SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

LA SANITA' IN (TEMPI DI) CRISI
REVISIONE DELLA SPESA E OBIETTIVI DI QUALITÀ NELLE AREE TECNICHE
ARCHITETTURE, ESPERIENZE E APPORTO DI FORZE GIOVANI PER ESSERE PROTAGONISTI DELLA RIPRESA

5° CONGR NAZIO S.I
24-26 0
N.I.C. (Nuovo Ingres

reshospitals

Lezioni da un Progetto Europeo

RES- Hospitals e la sua Guida per un un ruolo di “driver for change” degli ospedali

Prof. Arch. Simona Ganassi Agger

IEE Project: SI2.593326/IEE/10/261
June 2011 – November 2013

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

Membri del Partenariato & Associati

Il partenariato è composto da:

- **Italy - Asti Local Health Agency (coordinator)**
- **France - I'lle de France (Paris area) Regional Health Agency**
- **Hungary – Health Services Management Training Centre**
- **Netherlands - TNO**
- **Poland – Sucha Beskidzka Hospital**
- **Scotland - Health Facilities Scotland**
- **Spain - BIOEF**
- **ECHAA - European Centre for Health Assets and Architecture**
- **Optimat (UK)**
- **SIAIS – Italian Society for Architecture and Engineering of the Health Sector**

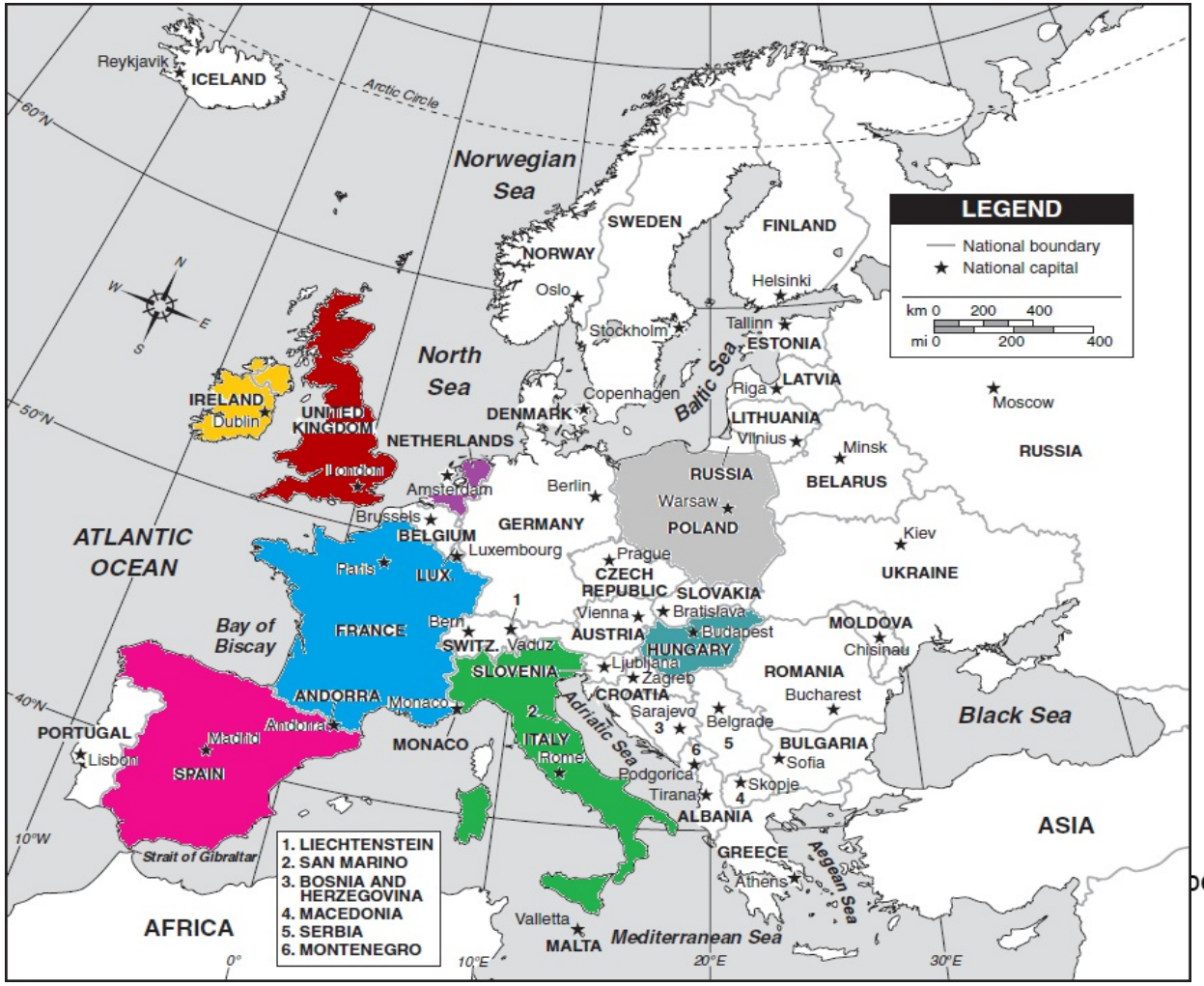
Coordinator Prof. Arch. Simona Ganassi Agger, RES-Hospitals European Project Manager, ASL ASTI

