 



Quebec Wood  
Export Bureau



Canada Wood  
Produits de bois canadien

## *QWEB organization*

**Quebec Wood Export Bureau  
(QWEB)**

**Softwood**

**Hardwood**

**Flooring**

**Pellets**

**Wood  
construction**

**Overseas office:**

**Japan**

**China**

**France**

**UK**



Quebec Wood  
Export Bureau



## *Project description*

### What ?

- To certify at least two treaters in Quebec according to EN 15228 to supply treated structural SPF according to European standards.

### Why ?

- To answer market access issues expressed by industry members in different sectors when exporting to Europe: wood construction, softwood lumber, etc.

### Financial Partners ?

- **Natural Resources Canada** and **Société d'habitation du Québec** (Quebec Housing Corporation).



## *Regulatory framework - treated wood in Europe*

Standards EN 335 define the use class category system as follows:

Use Class category	Service conditions	Description of exposure to damp service conditions	Typical application of wood based products
1	Interior, covered	Dry	Interior floor boards, interior doorframes and doors, baseboards, panelling
2	Interior or covered	Occasionally damp	Wood components for wall and roof trusses - joists
3	3.1 Exterior, above ground, protected 3.2 Exterior, above ground, not protected	Occasionally damp Frequently damp	Sidings/Bottom plates on concrete slab
4	4.1 Exterior, ground contact and/or fresh water 4.2 Exterior, ground contact(severe) and/or fresh water	Predominantly or permanently damp Permanently damp	Decking/Fencing
5	In salt water	Permanently damp	

Use classes are defined according to wood moisture level in service, UC 1: Always under 20%, UC 2: Occasionally over 20%, etc.



Quebec Wood  
Export Bureau



## Regulatory framework - treated wood in Europe

Process governed by a European certified body & Auditor  
(Example: BRE UK)

CE marked SPF  
(Wood conform to  
EN 14081-1)

WHAT IS REQUIRED FOR  
STRUCTURAL SOFTWOOD  
APPLICATION ?  
(Example: SPF for timber frame)

Wood preservative:

- conform to EN 599-1
- compliant with the Biocidal Products Directive
- Provide the treater with safety data sheets designed for the European market

Treatment plant  
(Treater conform to EN 15228)

