IPHE workshop

"A smart role for fuel cell and hydrogen in creating liveable cities"

Policy and plans of

Stefano Donadello
Chief executive

Rome- Thursday, 4th december 2014
Auditorium - Ministry Of Environment, Land and Sea

BPNE is…

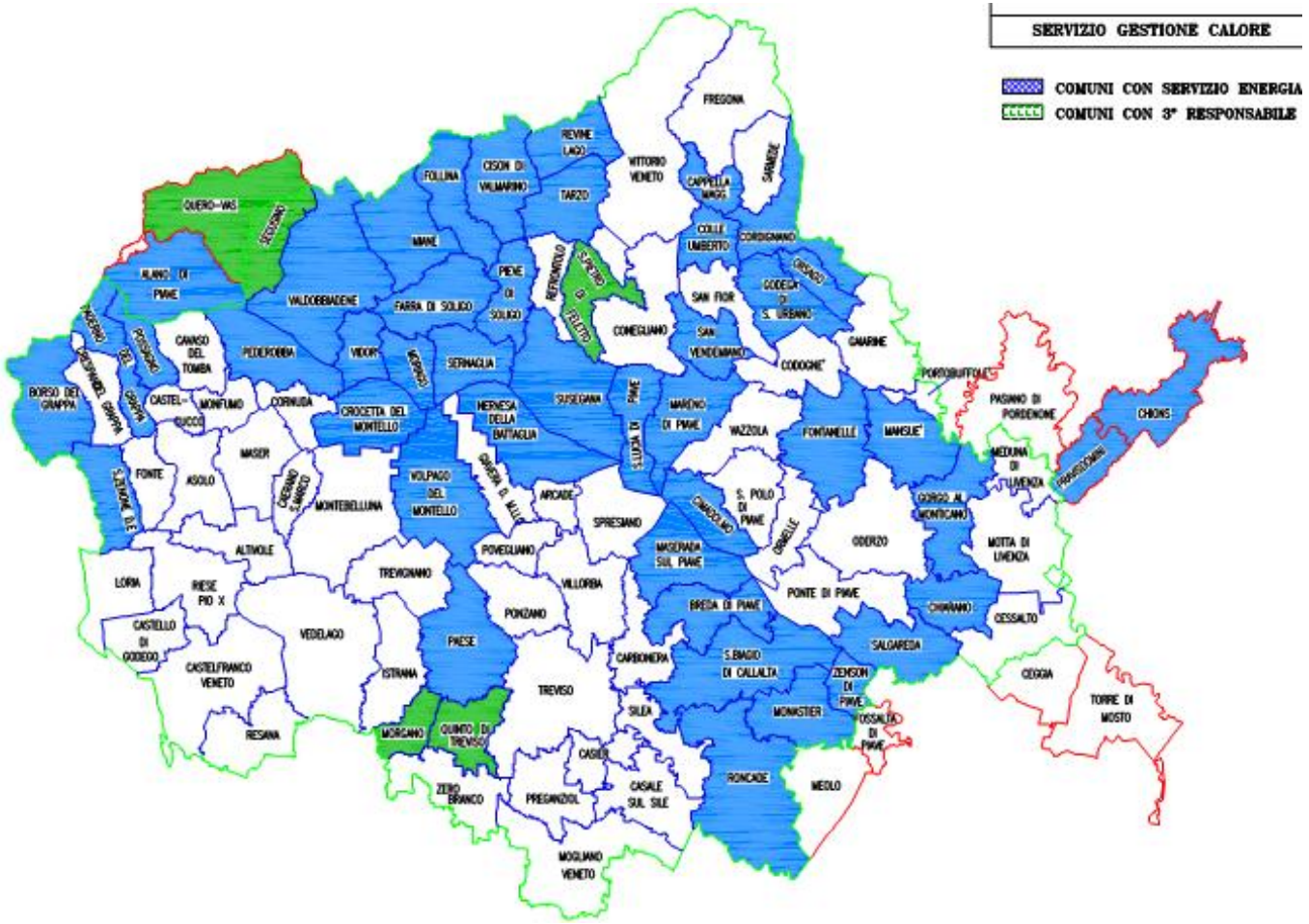
A young company (the first project was a photovoltaic tracking-plant in 2008)

A public company (partners are all municipalities, almost all in Treviso district – northeast of Italy)