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

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

reshospitals

- FRANCE
- ITALY
- HOLAND
- IRELAND
- UNITED KINGDOM
- POLAND
- HUNGARY
- SPAIN



Il messaggio Scientifico

Climate change is one of the great challenges of the 21st century. Its most severe impacts may still be avoided if efforts are made to transform current energy systems. Renewable energy sources have a large potential to displace emissions of greenhouse gases from the combustion of fossil fuels and thereby to mitigate climate change. If implemented properly, **renewable energy sources** can contribute to social and economic development, to energy access, to a secure and sustainable energy supply, and to a reduction of negative impacts of energy provision on the **environment and human health**

From: Special Report on Renewable Energy Sources and Climate Change Mitigation (SRREN)

Intergovernmental Panel on Climate Change (IPCC)

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

A base del progetto

Europe 2020 Energy Targets

- 20% più basse che nel 1990 le Emissioni di Gas Climalteranti (soprattutto CO_2)
- 20% dell' Energia prodotta da Fonti Rinnovabili
- 20% aumento della Efficienza Energetica(riduzione dei consumi energetici di 368 Mton)

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

Gli ospedali Europei Esistenti

15.000 ospedali in Europa che operano 7/24/365 e collectivamente producono circa il 5% delle emissioni di CO_2 della UE. Inoltre le sfide sono:

Aumento della domanda di cura

da muovere verso una offerta di cura basata sulla comunità

Pressione crescente a ridurre i costi unitari della sanità

Ridurre il consumo energetico (i costi) è divenuta una priorità

Sta crescendo l'impegno di ridurre le emissioni di CO_2

Considerato da molti come l'impegno / la sfida del futuro

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

Gli ospedali sono Istituzioni strategiche

RES – Hospitals ha come obiettivo l'individuazione e possibilmente l'indicazione di soluzioni per le barriere che si frappongono alla efficientazione dell'uso dell'energia ed il suo risparmio, e all'introduzione delle Fonti rinnovabili.

Il quadro totale delle emissioni collegate agli spedali dovrebbe essere considerato e, anche se non affrontato nel progetto presente, tenuto in considerazione.

La slide seguente mette in rilievo le tre diverse fonti di CO2

Due progetti: **Low Carbon Buildings – Healthcare**, concluso e la sua continuazione **EcoQUIP** hanno preso in considerazione lo "scope 2", ponendosi come obiettivo lo stimolare innovazione altamente necessaria nei servizi e prodotti del settore della salute e nell'indirizzare la nuova domanda di servizi sanitari.

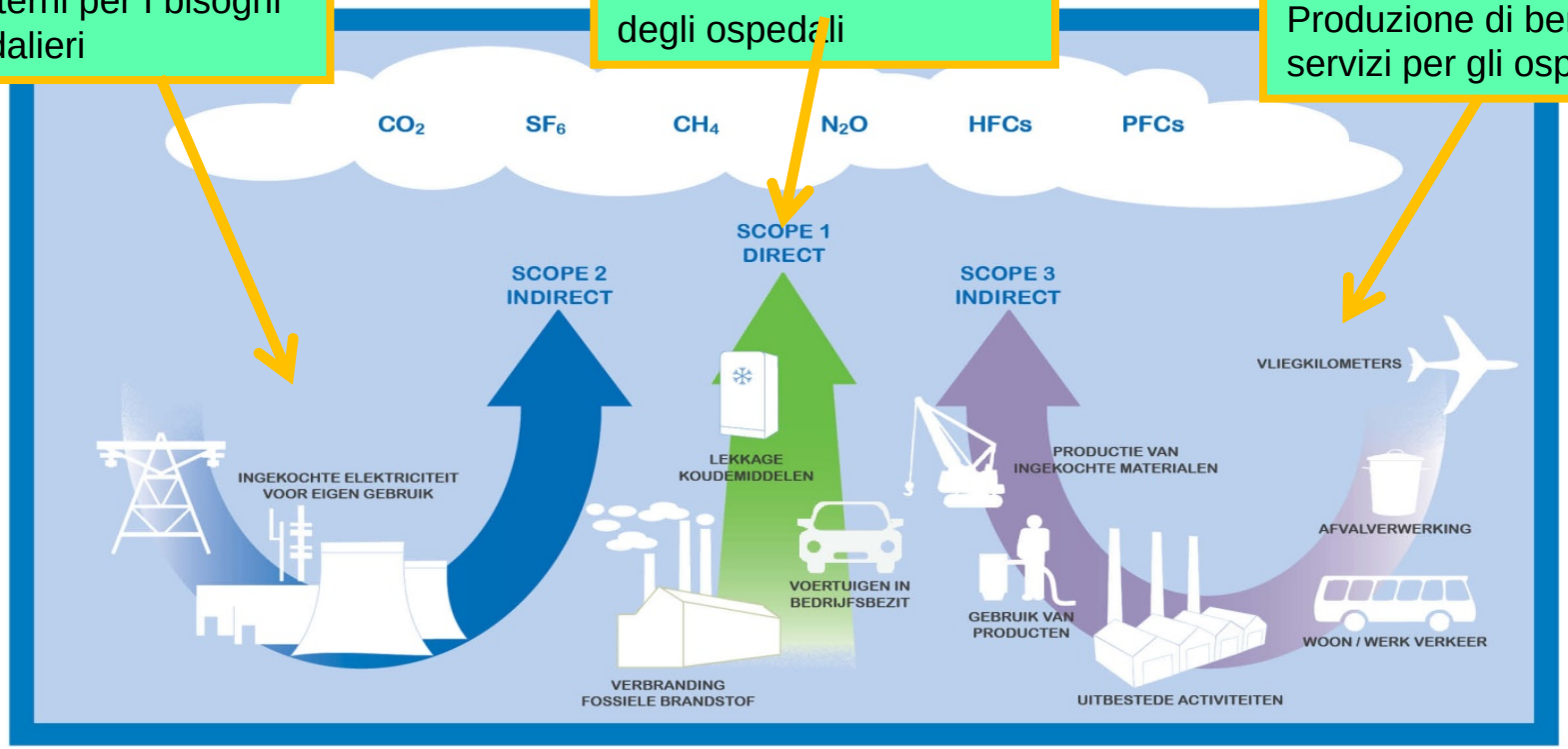
Co-funded by the Intelligent Energy Europe Programme of the European Union