4

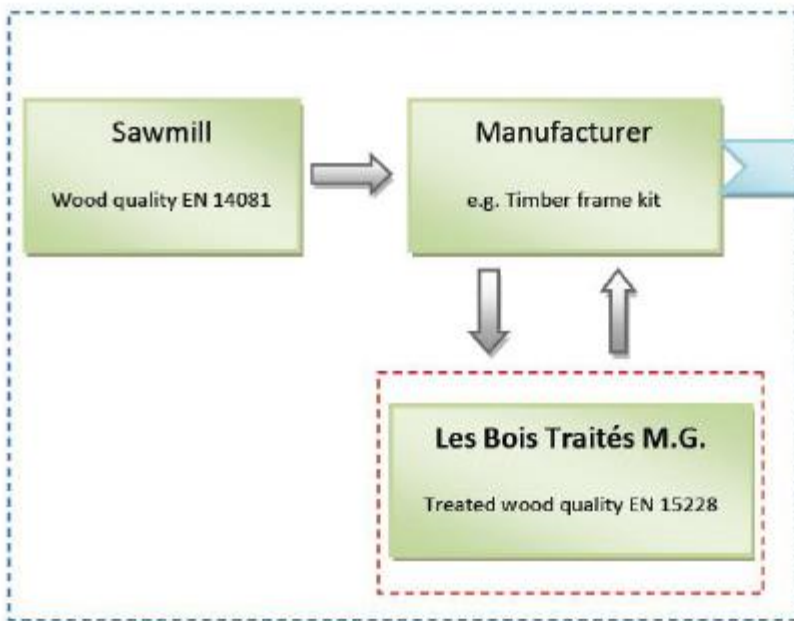
1

3

2

# CASE N°1

Source: BRE UK – QWEB report



Scenario A



Scenario B

**Treater: Les Bois Traités M.G.,  
Montmagny, QC**

**Wood preservative: Permawood ACQ  
2102 (Viance)**

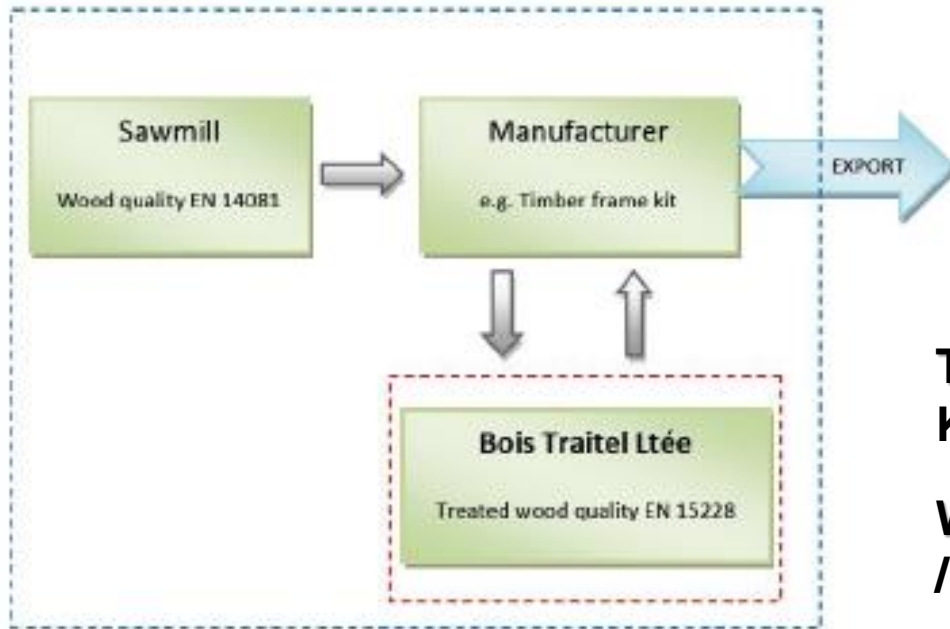
Component	Percent
Monoethanolamine	20-28
Copper complex expressed as copper oxides	8-10
Boric acid	3-7
Alkyl Dimethyl benzyl ammonium chloride	4-5
Water	>64

Table 2. ACQ 2102 composition from MSDS



# CASE N°2

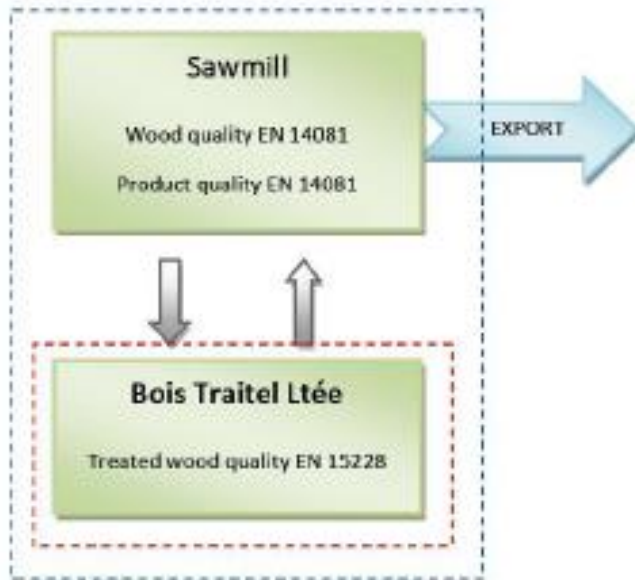
Source: BRE UK – QWEB report



**Treater: Bois Traitel Ltée, St-Joseph de Kamouraska, QC**

**Wood preservative: Copper Azole Type B / CA-B / Tanalith B (Lonza)**

Scenario A



**CA-B is defined as:**

Copper expressed as  $\text{CuO}/\text{CuCO}_3$ : 95.4 - 96.8% and an Azole, Tebuconazole: 3.2 - 4.6%.