Veneto region

Treviso district

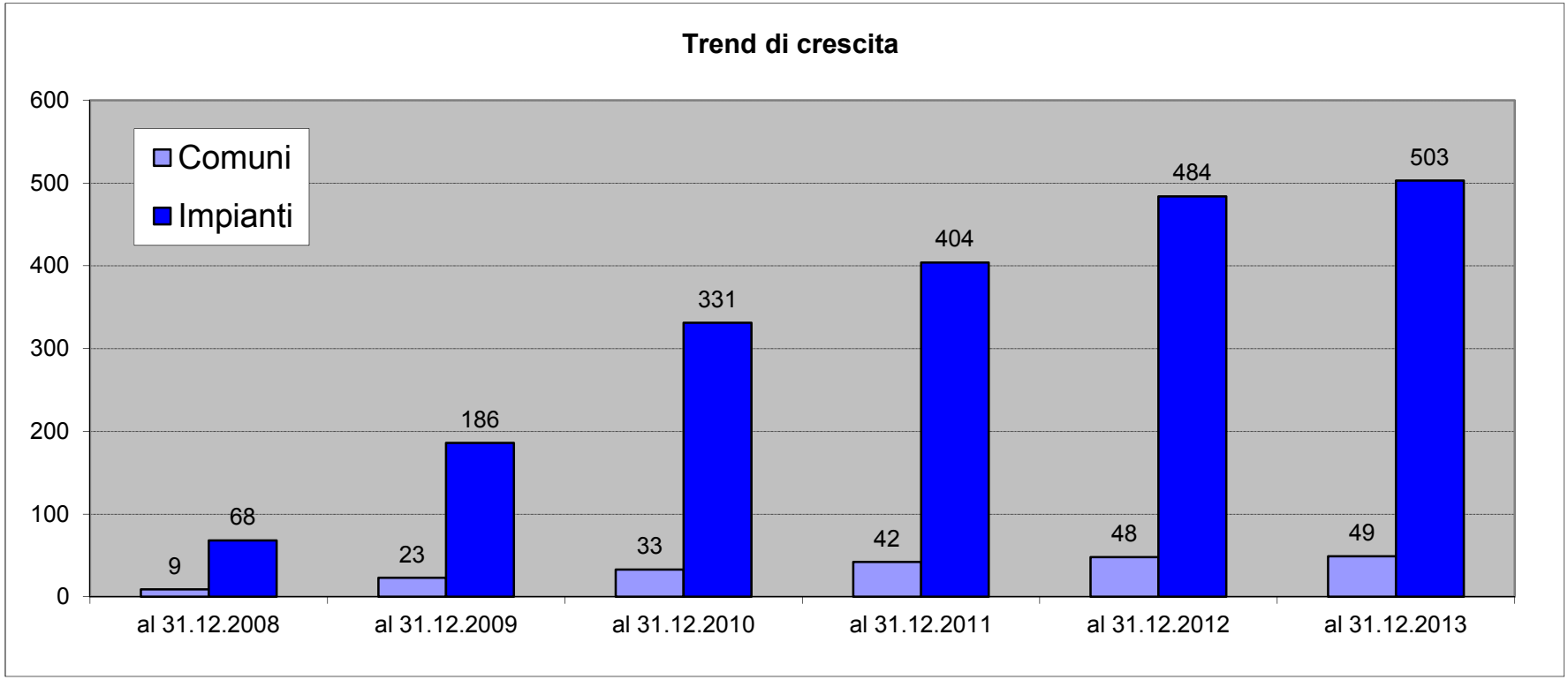
BIM PIAVE
Nuove Energie



Municipialities with BPNE contracts (blue and green colors)

– Rome – Thursday, 4th december 2014

Trend of contracts and managed plants (blue and brightly blue)



Core business

a) «Heat Service» for municipalities

b) ESCO services for municipalities buildings

c) «full services» management (design, construction and management) of renewable plants (i.e. solar thermal ecc.)

Innovative programs

a) Plants management with tag r-fid, telemanagement and cloud technologies)

b) Solid Oxide Fuel Cells (SOFC) technology with devices for public buildings (test – phase) to do cogeneration based on natural gas

B.P.N.E. now…

a) 503 managed plants

b) 49 Municipalities with contracts

c) 2002 telemanaged plant's controls

d) 13 employees

e) € 5.000.000 of invoices

Mission 2015-2016

E.S.Co. (municipality buildings and plants)

with energy improvement and cogeneration with SOFC (solid oxide fuel cell)

Green management and smart approach

with tag r-fid management

Targets

Quality and transparency

providing partner's services

Effectiveness & efficiency

doing proposals and works

Learning & training

for technicians and diplomatics

2015-2016 Investments

Municipalities support (with BPNE money, therefore without banks support)to improve plants and to include new renewable and co-generation little plants…

about 9.000.000 €

(in two years)

Why BPNE support is strategic for partner municipalities?