Emissioni Climalteranti Collegate agli Ospedali

Produzione di energia da esterni per I bisogni ospedalieri

Emissioni prodotte direttamente dall'attività degli ospedali

Produzione di beni e servizi per gli ospedali



SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

LA SANITA' IN (TEMPI DI) CRISI
REVISIONE DELLA SPESA E OBIETTIVI DI QUALITÀ NELLE AREE TECNICHE
ARCHITETTURE, ESPERIENZE E APPORTO DI FORZE GIOVANI PER ESSERE PROTAGONISTI DELLA RIPRESA

5° CONGR NAZIO S.I
24-26 0
N.I.C. (Nuovo Ingres

Obiettivi Generali e Strategici

reshospitals

OBIETTUVI GENERALI DI RES-HOSPITALS:

Accelerare lo sfruttamento delle opportunità di energia rinnovabile negli Ospedali Europei European, sostenendo la "Strategia per il cambiamento climatico e gli obiettivi energetici" di EU20-20.

DUE MAGGIORI OBIETTIVI STRATEGICI:

Facilitare la transformazione degli ospedali del progetto

Almeno 50% di energia da Fonti Rinnovabili al 2020

Fornire evidenza e strumenti per il più ampio settore

Almeno il 20% of energia da rinnovabili al 2020

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

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

5° CONGR
NAZIO
S.I
24-26 0
N.I.C. (Nuovo Ingres

Main Activities

reshospitals

Pilot projects in different European countries

Aimed at exploring the barriers and how they can be overcome in different situations and producing

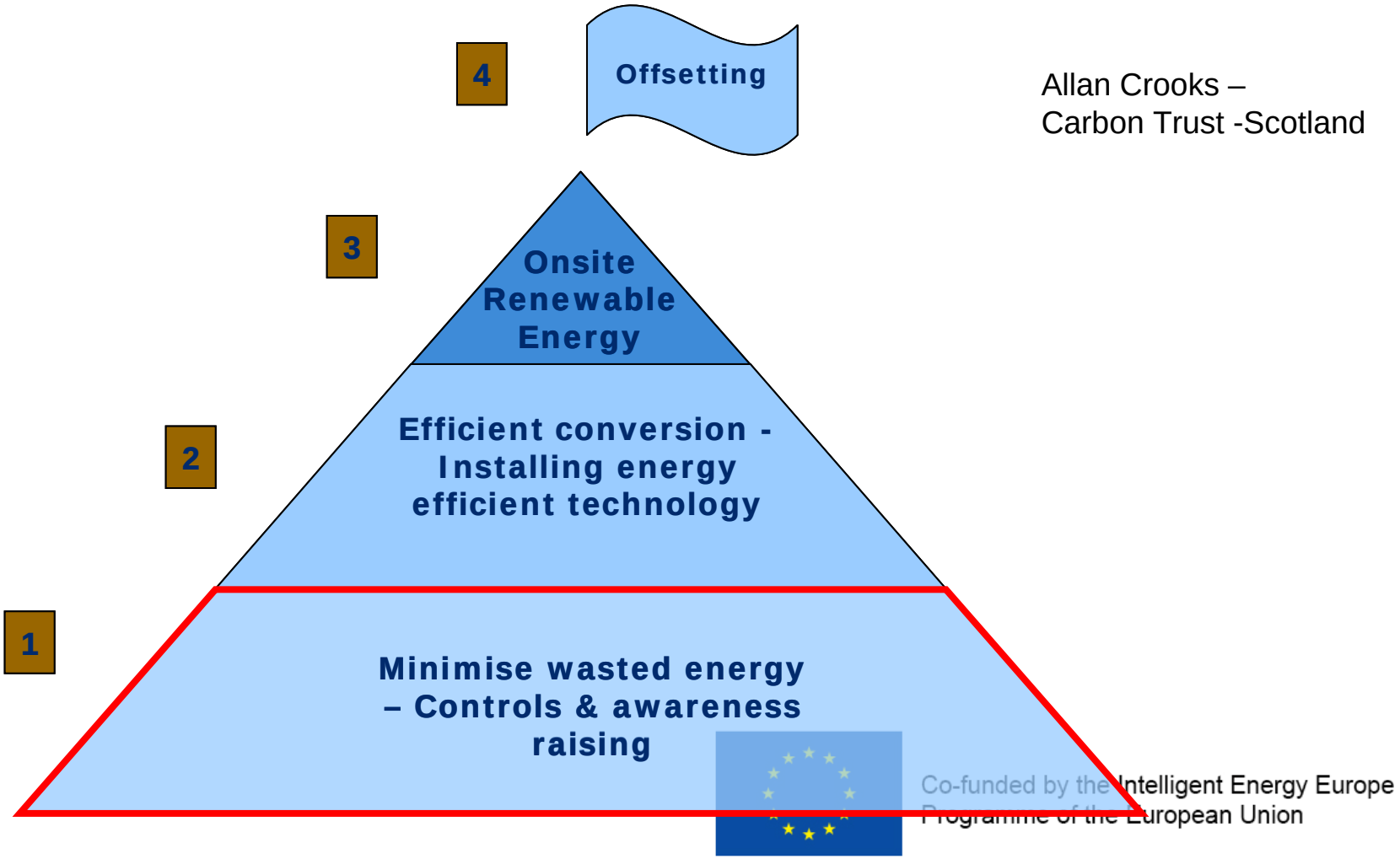
- **Investment plans to reach 50% RES by 2020**
- **Roadmap for Zero carbon possibilities**

Renewable Energy Guide for European Hospitals

Aimed at management and policy stakeholders and dealing with:

- **Influencing factors**
- **Non-technical barriers**
- **Feasible RES options**
- **Making the business case for investment**

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



Allan Crooks –
Carbon Trust -Scotland

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

Carbon Management Hierarchy- liv. 3.

