

European Conference Climate Finance for Subnational Actors

October 1, 2015 - Paris

Low energy refurbishment of
condominiums in Ile-de-France
region



Co-funded by the Intelligent Energy Europe
Programme of the European Union



Énergies
POSIT'IF

Rénovation énergétique et énergies renouvelables

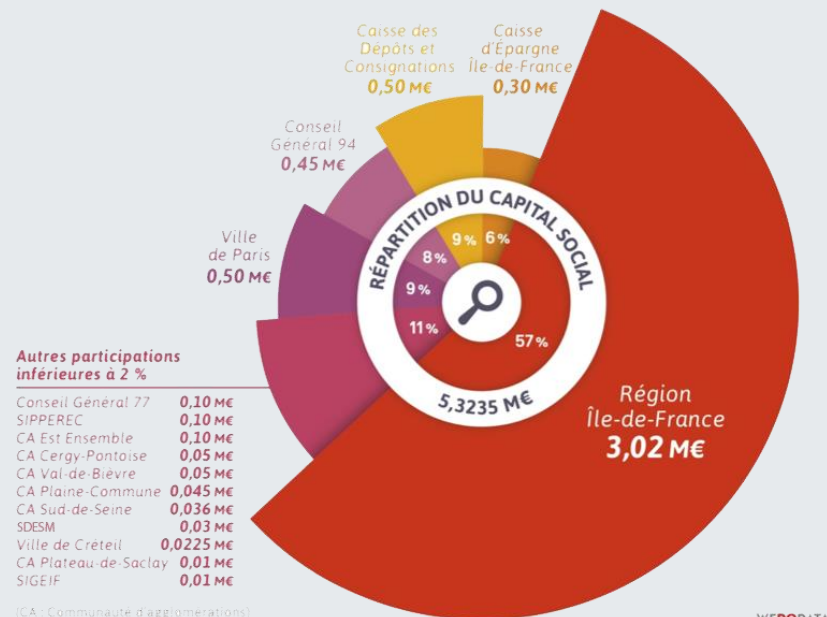
ENERGIES POSIT'IF

Shareholding

- **85% of public ownership:**
 - 11 local authorities
 - 3 energy syndicates
- **15% of « private » ownership :**
 - CDC
 - Caisse d'Épargne IdF

Areas of actions

- Third party financing collective housing (private and social)
- Equity participation in SPV dedicated to RE project development
- Technical assistance
- Public sector buildings



FOCUS ON ENERGIES POSIT'IF OPERATIONS IN THE PRIVATE HOUSING SECTOR

ÎLE-DE-FRANCE CONTEXT

- **4,713M** main residences⁽¹⁾ of which **72%** multi-residential buildings (44 % in France)
- **2,1M** main residences classified in E, F, G energy classes (230 to 450 kWhpe/m²/an) of which **47%** are multi-residential buildings → priority target of **1M** apartments.

ÉTAT DES LIEUX

Un parc immobilier âgé...

68%
des bâtiments franciliens
sont énergétivores
car construits avant 1975
(date de la première
réglementation
thermique)



À Paris, cette
proportion
culmine à
83%

... et majoritairement collectif

Île-de-France



France métropolitaine



WEDATA

(1) The average consumption of the housing stock is 220kWhpe/m²/y (heating and sanitary hot water) and 330kWhpe/m²/y when including «cooking» and « specific electricity ».

FINANCING ISSUE

“Factor 4” target largely exceeds the direct investment capacity of most building owners

- 25k€ on average for low energy refurbishment of an apartment⁽¹⁾
- 1M collective housing to be renovated up to 2050
- 625 M€/y over a 40 year period
- 250 €/inhabitant/y

The only financial resource available in an appropriate volume are the energy savings

- An investment dedicated to energy efficiency of 250 €/inhabitant/y is required
- To be compared with average domestic energy bill of 640€/inhabitant/year⁽²⁾

(1) : Source: IDDR1 2010

(2) INSEE 2006; data for France (71% heating; 13% light and appliances; 10% hot water; 6% cooking)

WHY RETROFITTING PROGRAMS ARE NOT HAPPENING ?