1) absence of economic resources
2) overtake budget obligations
3) overtake stability pacts
4) outsorcing activities with big officialdom

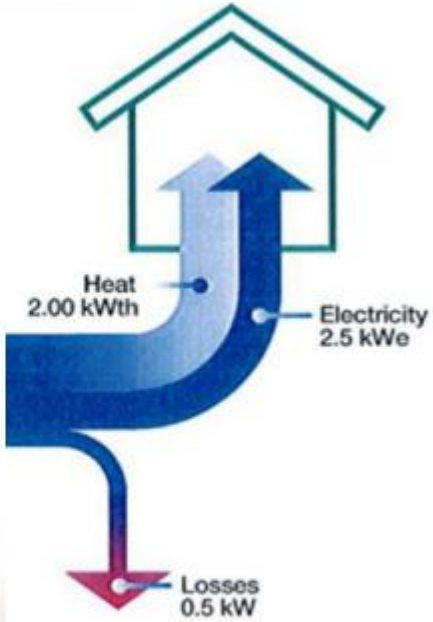
SOFC program

2015: four installations of Sofc devices (with Sofcpower devices, that produces SOFC technology in Mezzolombardo - TN) in school ad public offices. According to EU program

ene.field

Fuel Cells x Combined Heat and Power

Type of Sofcpower installations



2,5 kW *(max electric power)*

> 90 % *(cogeneration efficiency)*

> 50 % *(electrical efficiency)*

< 50 dB(A) *(noise level)*

Grid gas *(fuel)*

Program of installations

Analyzing data of first installation, if the technical results are according to the expectations and the industrial production is cost-competiveness, we suppose a program of one installation for every municipality

Extention for private consumers

When the public company is an example and a «concrete demostration» of the sustainabilty and performances of a new technology, the same public company can sell the technology to your customers.
Every municipality must have a SOFC plan in his assets before to ask to your citiziens.

Lyfe cycle control with r-fid tag and cloud

Green management

higher performances in carbon footprint (lower energy costs, lower paper waste, lower road transports, low emissions)

Smart approach

All plants «on line» in «real time»

IT components

Heating systems management

Maintenance management

Docs management

Only cloud reports

Heating systems management

Full description

Where they are, amministrative registry

Manteinance management

Number, programs and activities of mainteinance

Plant's docs

Technical data sheets, manuals, photo, etc.

Plants security and uniqueness

Plant TAG

RFID reader

PC Rugged

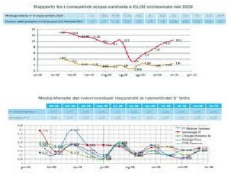
Plant ID
Hour and date
PC ID
..

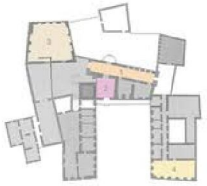
Plants management

PC e LAN

Web e WebGIS

Mobile





Mainteinance & First Aid

Scheduled mainteinance

Periodicity, material forecast, calendar mainteinance

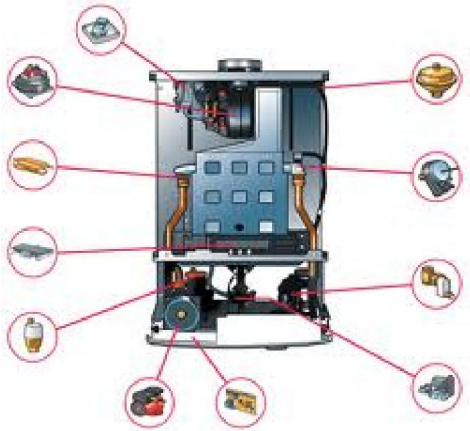
Sistema di ticketing ed Help Desk

Calls, registration, controlos and archive creation etc.

Emergencies or other claims

Call center, availability, first aid

Mainteinance program



Maintenance

Predictive, according to laws, extraordinary, from tickets, etc.