Scenario B



Quebec Wood  
Export Bureau



## *Background and context*

### ❑ Why/Origin ?

➤ Starting in 2009-2010, Quebec prefab home builders were asked to supply UC2 treated structural SPF according to EN 15228 for wood frame components in Europe.

### ❑ Different method of treatment in Canada versus in Europe:

➤ In Canada to reach the different Use categories according to CSA-080 Series 08, a minimum retention is fixed per type of wood preservative and species in  $\text{kg/m}^3$  in order to reach the required Use category.

➤ In Europe, different Use categories system first of all called Use Class (UC) according to EN 335.

➤ In Europe, it is a case by case depending on the performance of the equation – Treater/Wood preservative/Species with a specific retention and penetration performance assessed through EN 15228 certification for example for structural treated softwood.

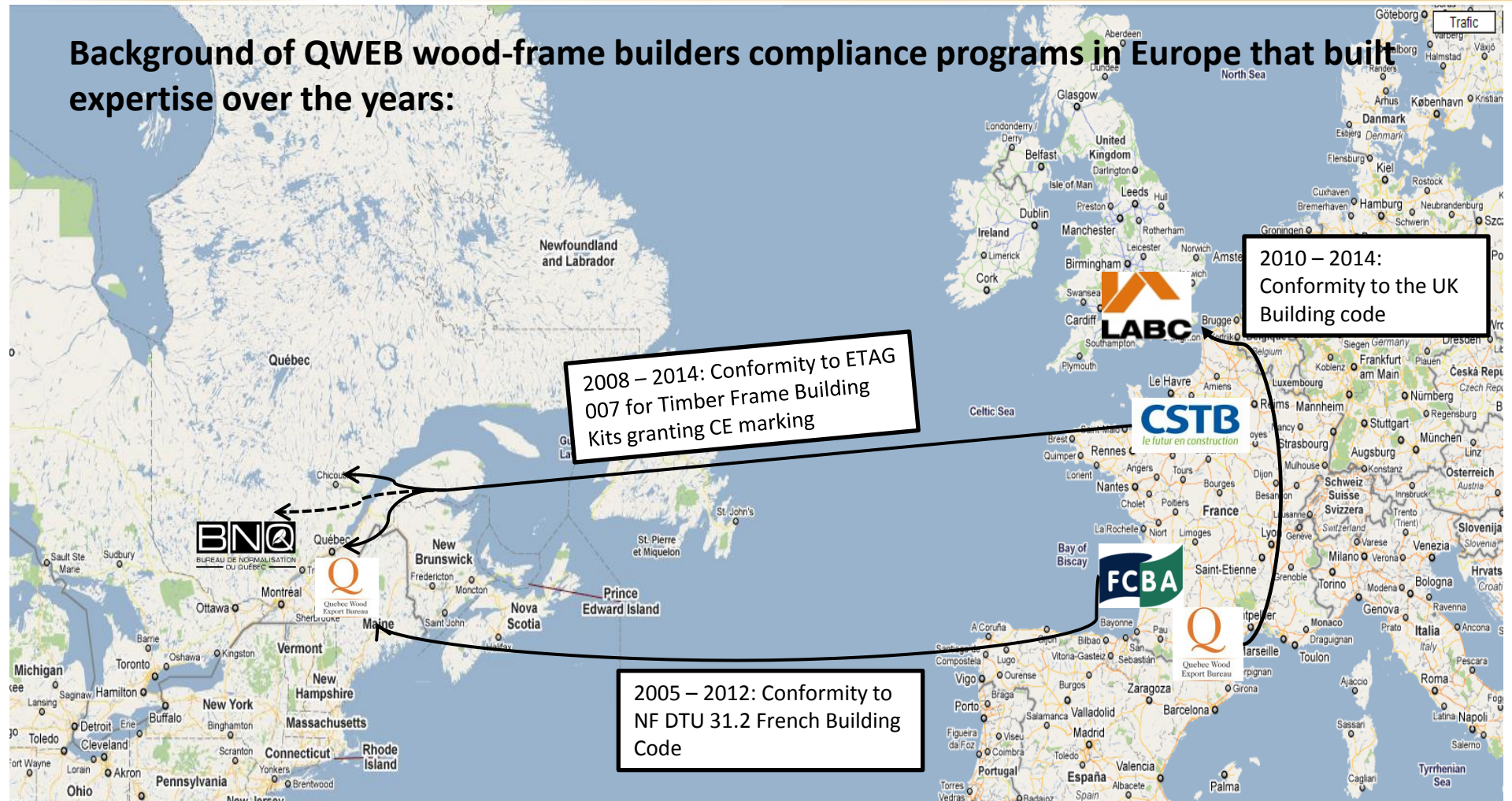


Quebec Wood  
Export Bureau