- Initiative and management left to the owner and condominium managers (rarely experts)
- Constraints of the decision-making process :
 - Governance
 - Motivation
 - Cash availability and solvency
- Loans not tailored for long-term payback investments (over 15 years)
- Lending institutions with few expertise to assess the effectiveness of works financed through subsidised soft loans



GOALS

- **Increase confidence and expertise at the condominium level**

- Stimulation of the investment decision making process;
- Support of technical and financial high standards for thermal retrofitting : a minimum energy saving target of 40%

- **Business based on 3 innovations**

- Design-implement-operate contract for works and services (i.e. the program includes the thermal insulation of the building envelop)
- Guarantee on energy performance in the operation phase
- Third party financing (optional)

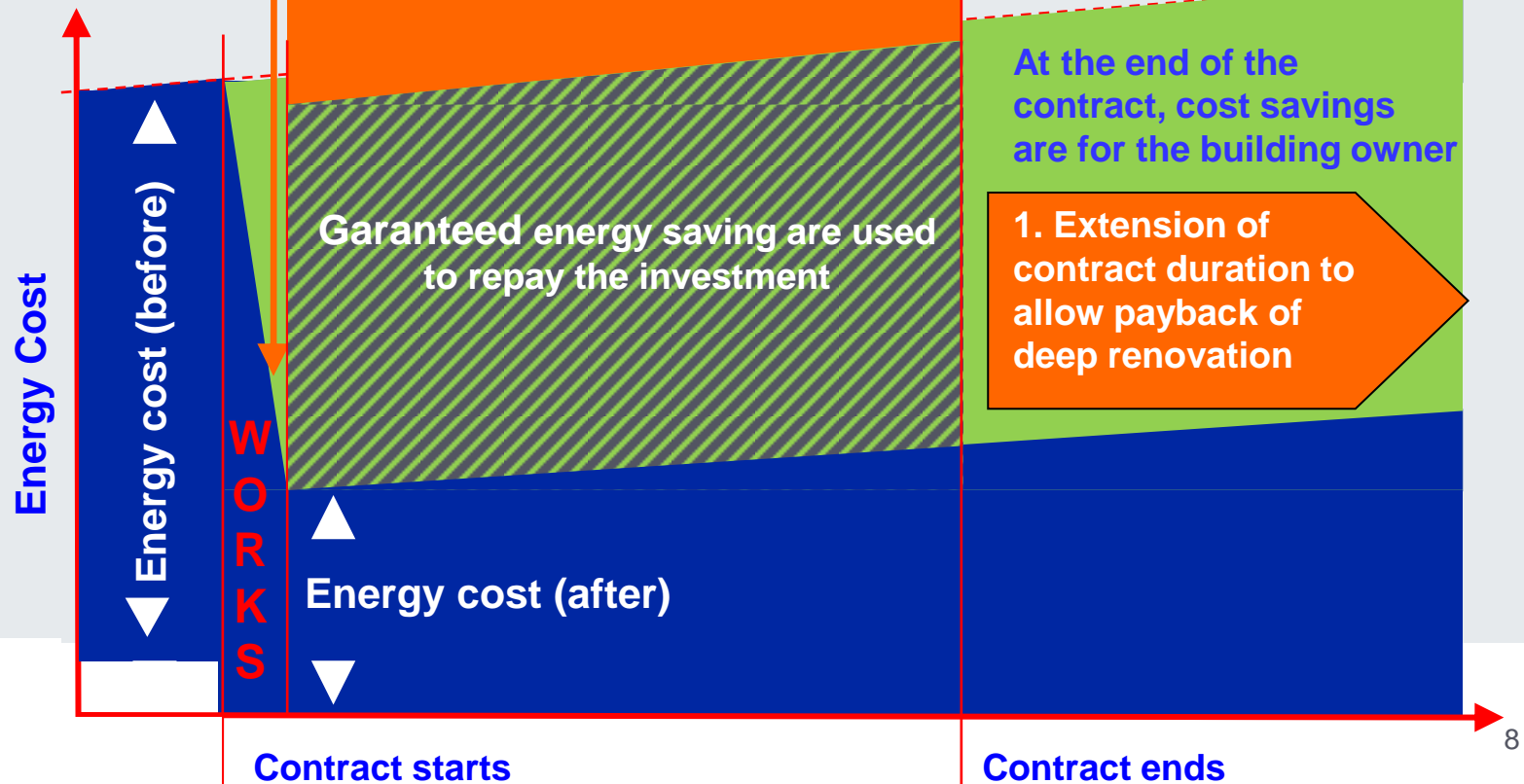


ENERGY PERFORMANCE CONTRACTING, CAN IT BE ADAPTED FOR DEEP RENOVATION?