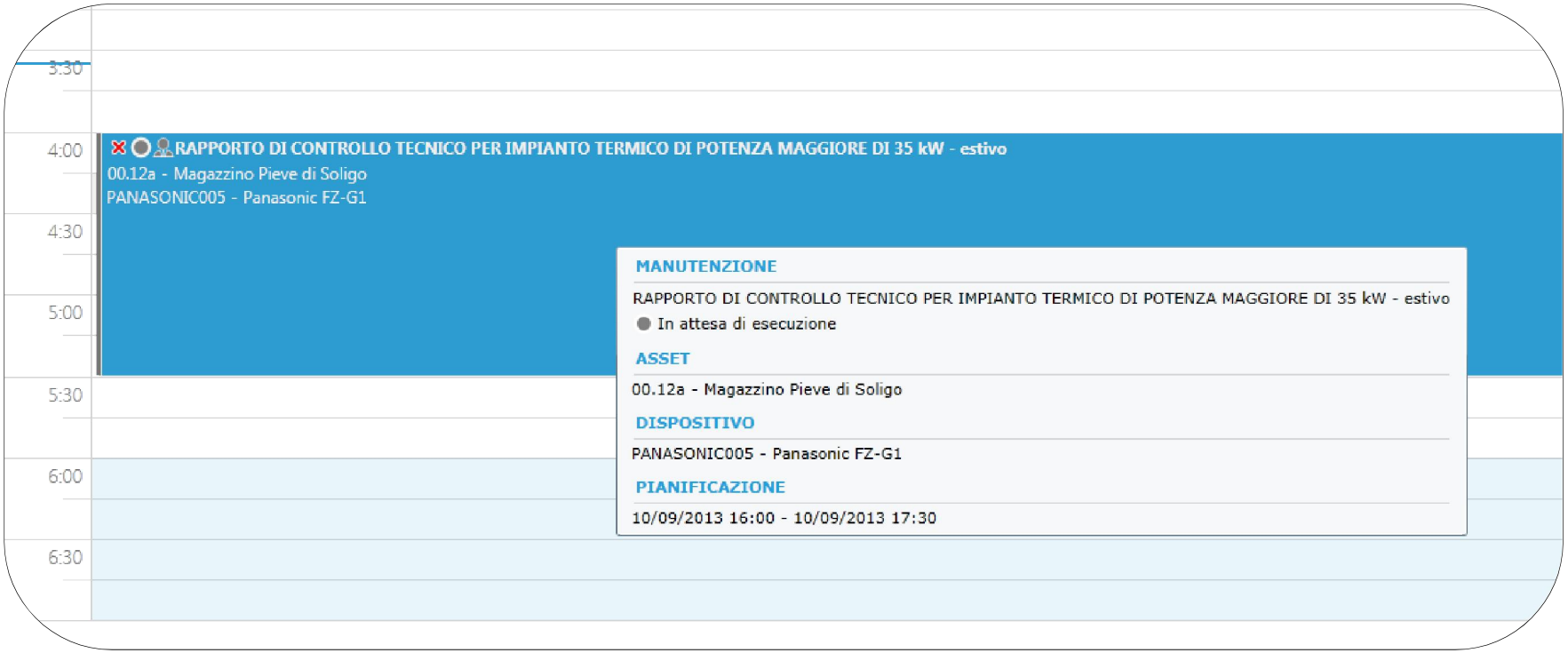
Activities and operations

Programmed and scheduled activities, etc.

Operations

Standards, executions tracks,replacements, etc.