Minimizzare lo Spreco di Energia
Controllare &
Far crescere la Consapevolezza

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

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

reshospitals

Un progetto Canadese of 2003

This Project was produced by Natural Resources Canada (NRCan)
with support from the Canadian College of Health Service Executives (CCHSE)

Energy Innovators Initiative

Turn Energy Dollars into Health Care Dollars

A Guide to Implementing an Energy Efficiency Awareness Program in a Health Care Facility

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

- Nota Campagna della Regione Emilia-Romagna
- Iniziata nel 2008

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

reshospitals

Iniziativa del Carbon Trust - 2010

CARBON TRUST
Making business sense of climate change

Hospitals

Healthy budgets through energy efficiency

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

Indagine sulle Barriere non-tecniche

- Related to Financial aspects
  - **lack of capitals** for investments
  - **too long** to reach beak even
  - **lack of focused** incentives for the public sector
- Related to the hospital's managers vision
  - **lack of attention** to energy consumption and costs
  - **lack of awareness** of EU and national objectives & CO2 reduction
  - **no interest** or even refusal of the hospital role as energy self producers and even less as supplier
  - **diffidence** towards innovation generally and RES produced energy specifically
  - **perceived weak support** and maturity of RES supply chain

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

Carbon Management Hierarchy- step 1.

Conversione Efficiente –

Installazione di tecnologie efficienti

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

Il CAREGGI

74 ha – 1,650 beds – 6,000 employees – 15,000 persons present daily

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

Energy efficiency and Environmental Benefits

ope

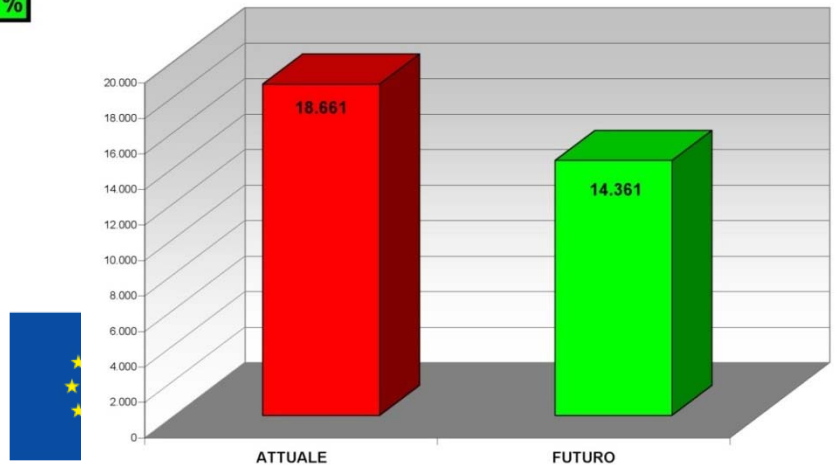
ACHIEVABLE ENERGY SAVING

Sigla	Descrizione	Attuale tep/anno	Futuro tep/anno
	ENERGIA TERMICA		
EP-cal	Energia primaria combustibile caldaie	10.007	1.092
EP-cog	Energia primaria combustibile cogeneratore	-	20.192
EPt	Energia primaria totale immessa con il combustibile	10.007	21.284
	ENERGIA ELETTRICA		
EPe-rete	Energia primaria associata all'en. elettrica prelevata	8.662	963
EPe-imm	Energia primaria associata all'en. elettrica immessa	-	- 7.887
EPe	Bilancio energia elettrica primaria risultante	8.662	- 6.924

EP-totale	Energia primaria complessiva risultante	18.669	14.361
R	Risparmio energia primaria ottenibile		4.308
IRE	Indice di risparmio percentuale		23,1%

TABELLA PREVISIONALE DEL RISPARMIO ENERGETICO ANNUO

RAFFRONTO ENERGIA PRIMARIA COMPLESSIVA (tep/anno)



VALUTAZIONE DELLA CO2 RISPARMIATA

To evaluate the reduction of emissions on an annual basis, reference was made to the energy balance of the PO planned to 2008, comparing the following assumptions in supply:
from traditional sources (electricity and heat from boilers ENEL – National Energy Supllier)
with cogeneration (electricity and heat produced in-house, with partial use of traditional sources for additions)
For homogeneous comparison it was assumed that the fuel used is always the methane hypothesis using other fuels in the solution "traditional" for boilers, would be further penalized for this situation.
The framework for comparison, prepared on the basis of the coverage efficiency of PO Relative to the above situations, is reported in the following table:

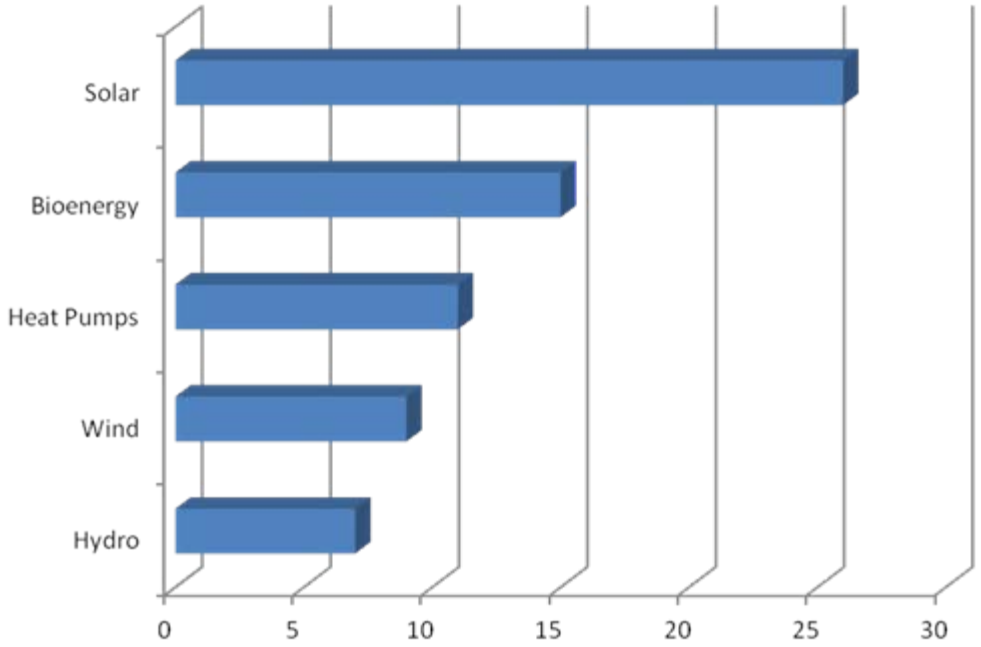
QUADRO DI RAFFRONTO EMISSIONI DI CO2 IN ATMOSFERA (CON EMISSIONI DA RETE ENEL 522 gCO2/kWhe				
		TRADIZIONALE	CON TRIGENERAZIONE	DIFFERENZA
PRODUZIONE CO2 DA COMBUSTIONE TURBINA	(t/anno)	0	34.395	34.395
PRODUZIONE CO2 DA COMBUSTIONE CALDAIE	(t/anno)	21.015	7.684	-13.331
PRODUZIONE CO2 DA RETE ENEL	(t/anno)	20.589	-7.707	-28.296
PRODUZIONE DI CO2 TOTALE	(t/anno)	41.604	34.372	-7.232 -17,4%

DATI DI RIFERIMENTO APPLICATI:
Produzione CO2 da combustione metano *1,898 kg/Smc*
Produzione CO2 da rete ENEL *0,522 kg/kWhe*

In the calculation of comparison, in addition to the thermal recovery, it is also considered the lack of production of CO2 by ENEL, the proportion of electricity sold in the network.
From the above it should be noted, therefore, a quantity of CO2 avoided equal to 7232 t / year, corresponding to a percentage reduction of 17.4%.

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

LE OPZIONI ATTUALI PER GLI OSPEDALI



See www.res-hospitals.eu for summary of examples (v1)