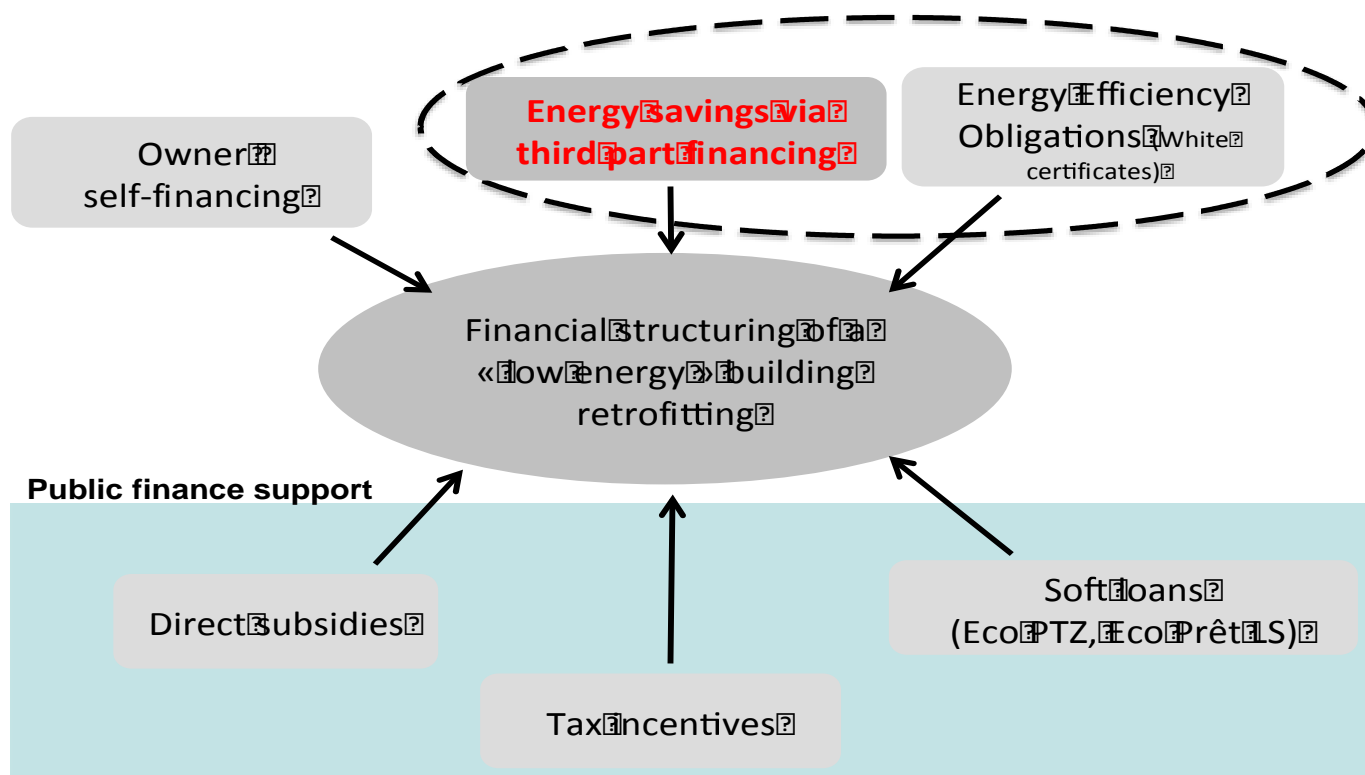
3. Lower cost of capital to reduce the contract duration