## Standard compliance programs background

Background of QWEB wood-frame builders compliance programs in Europe that built expertise over the years:





Quebec Wood  
Export Bureau



## *Actual context in the wood construction industry*

➤ The demand for wood products in Europe is driven by the **housing starts** and the **percentage of wood-frame buildings** that is increasing year after year in most of the European countries:

Residential construction:

- Italy: From 1% in 2006 (1 000 units) to objective of 5% in 2015 (8 000 units).
- France: From 4% in 2006 to an average slightly higher than 10% in 2013.
- UK: Fairly stable since 2006 fluctuating between 23 to 25 %.

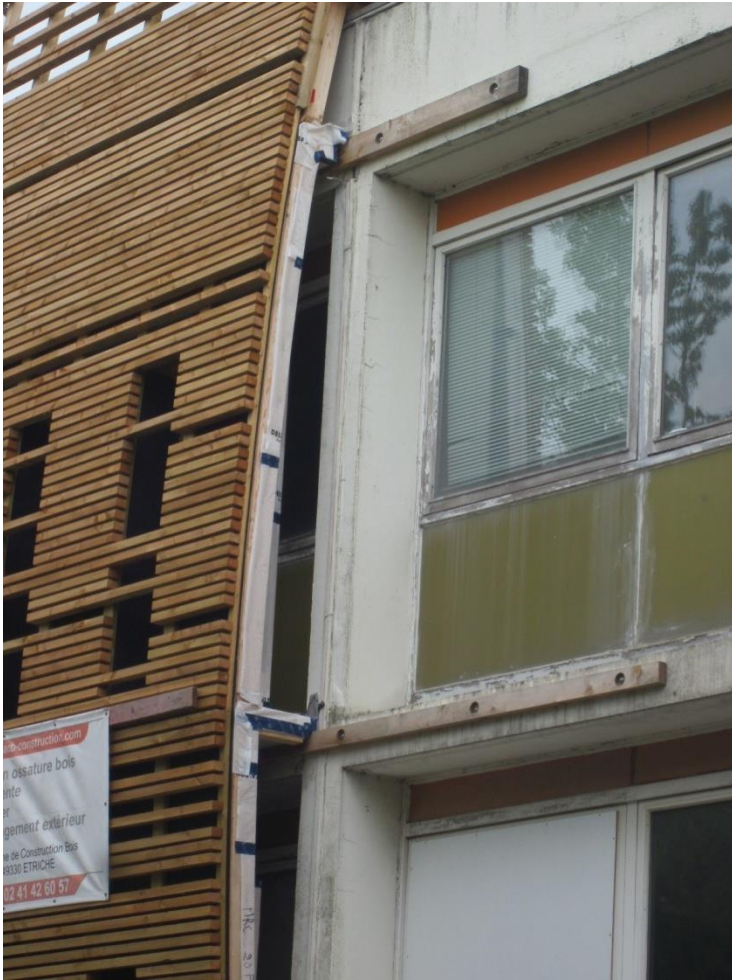
➤ The **European Union** regroups **28 countries** with more than **500 millions inhabitants** and has a total surface of 3 930 000 km<sup>2</sup>. European countries reply to European standards and their own national requirements, including regulation on treated wood products.