Example of mainteinance planning



Manteinance execution

Sending mainteinance list

Where work is, when, how to arrive

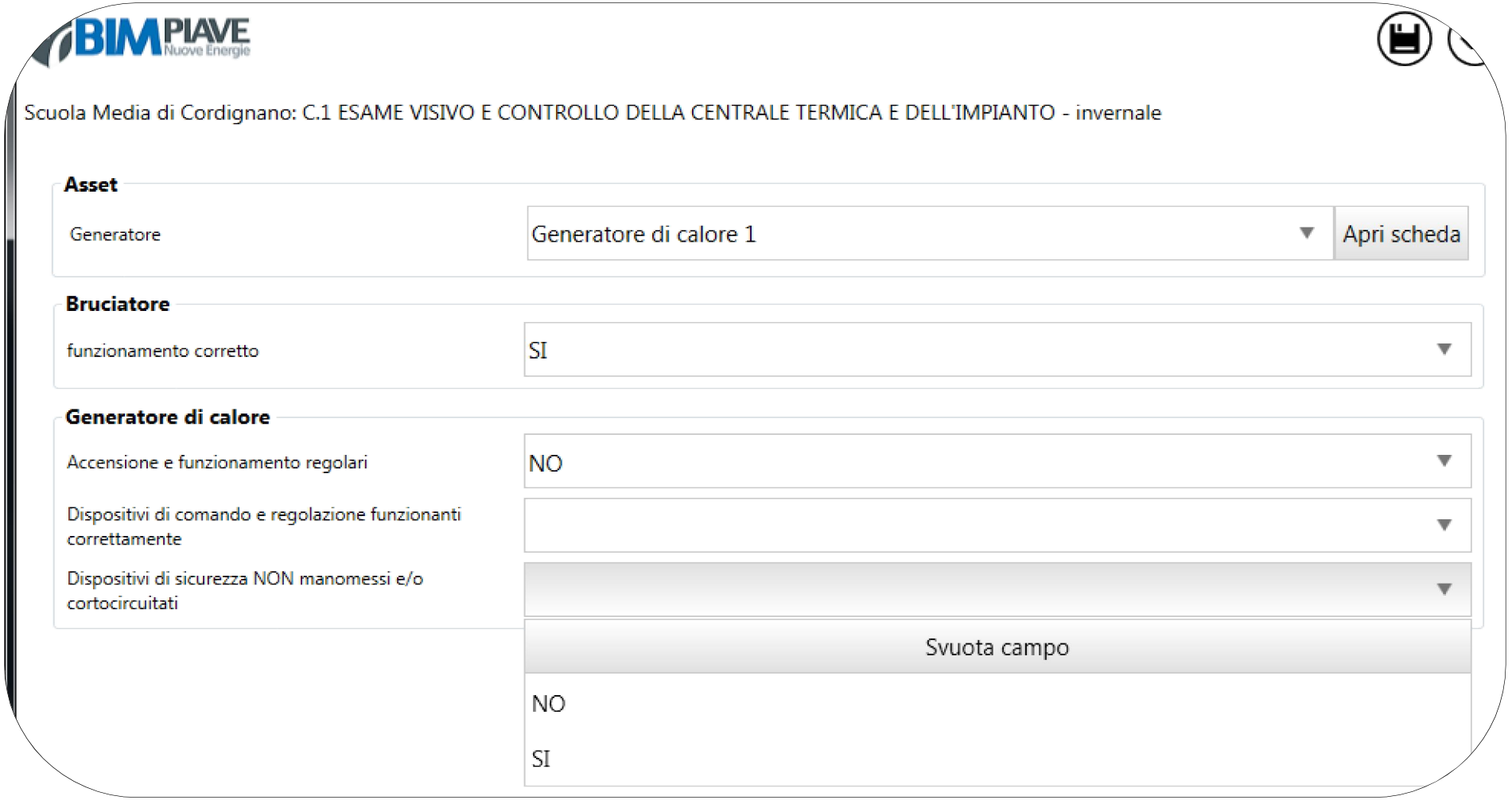
RFID system signature

TAG reading open mainteinance scheduled program

Activities instant report

Every activity is registered

Example of maintenance



Mainteinance registration

Mobile

At the same time of execution, with id TAG and execution times

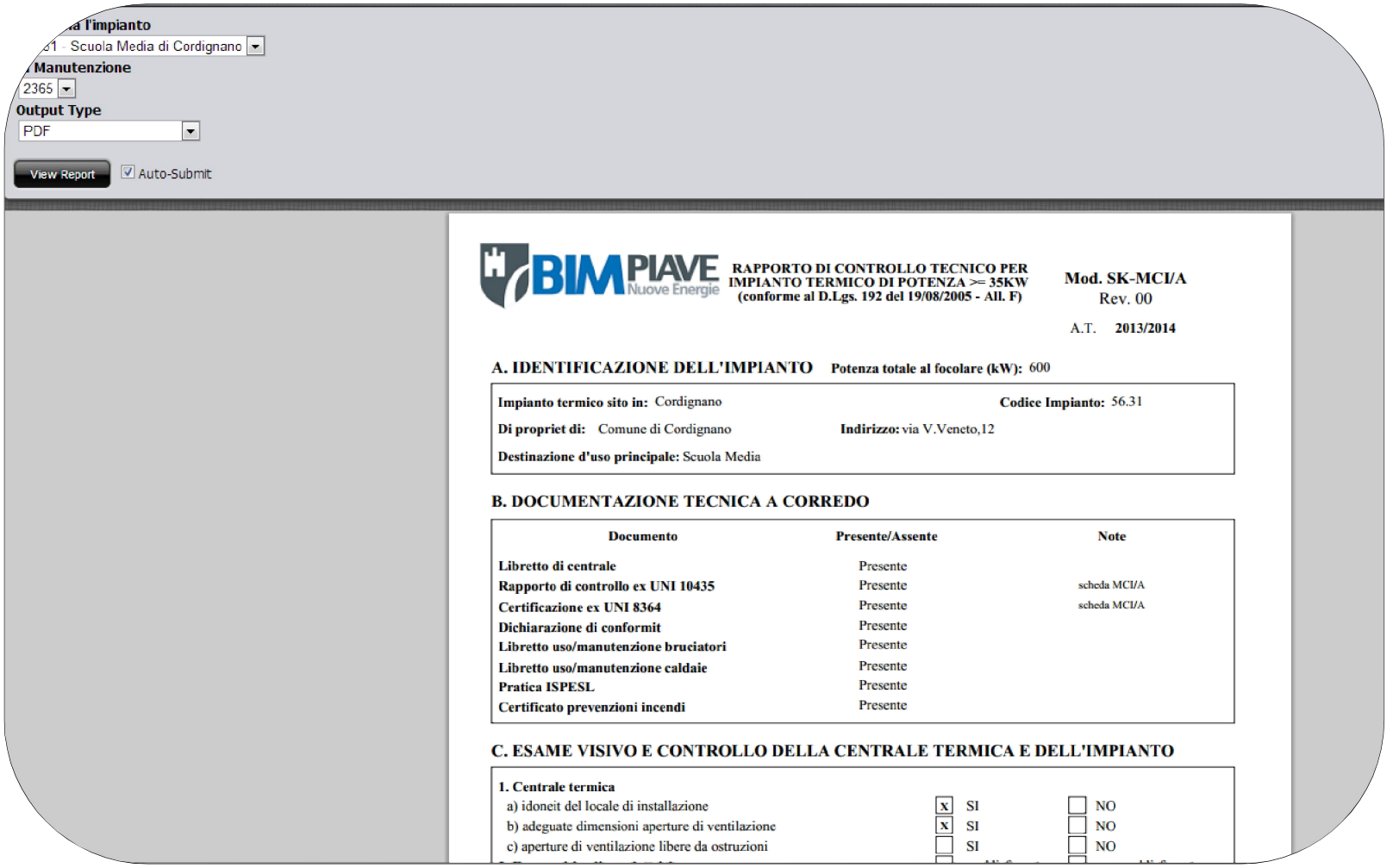
Signals

TAG reading close mainteinance activity

Instant report of activities

Every activity is immediatly readable

Example of report



BIM PIAVE Nuove Energie

RAPPORTO DI CONTROLLO TECNICO PER IMPIANTO TERMICO DI POTENZA >= 35KW
(conforme al D.Lgs. 192 del 19/08/2005 - All. F)

Mod. SK-MCI/A
Rev. 00

A.T. **2013/2014**

A. IDENTIFICAZIONE DELL'IMPIANTO

Potenza totale al focolare (kW): 600

Impianto termico sito in: Cordignano **Codice Impianto:** 56.31

Di propriet di: Comune di Cordignano **Indirizzo:** via V.Veneto,12

Destinazione d'uso principale: Scuola Media

B. DOCUMENTAZIONE TECNICA A CORREDO

Documento	Presente/Assente	Note
Libretto di centrale	Presente	
Rapporto di controllo ex UNI 10435	Presente	scheda MCI/A
Certificazione ex UNI 8364	Presente	scheda MCI/A
Dichiarazione di conformit	Presente	
Libretto uso/manutenzione bruciatori	Presente	
Libretto uso/manutenzione caldaie	Presente	
Pratica ISPESL	Presente	
Certificato prevenzioni incendi	Presente	

C. ESAME VISIVO E CONTROLLO DELLA CENTRALE TERMICA E DELL'IMPIANTO

1. Centrale termica

a) idoneit del locale di installazione	[X] SI	[ ] NO
b) adeguate dimensioni aperture di ventilazione	[X] SI	[ ] NO
c) aperture di ventilazione libere da ostruzioni	[ ] SI	[ ] NO

Maintenance And public informations

Published data

For every municipality, with plant map

Signal and mainteinances

light signals describes execution states

Documents admission

Paperless documents: manuals, cards etc.