2. Extra contribution to reimburse the investments: grants or contribution of building owner

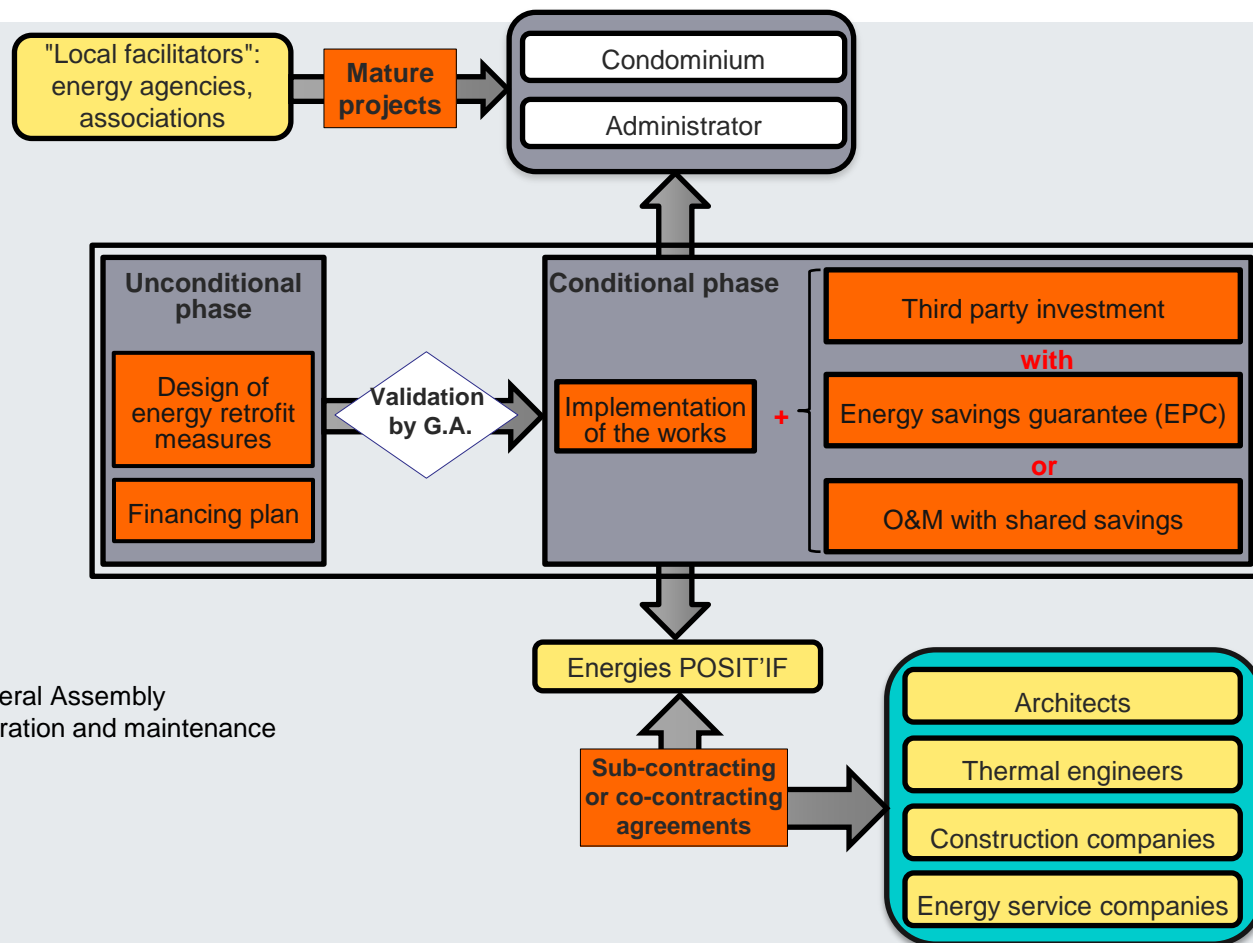
A. Bullier, C. Milin – Alternative financing schemes for energy efficiency in buildings – ECEEE Summer Study 2013



