

French Thermal Regulation (RT) and objectives

France is gradually reinforcing its thermal regulations for new buildings

The objective for metropolitan France is that:

- low consumption buildings will become widespread with Thermal regulation 2012
- positive energy buildings will be the target of Thermal regulation 2020

Concerning the existing buildings

The objective is :

- to reduce primary energy consumption in existing buildings by 38 % by 2020
- to renovate 400 000 dwellings per year from 2013

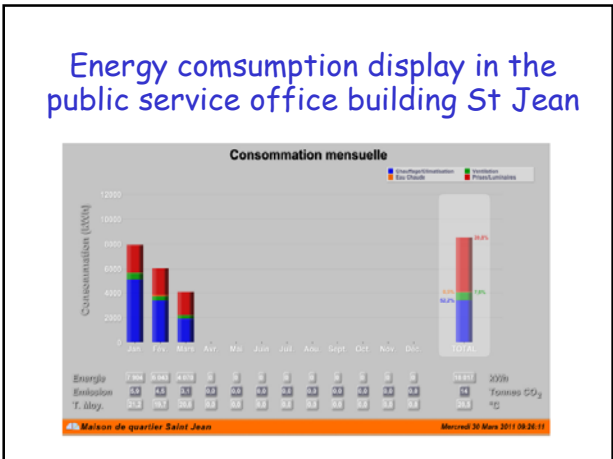
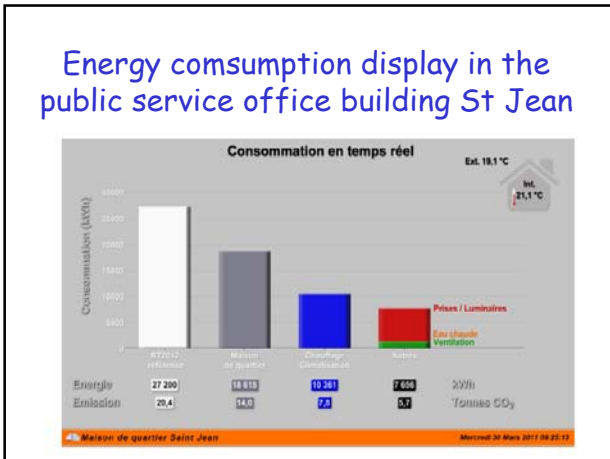
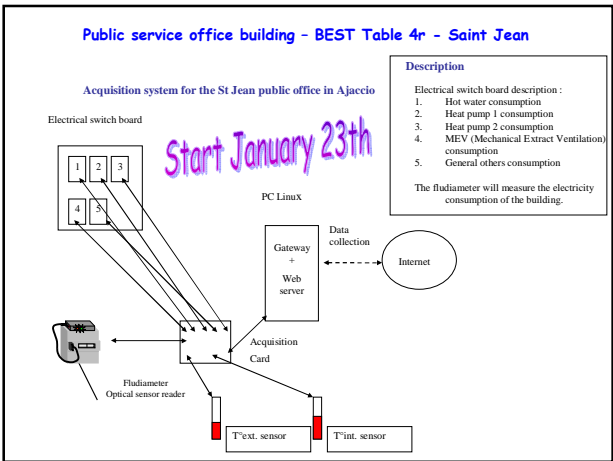
Public service office building – St Jean

Area
 The public service office building is located in the St Jean district.
 Architect: Giusti-Versini.
 Front decoration of the building: Jean Do Quilici.
 Surface: 680 m²

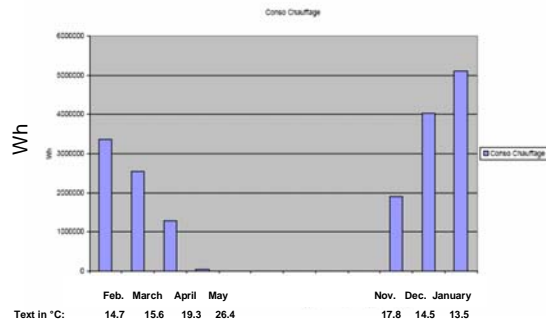
Description
 - The public service office building is divided in two parts: public service and sociocultural animations.
 - The area dedicated to the «sociocultural animations» is composed of: a general purpose room of 130 m², a media library, a small cinema (20 seats), consultation of the library catalogue and a multimedia access point.
 - Ready in 2007