OSPEDALE DI AVICENNE - FRANCE

y Europe
n

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

reshospitals

IL NUOVOPROGETTO

nt Energy Europe
ean Union

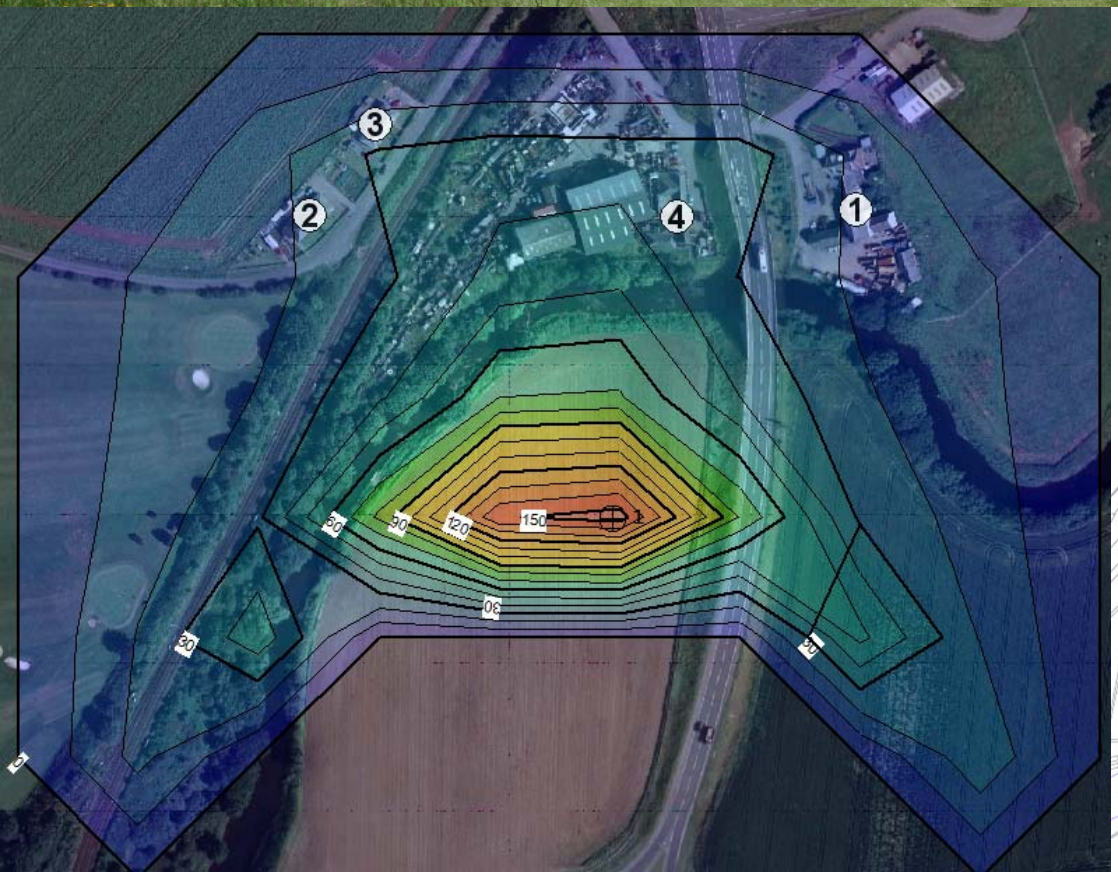
RISULTATI AMBIENTALI

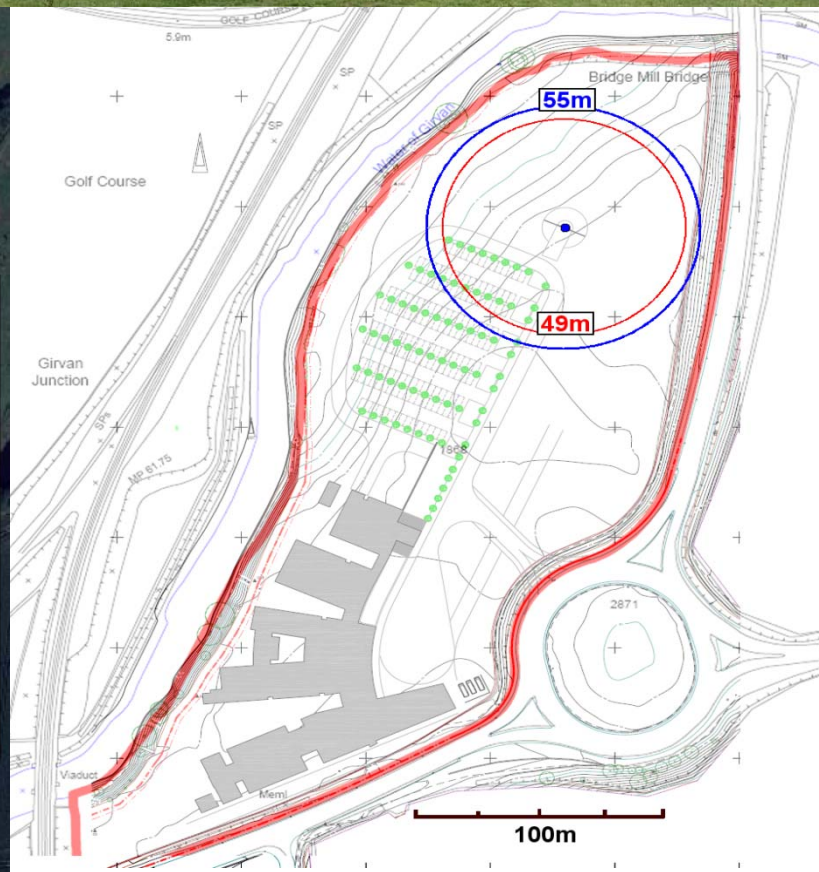
- **Emissions of CO2 :**
- **Gas : 205 g CO2 eq / kWh pci**
- **Gasolin : 270 g CO2 eq / kWh pci => Trucks PL : 500 g CO2 eq / km**
- **Biomasse : 0**

- **Actual needs « all gas »** (21.900 MWh pcs/an) **4.038 tonnes CO2 eq/y**
- **Futur needs «all gas »** (33 900 MWh pcs/an) **6.252 tonnes CO2 eq/y**
- **Futur needs « mix Biomasse/gas** (66 % biomasse) **1.750 tonnes CO2 eq/y**

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

GIRVAN COMMUNITY HOSPITAL


3
2
4
1
150
120
90
60
30
30
60
90


55m
49m
Bridge Mill Bridge
Golf Course
Girvan
Junction
Viaduct
100m

QUADRO ECONOMICO

✓**100kW**	✓£7,500
✓**500kW**	✓£46,500
✓**1.5MW**	✓£90,000
✓Capital costs	✓Operating profit
✓£400,000	✓£52,500
✓£1,360,000	✓£383,500
✓£2,245,000	✓£526,000
✓**Energy yield**	✓**Payback period**
✓219,850kWh	✓6.9 years
✓1,768,400kWh	✓3.5 years
✓3,973,450kWh	✓4.0 years
✓Income	✓Rate of return
✓£ 60,000	✓15%
✓£ 430,000	✓30%
✓£ 616,000	✓27%
✓Operational costs	