FUNDING SOURCES FOR THE THERMAL RETROFITTING OF BUILDINGS



ENERGIES POSIT'IF OFFER TO CONDOMINIUMS



Initial
Contact

Pre
assessment

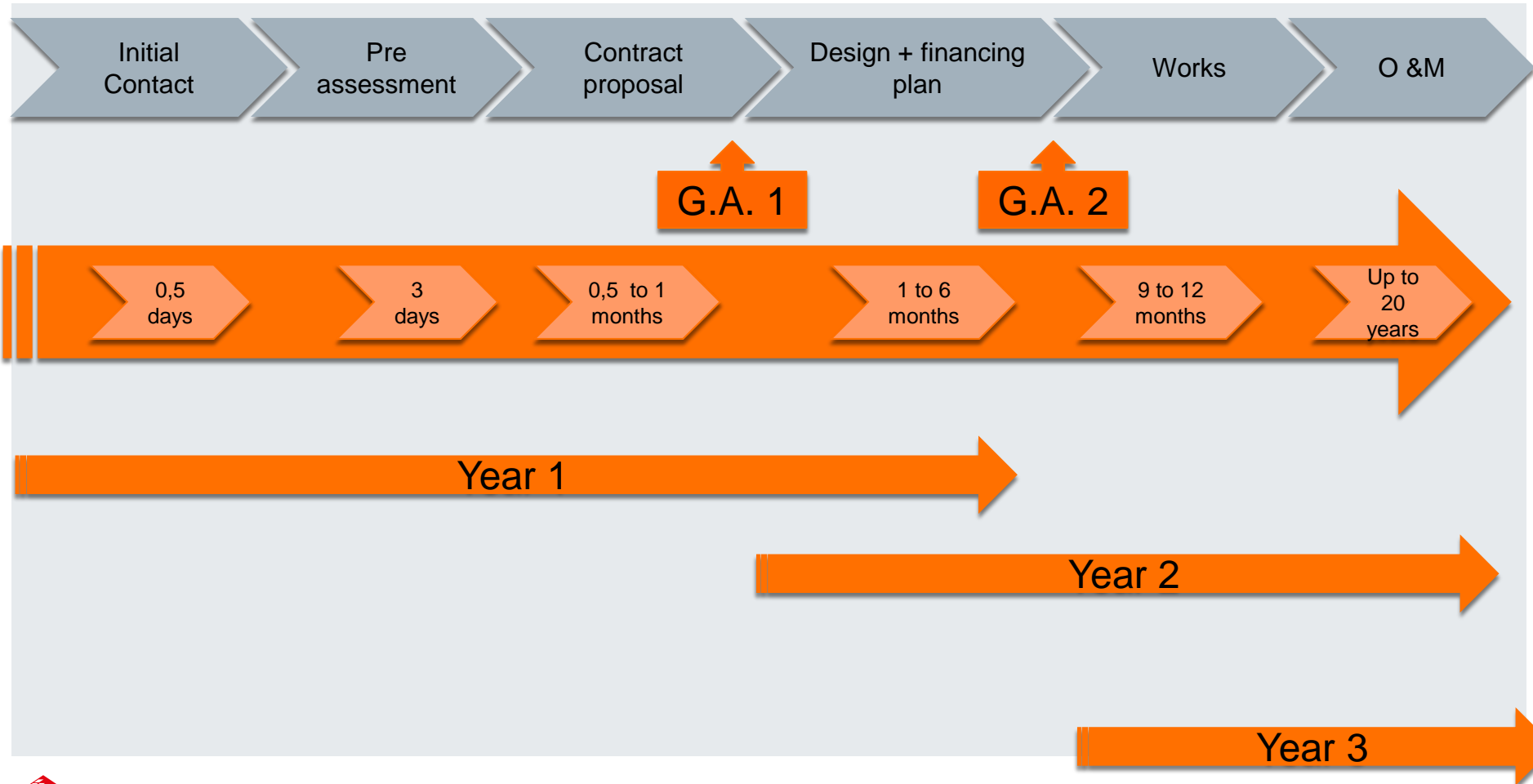
Contract
proposal

Design +
financing plan

Works

O & M

BUSINESS PROCESS



MAJOR ACHIEVEMENTS & BOTTLENECKS

Key achievements

- The project pipeline → **60 condominiums**
- **22 signed contracts.**
- More than **€50 millions works value** in 2015 - 2016 (3300 apartments renovated)
- Energies POSIT'IF has become a **reference for several French regions** (more than 10 regional initiatives aim at developing TPF services).
- A reduced rate of VAT for energy retrofits made by a TPF provider
- An eligibility to the White Certificates system
- Art.124 of the ALUR act providing a legal definition for third-party financing activities
- On the 17th August, the Energy transition law for green growth has been issued. It gives a framework for TPF companies.

MAJOR ACHIEVEMENTS & BOTTLENECKS

Bottlenecks

- Since the Third Party Financing needed a **particular legal framework** to be implemented:
 - Impact on the marketing policy and the development of the project pipeline
 - delay in structuring condominium's financing plans
 - delay in the negotiation with IFIs and national banks
- Cost of feasibility studies : Condominiums are only used to pay for works.
- “pure energy performance contracting” approaches don't fit with condominiums decision making process

THE FUTURE

The next steps

- Decree issuance
- Authorization given by the ACPR (Regulatory entity of the French banking sector)
- Signing the loan with the European Investment Bank
 - *Provided that a Surety company guarantees the loans the condominiums subscribe with Energies POSIT'IF*

CASE STUDY : CONDOMINIUM « LE BIEF »

CASE STUDY: CONDOMINIUM LE BIEF

- Located in Chelles (Ile-de-France Region)
- Construction year: 1964
- Number of apartments: 216
- Number of buildings: 12
- Energy label class E



- Deteriorated buildings, bad energy performance, major ventilation and mold problems.