**Italy – Multi-storey CLT project** (Source: promolegno - proHolz)



**France – Social Housing example** (Source: Afcobois)



**France – Renovation example** (Source: Afcobois)

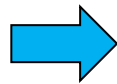


Quebec Wood  
Export Bureau



## *European market segments*

**Market  
segment N°1**



- Treated wood frame components with a structural application and prefab buildings.
- Market in Europe requires mostly European UC2 for wall panels, floor and roof trusses.
- UC3 for pieces in contact with concrete slab for example.
- In region like European Caribbean's, UC4 can be required.





Quebec Wood  
Export Bureau



## Species for structural applications

Table giving the use of wood depending on its natural durability according to the different use class:

Use Class	Durability class				
	1	2	3 (SYP)	4 SPF <small>(according to EN 350-2)</small>	5
1	0	0	0	0	0
2	0	0	0	(0)	(0)
3	0	0	(0)	(0) – (x)	(0) – (x)
4	0	(0)	(x)	x	x
5	0	(x)	(x)	x	x

**Legend:**

- 0 Sufficient natural durability,
- (0) Normally sufficient natural durability, but for certain use a preservation treatment can be required (See Annex A),
- (0) – (x) The natural durability can be sufficient, but according to the type of wood, to its permeability (See 6.1) and to its final use (See Annex A), a preservation treatment can be required,
- (x) Preservation treatment is normally required, but for certain use natural durability can be sufficient (See Annex A),
- x Preservation treatment required

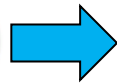


Quebec Wood  
Export Bureau



## *European market segments*

**Market  
segment N°2**



- Treated wood components for non-structural application such as Sidings/Decking/Fencing.
- Market in Europe requires mostly European UC3 for sidings.



Quebec Wood  
Export Bureau



## Species for non-structural applications

Table giving the use of wood depending on its natural durability according to the different use class:

Use Class	Durability class				
	1 EWC (according to BRE lab tests lead by QWEB)	2 (WRC)	3	4 (SPF)	5
1	0	0	0	0	0
2	0	0	0	(0)	(0)
3	0	0	(0)	(0) – (x)	(0) – (x)
4	0	(0)	(x)	x	x
5	0	(x)	(x)	x	x

### Legend:

**0** Sufficient natural durability,

**(0)** Normally sufficient natural durability, but for certain use a preservation treatment can be required (See Annex A),

**(0) – (x)** The natural durability can be sufficient, but according to the type of wood, to its permeability (See 6.1) and to its final use (See Annex A), a preservation treatment can be required,

**(x)** Preservation treatment is normally required, but for certain use natural durability can be sufficient (See Annex A),

**x** Preservation treatment required

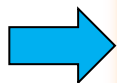


Quebec Wood  
Export Bureau



## *European market segments*

**Market  
segment N°3**



Export of CE marked treated structural softwood to importers in Europe (according to EN 14081-1).

**«EN 14081-1:2005 – Timber structures. Strength graded structural timber with rectangular cross section General requirements»**

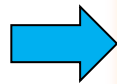


Quebec Wood  
Export Bureau



## *European market segments*

**Market  
segment N°4**



- Shelters after natural disasters.
- QWEB created an industry consortium to be able to respond quickly and supply large quantities in case of disasters.