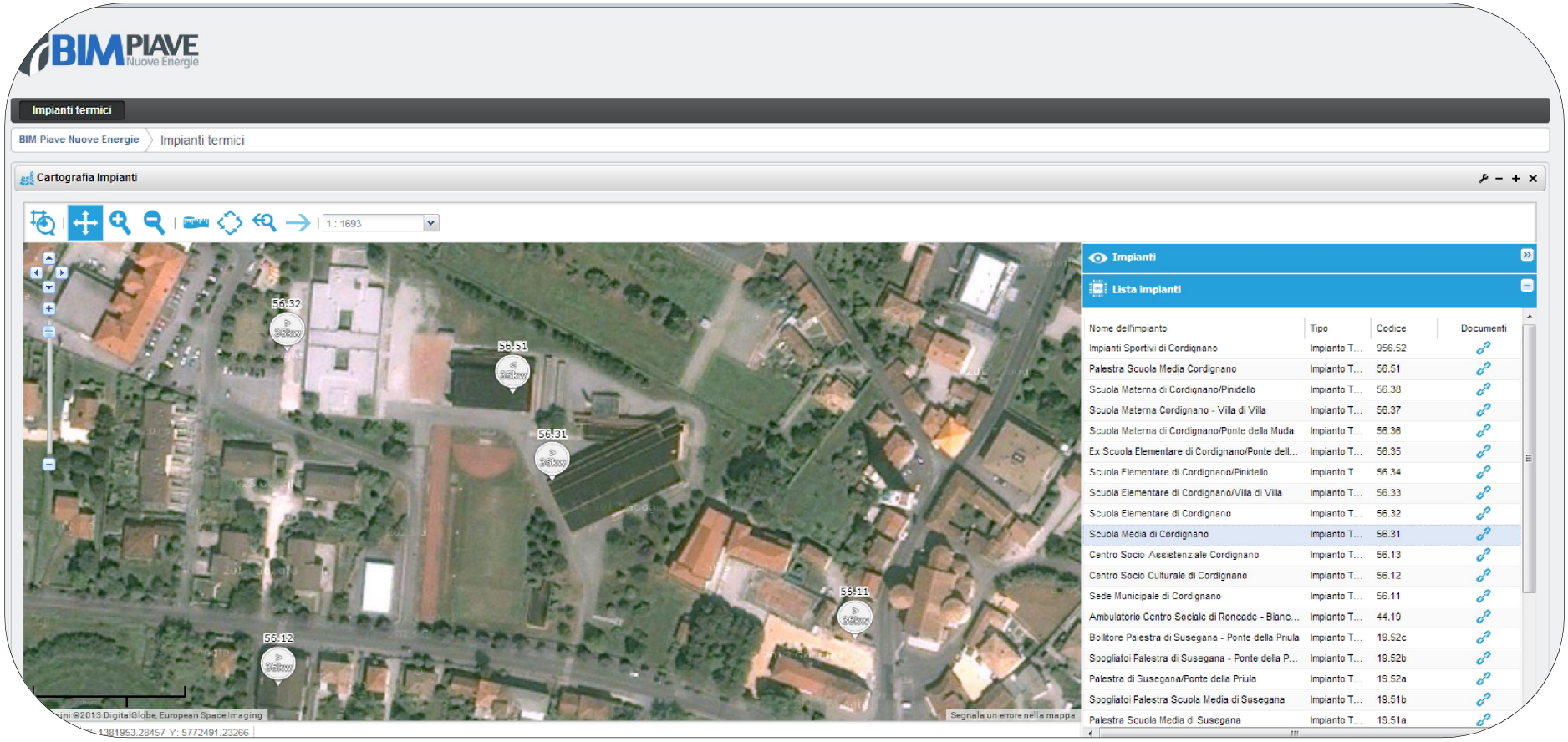
Documents Management

Paperless

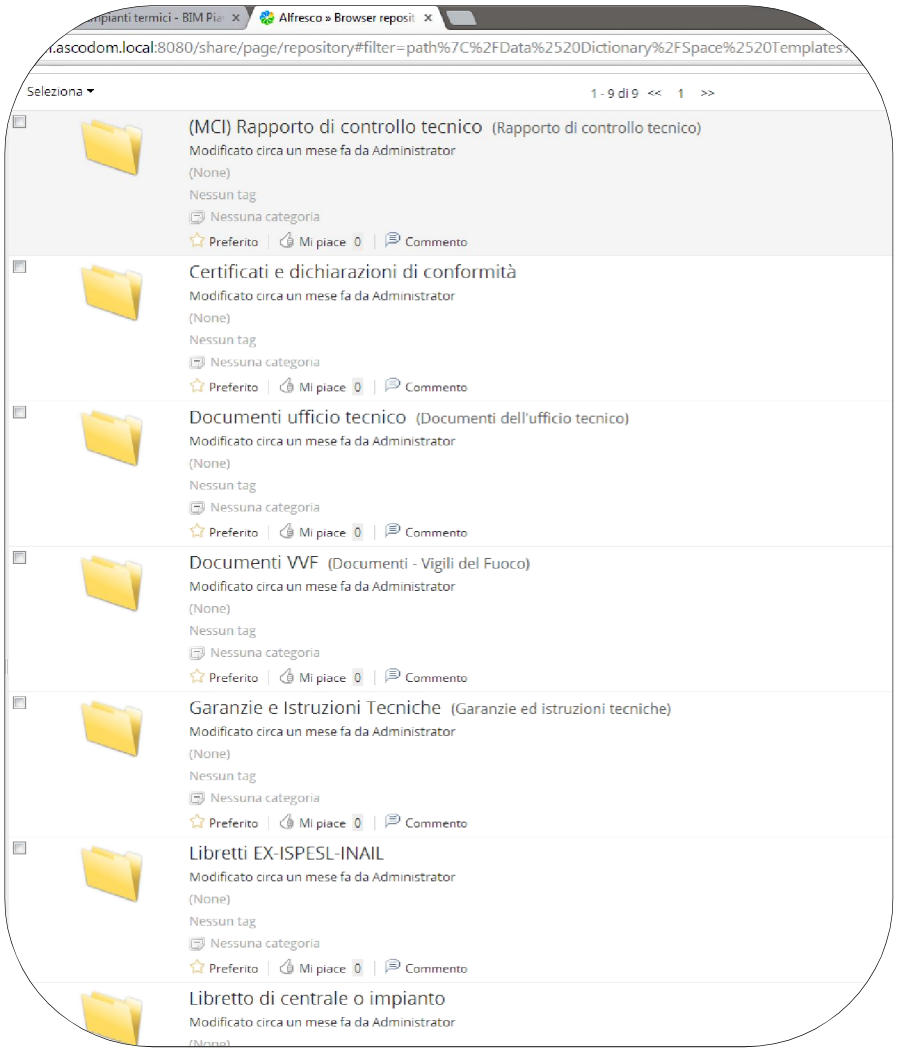
Different version organized

Accessible with username and password

Example of GIS navigation



Example of documents tree



Benefits

Higher service performances with public partners

Work with high international standars (ISO standards) and in compliance with the law

Transparent proceedings with public partners

Green benefits

Create a support to the municipalities for «spending review» practices and «really» digital Public Administration

Use «new green plants» to produce both electrical and thermical energy power

Enlarge control of performances of public buildings (today is usually low)

smart/green evolution (next steps)

We want to increase investements in Solid Oxide Fuel Cells (SOFC) technology (and other green solutions) after the first test-phase

We want to introduce an automatic reading of environmental plants data from sensor and analyzers

smart/green evolution (next steps)

We want to create a «virtuous grid» with telemanagement of buildings, data revision and energy saving monitorings for all the municipality

We want to define some standards of carbon footprint value for public buildings

The range of action…

63% of italian public housing is over 35 years old. That means:

- ***45.000 school buildings***
- ***20.000 state property buildings***
- ***7.500 extra hospital buildings (i.e. rest homes)***
- ***1.300 hospitals***
- ***13.000 office buildings***

The range of action…

Annual energy consuption (about 250 kWh/m²/y) is much higher of the European average («Brita PuBs» source).

Energy consuptions create an annual cost greater than 4.500 euro millions (CONSIP source)

Detect the mission

Public utilities (who tells you know is the chief of very little one) must create the «citizen sensibility» to sustainable behaviours, not with words but with concrete facts and examples to show that a new energetic vision it's possible if everyone believes in it.

«The way to go is very long but the route is well started and definite…»

Thanks for your attention

Stefano Donadello – Chief executive

BPNE
company share

CONSORZIO BIM PIAVE TREVISO

Gruppo ASCOPIAVE
Asco Holding SpA