Crédit photo Réanova, 2014

CASE STUDY: CONDOMINIUM LE BIEF



Consortium leader and
financial engineering



Architect

sunsquare

Ingénierie du bâtiment | Thermique | Fluides | Environnement

Thermal and fluid
engineering agency

CASE STUDY: CONDOMINIUM LE BIEF

Renovation programme

- external insulation of facades and flat roofs
- insulation of the lower floors
- shutters replacement
- single-glazed windows changing for PVC double glazing
- installation of a Controlled Mechanical Ventilation
- installation of thermostatic valves and creation of airlocks.

= 245 kWhpe/sqm.y → 98 kWhpe/ sqm.y

- Programme achieving a level of consumption equivalent to the label "BBC Effinergie Renovation » → post-works energy consumption level of **98 kWhpe/sqm.y**, a 60% savings.

ENERGY SAVINGS AFTER THE WORKS

■ Final energy consumption (heating):

➤ Before the renovation : 2 336 MWh/year. (160 kWhfe/sqm heating)

➤ After the renovation : 690 MWh/year.(47,50 kWhfe/sqm heating)

Percentage of energy savings → 70%

➤ Apartments of 60 sqm on average

➤ Investment cost : 297€/sqm

Type of apartment	Savings (kWh)	Savings (€/year)
F2 (1bedroom)	5 126 kWh	435 €
F3 (2 bedrooms)	7 600 kWh	646 €
F4 (3 bedrooms)	10 252 kWh	871 €

CASE STUDY: CONDOMINIUM LE BIEF

- Before /after

Crédit photo Réanova, 2014



CASE STUDY: CONDOMINIUM LE BIEF

Cost of the renovation

4 322 834€

- Subsidies and collective grants:

Call for expression of interest
« Copro durable » ADEME/Région IdF

400 000 €

- Subsidies and individual grants:

Anah
(Agence Nationale de
l'Habitat), IDF region, CA
Marne et Chantierine

873 667 €

Sustainable
development tax credit

Individual financing

Collective financing (Energies
POSIT'IF banking intermediation)

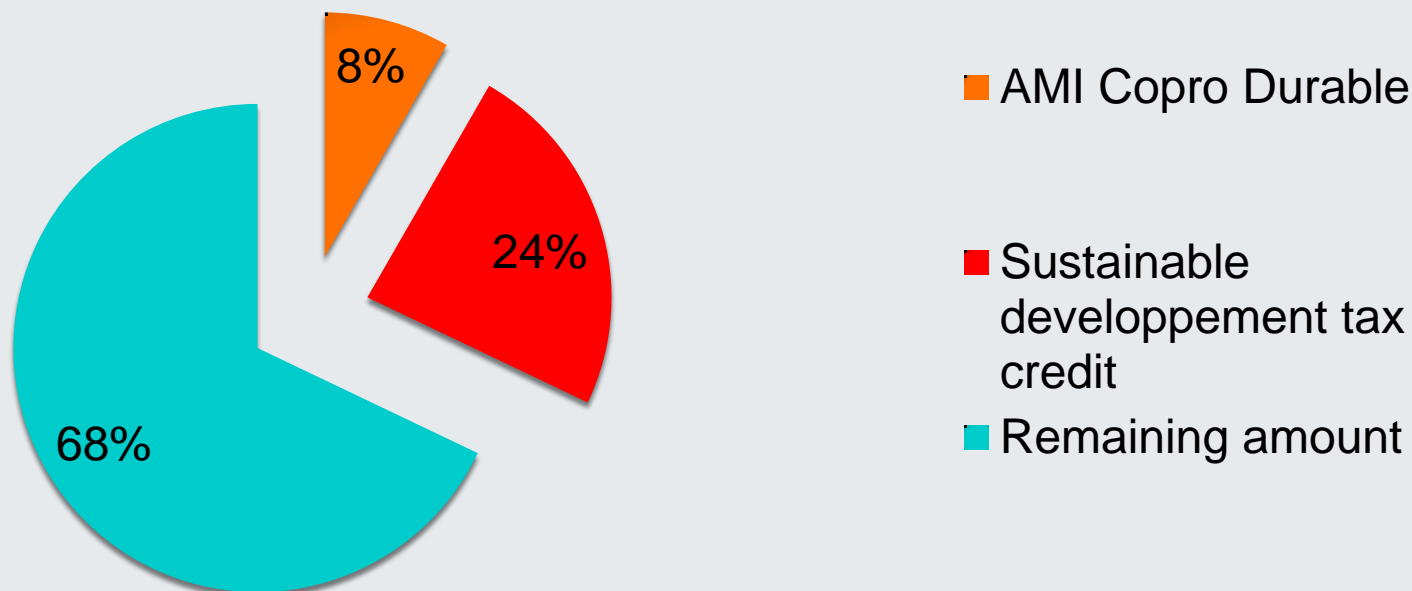
CASE STUDY: CONDOMINIUM LE BIEF

■ Financial engineering : study case

- Family of 3: 1 couple & 1 child
- Living in an apartment with 3 bedrooms
- Comprehensive renovation program
- Cost: **20 700 €**