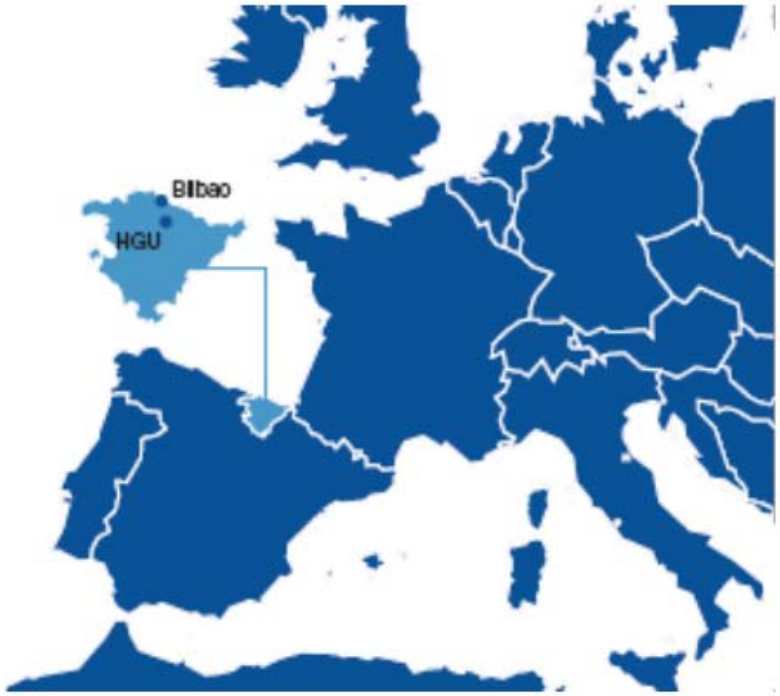
Co-funded by the Intelligent Energy Europe Programme of the European Union

ATTIVITA' CHIAVE: STUDI PILOTA E OBIETTIVI

- Review existing energy demand and supply (level, source and application)
- Review historical and planned actions (energy efficiency and RES)
- Identify further energy efficiency measures (type, cost, finance, impacts)
- Identify renewable energy options (type, barriers, cost, finance, impacts)
- Develop an investment plan to achieve 50% RES by 2020
- Gain commitment and funding from at least one hospital per country
- Develop a Zero Carbon Roadmap

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

HospitalGaldakao- Usansolo Spain



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

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

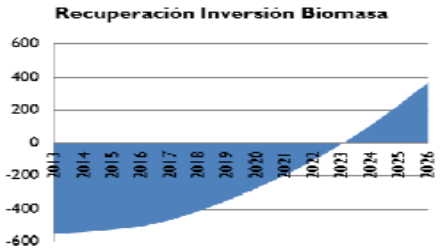
reshospitals

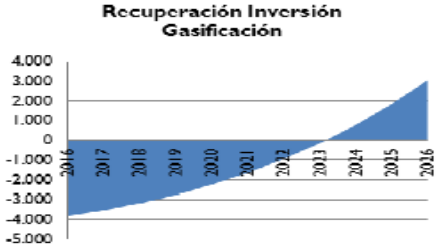
Public Health facility belonging to the Osakidetza network (regional integral health care organisation financed by public funds).
Built area 70,000 m^2
10 floors above ground and two basements;
26 years old.
440 inpatient beds (56 emergencies beds).
The Galdakao hospital can be considered a leader in the hospital sector in the fight against climate change. In the working framework of the oligopsony environmental team (consisting of 12 national hospitals), it is leading the search for common air emissions indicators.
In 2008 it has installed 460 PV panels for 100 kW and an annual production of 100MWh/year.
Installation of solar water heater for rehabilitation swimming pool in 2012 (20 kW). Both examples of the example of the environmental line to which the hospital is committed.

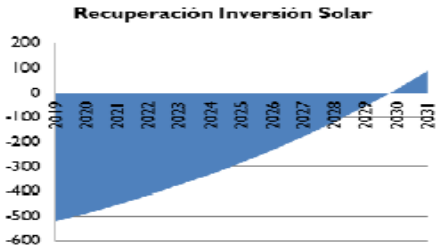
Co-funded by the Intelligent Energy Europe Programme of the European Union

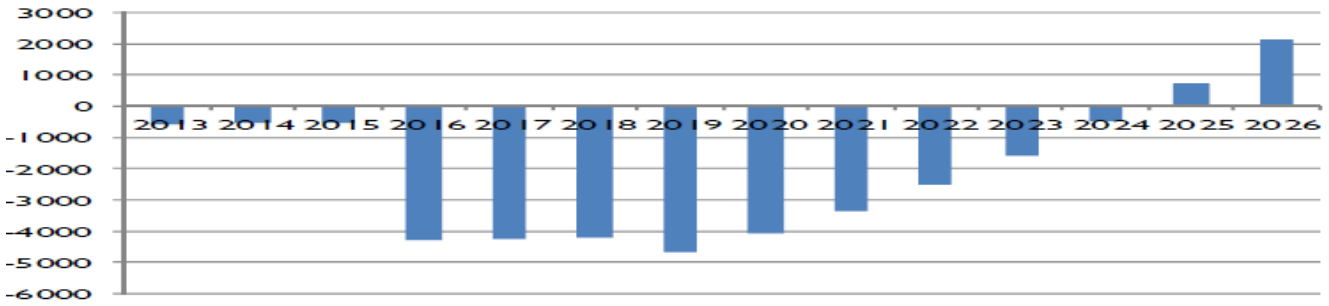
Financial Investment Proposted for RES by 2020

	2013	2014	2015	2016	2017	2018	2019	2020
Calderas Biomasa	550.000 €							
Sistema Gasificación				3.800.000 €				
Solar Fotovoltaica							520.000 €	