Drawing
 RT 2000

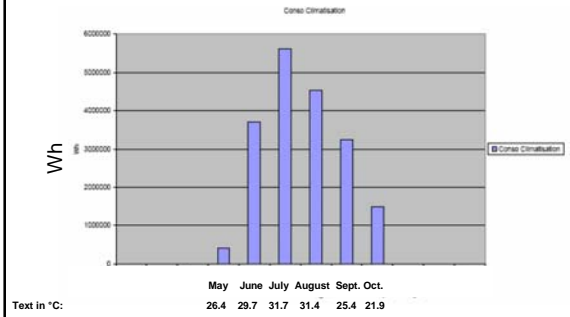
Goals
 Comparison between two public service office buildings.
 The BEST Table 4r will be the reference building.
 This comparison will be on the energy consumption of:
 • Hot Water
 • Space heating
 • Cooling
 • Electricity



Space heating consumption



Cooling consumption



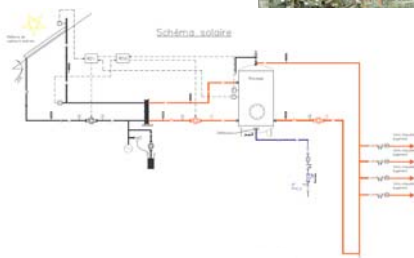
MONITORING OVERVIEW AJACCIO, Renewable Energy Systems

RES/POLYGEN	Power/Surface (Annex 04-2010)	Comments	Commissioned
Wind	6 kW	New office building Les Cannes (BT4a) Wind turbine of 4 kW (Darrieus type)	september 2012
PV	163 kWp	St Jean 1 (BT 6)	Abandoned
PV	163 kWp	New office building Les Cannes (BT4a): 13,02 kWc (roof) and 22,47 kWc (glass roof) Rue de la Porta : 45 m2	september 2012
Solar collectors	735 m2	St Paul (BT2a) : 93 m2 Pietralba 2 (BT8) : 142 m2 Monte e Mare (BT2b): 98 m2 rue de la Porta (BT1a): 17 m2	July 2011 end August 2011 February 2011 end July 2011
Polygeneration	75 kW absorption heat pump	New office building Les Cannes (BT4a) water source heat pump (well water); Heating (43,80 kW) and cooling (38 kW)	september 2012

ERILIA « Monte e Mare » – ORU - Ajaccio

Area

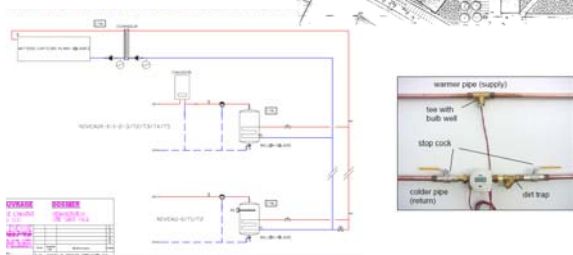
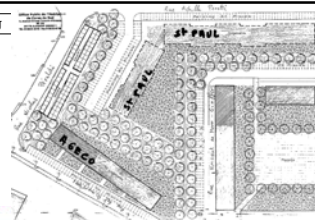
The housing building « Monte e Mare » is located in the Salines district.
Street: Maréchal Juin
Apartments: 91



Office Public de l'Habitat 2A «St Paul» – ORU

Area

The housing building « St Paul » is located in the Cannes district.
Street: Achille Peretti
Apartments: 52