FINANCING PLAN HOUSEHOLD WITHOUT ANAH'S AID

Financing plan description



The « AMI Copro Durable » is a subsidy obtained within the frame of a call for expression of interest which rewards the energy renovation programmes targeting the « BBC Effinergie Label » (104 kWhep /sqm.y)

FINANCING PLAN

HOUSEHOLD WITHOUT ANAH'S GRANT

- Interest-free eco-loan and sustainable development tax credit
Crédit cannot be combined in this case.

- To finance the remaining amount:

Net financial savings per month (debt service and energy savings included) :

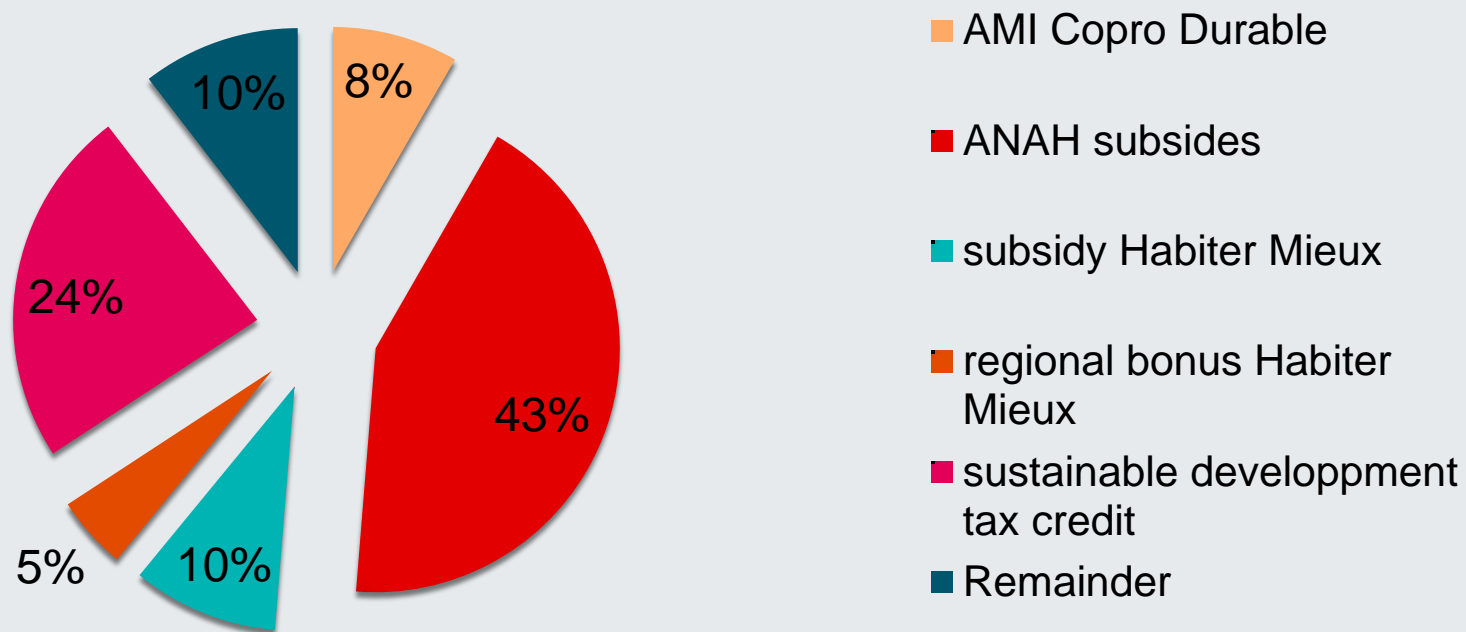
➤ Solution 1 : Interest-free collective eco-loan 15 years → **- 79 €**
*(without taking the sustainable development tax credit into account.
Amount taken in charge: 18 975 €)*

➤ Solution 2 : Collective loan (market offer: 4,33%* effective annual interest rate) → **- 84 €**
(Amount taken in charge net of the sustainable development tax credit: 14 055 € ; 5 800 € interests)