# HOUSING SOLUTIONS AFTER CONFLICTS AND DISASTERS

**MORE**  
THAN JUST A  
**ROOF**



**HOUSING SOLUTIONS**  
AFTER CONFLICTS AND DISASTERS

**World Habitat Day**  
October 7, 2013



Quebec Wood  
Export Bureau

- 
- **Flexible**
  - **Easy to set-up and to dismantle**
  - **Withstand Extreme winds and earthquakes**
  - **Designed to be part of a long-term housing solution**
  - **Affordable**



[www.qwebhousingsolutions.com](http://www.qwebhousingsolutions.com)

Q  
Quebec Wood  
Export Bureau

SOLUTIONS D'HABITATION  
APRÈS CONFLITS ET DÉSASTRES

ACCUEIL À PROPOS NOS SOLUTIONS ACTUALITÉ CONTACT

Vidéo de présentation en anglais

UN MOYEN D'ASSURER  
**SANTÉ, SÉCURITÉ ET DIGNITÉ**  
POUR LES PERSONNES AFFECTÉES PAR DES CONFLITS ET DES DÉSASTRES NATURELS

NOS SOLUTIONS

HS1 - 18 m<sup>2</sup>  
SOLUTION D'HABITATION 1

HS2 - 26 m<sup>2</sup>  
SOLUTION D'HABITATION 2

MB1 - 74 m<sup>2</sup>  
BÂTIMENT MULTIFONCTIONNEL 1

Terminé

Démarrer Menu SHQ 8 Internet Expl... 8 Novell GroupWis... 4 Explorateur Win... 15 Microsoft Word Microsoft Excel - Co... Nouveau Document ... Présentation Douziè... Internet 100% 18:50



HOUSING SOLUTIONS  
AFTER CONFLICTS AND DISASTERS

World Habitat Day

October 7, 2013



## Housing Solution 1 (12' x 16') (18 m<sup>2</sup>)



HOUSING SOLUTIONS  
AFTER CONFLICTS AND DISASTERS

World Habitat Day

October 7, 2013

## Housing Solution 2 (16' x 20') (26 m<sup>2</sup>)



HOUSING SOLUTIONS  
AFTER CONFLICTS AND DISASTERS

World Habitat Day  
October 7, 2013

## Multi-purpose building 1 (20' x 40') (74 m<sup>2</sup>)



HOUSING SOLUTIONS  
AFTER CONFLICTS AND DISASTERS

Quebec Wood  
Export Bureau

World Habitat Day

October 7, 2013

## Multi-purpose building 1 - inside (20' x 40') (74 m<sup>2</sup>)



HOUSING SOLUTIONS  
AFTER CONFLICTS AND DISASTERS

World Habitat Day  
October 7, 2013

# Demo village example after reconstruction – Caribbean region simulation



HOUSING SOLUTIONS  
AFTER CONFLICTS AND DISASTERS

World Habitat Day

October 7, 2013

# World Habitat Day - Housing Solution 2 - Hurricane 4 resistant



*Photo: QWEB*



**HOUSING SOLUTIONS**  
AFTER CONFLICTS AND DISASTERS

**World Habitat Day**

October 7, 2013

# World Habitat Day - Housing Solution 2 - Hurricane 4 resistant



Photo: QWEB



HOUSING SOLUTIONS  
AFTER CONFLICTS AND DISASTERS

Quebec Wood  
Export Bureau

World Habitat Day

October 7, 2013

# World Habitat Day - Housing Solution 2 - Hurricane 4 resistant



Photo: QWEB



HOUSING SOLUTIONS  
AFTER CONFLICTS AND DISASTERS

World Habitat Day

October 7, 2013



## World Habitat Day - Housing Solution 2 - Hurricane 4 resistant



HOUSING SOLUTIONS  
AFTER CONFLICTS AND DISASTERS

Quebec Wood  
Export Bureau

World Habitat Day

October 7, 2013



Quebec Wood  
Export Bureau



**QUESTIONS ?**