SHW system in St Paul



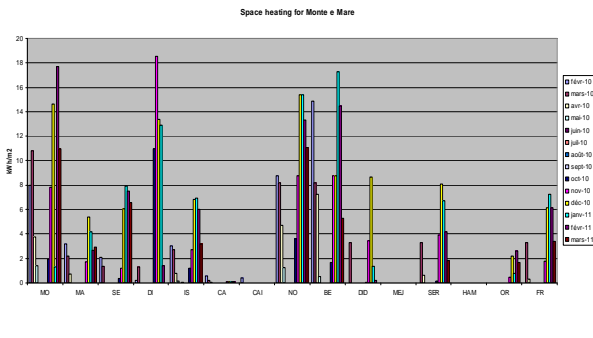
MONITORING OVERVIEW AJACCIO

BEST	Building type	Description	Name	# of dwellings	# of monitored dwellings (Annex 04-2010)	Monitored
1a	apartments	historic city center	rue de la Porte	1 bld/ 8 apts	8 apartments	August 2011
1b	apartments	historic city center	12 rue Fauch	1 bld/ 7 apts	7 apartments	feb. 2010 - jan 2011
2a	housing buildings	Urban renovation Area	St Paul	2 bld/ 52 apts	Space heating: 15 apartments SHW: 7 apartments	jan. 2011
2b	housing buildings	Urban renovation Area	Monte e Mare	2 bld/ 91 apts	Space heating: 30 apartments SHW: 2 buildings	March, 2010 - Feb. 2011
4a	public service office building	Urban renovation Area	Les Cannes	1 bld	1 building	october 2012
4b	public service office building	Urban renovation Area	St Jean	1 bld	1 building	Feb. 2008 - Jan. 2009
6	housing buildings	Urban renovation Area	St Jean 1	10 bld	Abandoned	no
7	housing buildings	Urban renovation Area	St Jean 2	3 bld/ 196 apts	No	no
8	housing buildings	Urban renovation Area	Pietralba 2	10 bld/ 80 apts	SHW: 10 apartments	september 2011

Heating Meters installed for space heating in Monte e Mare



First energy consumption data for Monte e Mare



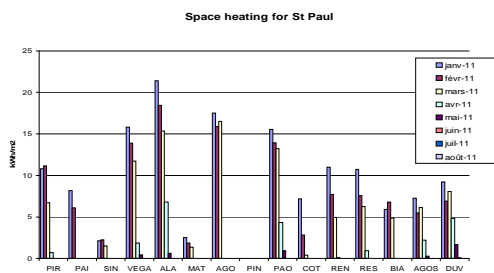
Heating Meters installed for space heating and SHW in St Paul



Space Heating

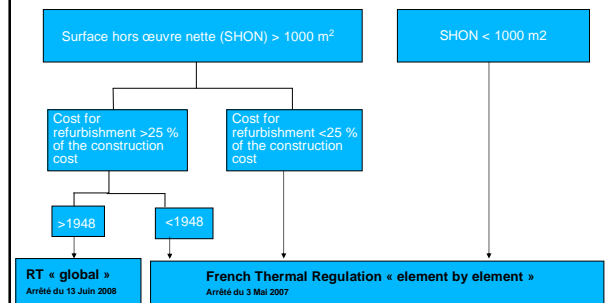
Solar Hot Water

First energy consumption data for St Paul



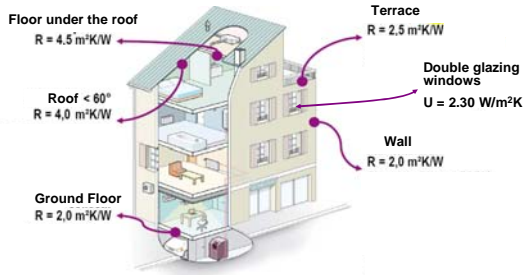
French Thermal Regulation (RT) for existing building

The thermal regulation of existing buildings applies to existing residential and commercial buildings only when refurbishment works are done.



French Thermal Regulation for existing building "element by element"

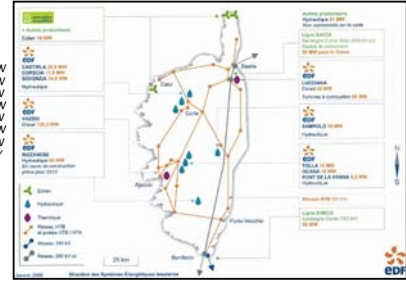
Example of solutions for a housing building in the climatic zone H3
 Zone H3 : Mediteranean region + Corsica



Electricity production in Corsica

Electricity production resources

Thermal power station	302 MW
Importation	150 MW
Hydre	139 MW
Small hydropower	26 MW
Wind	18 MW
Bio-gas	2 MW
Photovoltaic	15 MW
Total	652 MW



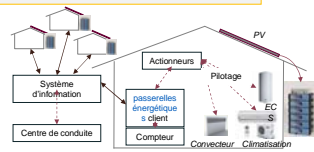
Millener project for Corsica

Batteries + PV configuration

The storage system allows to :

- Inject PV energy on the grid
- contribute to the grid balance (demand = production)
- the customer to produce his energy and to use this energy for the energy consumption of the house

125 houses



Bridge configuration

This configuration allows the regulation of heating/ cooling systems of the customer :

- Decrease his energy consumption
- Contribute to the grid balance

450 houses