*Rates in December 2014

FINANCING PLAN VERY MODEST HOUSEHOLD

Financing plan description



The « AMI Copro Durable » is a subsidy obtained within the frame of a call for expression of interest which rewards the energy renovation programmes targeting the « BBC Effinergie Label » (104 kWhep /sqm.y)

FINANCING PLAN FOR A VERY MODEST HOUSEHOLD

- In this case, interest-free eco-loan and sustainable development tax credit can be combined

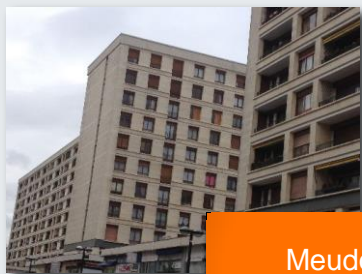
- To finance the remaining amount:

Net financial savings per month (debt service and energy savings included) :

- Solution 1 : Interest-free collective eco-loan, 15 years maturity → **14 €**
- Solution 2 : Collective loan (market offer: 4,33%* effective annual interest rate) 15 years maturity → **9 €**

**Rates in December 2014*

PORTFOLIO : PROJECT SELECTION ON WORKS PHASE



Meudon
La Forêt (92)

- 1966
- 904 apartments

**Current
consumption**

216 kWhpe/
sqm.y.

**After works
consumption**

140 kWhpe
/sqm.y



Palaiseau (91)

- 1958
- 395 apartments

**Current
consumption**

238 kWhpe /sqm.y

**After works
consumption**

148 kWhpe /sqm.y



Paris (75)

- 1973
- 133 apartments

**Current
consumption**

169 kWhpe /
sqm.y

**After works
consumption**

66,9 kWhpe /
sqm.y

PORTFOLIO : PROJECT SELECTION ON DESIGN PHASE

© Réanova



Paris 14



- 1956
- 39 apartments

Current consumption 180 kWhpe/ sqm.year

Consumption after works 104 kWhpe/ sqm.year
(BBC Effinergie Rénovation)

Vote of the works phase : November 2015

© Equateur



Paris 13



- 1960
- 31 apartments

Current consumption 279 kWhpe / sqm.year

Consumption after works 104 kWhpe / sqm.year
(BBC Effinergie Rénovation)

Vote of the works phase : October 2015

PORTFOLIO : PROJECT SELECTION ON DESIGN PHASE

© Atelier Spalletti-Dayot



Paris 12

- 1965
- 68 apartments
- 1 premises for business activities
- 1 premises for association activities

Current consumption 225 kWhpe / sqm.year

Consumption after works 104 kWhpe / sqm.year (BBC Effinergie Rénovation)



Boussy Saint-Antoine (91)

- 1963-1967
- 350 apartments
- 17 buildings

Current consumption 440 kWhpe/sqm.year

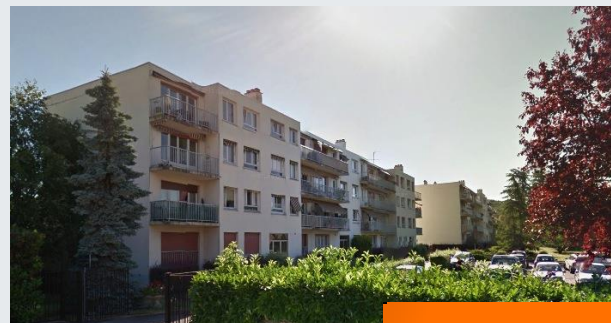
Consumption after works 104 kWhpe/sqm.year (BBC Effinergie Rénovation)

PORTFOLIO: PROJECT SELECTION ON AUDIT PHASE



Paris 12

- **1972**
- 3 buildings
- 68 apartments



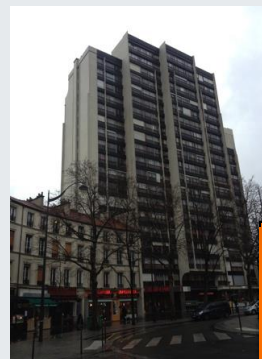
Soisy-sous-Montmorency (95)

- **1973**
- 2 buildings
- 48 apartments



Choisy le Roi (94)

- **1965**
- 2 buildings
- 156 apartments



Paris 13

- **1972**
- 1 building
- 118 apartments
- 2 business premises

THANK YOU FOR YOUR ATTENTION

The sole responsibility for the content of this presentation lies with the author. It does not necessarily reflect the opinion of the European Commission, which is not responsible for any use that may be made of the information contained therein.

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