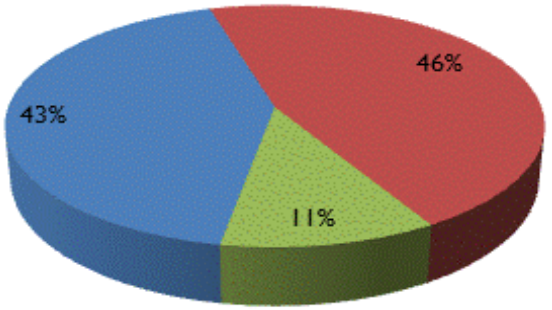




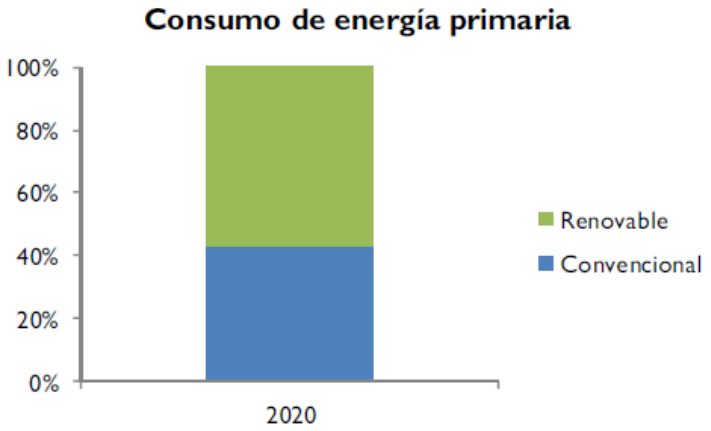


elligent Energy Europe
uropean Union

The total investment proposed for RES by 2020 is € 4,870,000 and ends in the year 2019.



Convencional
Recuperación
Biomasa



By year 2020, the total primary energy consumption will be over 57% in RES systems.

Annual CO_2 savings as result of this investment will be over 2,803 tonn eq/y

The annual total emissions at the present time are 8.533 tons/year, the avoided tons represents therefore a saving of GHGs equale about 33%.

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

Ospedale Versilia - Italia

General Information:

General Hospital - Part of National Public Service

Climate zone	D
Degress/day	1485
Operating since	2002
Typology 4 floors - Single block	
Area	m^2 76,940
Volume	m^3 270,828
Glass surface	m^2 4,047
Beds 450+ 70 Day Hospital	
Population served:	
Residents 170,000	
tourist present in the area in Summer season about 500,000	

The complex has a Building & Plant Manger-Energy Manager present on Site and a General Technical Manager

Photovoltaic panels generating 198,72 Kw, partially conveyed into the grid. A new plan photovoltaic panels up to the production of 500 Kwp, and mini-windmills are being planned.

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

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

reshospitals

Initiatives in place

- Highly energy efficient building, monitored by a computerized Building Management System,
- Photovoltaic panels generating 198,72 Kw, partially conveyed into the grid,
- modern illumination energy-saving systems with fluorescent electronic ballasts, with internal automatic on and off systems (switches presence) and external (crepuscolar switches)
- recovery of the heat through reverse-flow heat exchangers.
- "free cooling" using fresh air of the environment too cool down the water of the ventilation plant and cool down the building (passive cooling)
- variable frequency inverters for the regulation of the number of revolutions for machinery such as pumps, ventilators etc.
- Thermal insulation with mineral wool or polystyrene of the network distribution of hot fluids and hot/cold.

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

Current Energy Consumption

Primary energy kWh	2,830,268	toe 651
methane mc	2,652,433	toe 2,175
Total		**toe 2,826**
CO_2 Emissions		
from methane		4,888.2 ton CO_2
from energy		2,085.9 ton CO_2
Total		**6,974.1 ton CO_2**
Total Hospital Carbon Foot Print (CFA)		**8,568 ton CO_2**

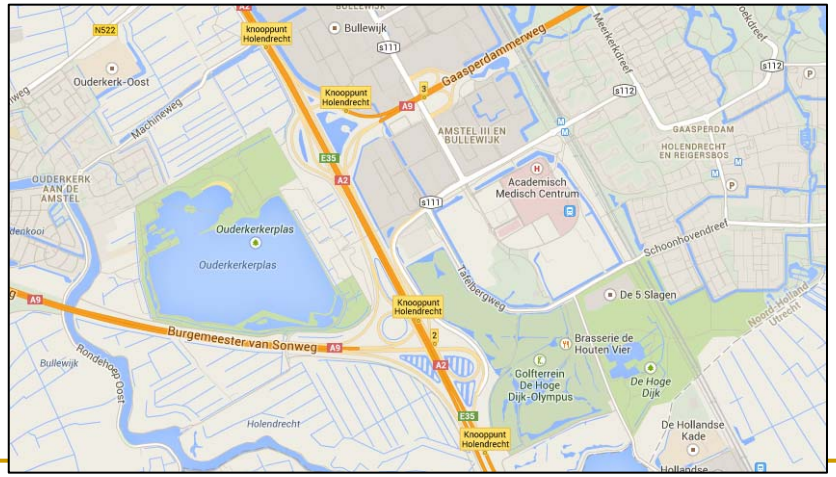
RES currently in use and assimilated (Italian law)

Small windmill – in use for outdoor lighting	1kW	kWh	1,300
Photovoltaic	198 kW	KWh	278,408
Trigeneration 1,003 kWe x 61,000 h/year	kWh 7,486,840		1,722 toe

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

Case: Lake Water Cooling

University Hospital Amsterdam



Lake Water Cooling

University Hospital Amsterdam

- The main building of the Amsterdam Medical University was completed in the beginning of the eighties
- Mayor rehabilitation programme on-going, including the existing power plant running on heavy fuel which will be replaced with
  - A combined heat and power plant running on natural gas.
  - The energy efficiency of the units will be increased from 55% to 82% while emissions will be significantly reduced due to the change from heavy fuel oil to natural gas (e.g. NOx emissions will be reduced by 96% and fine particles by around 80%).
  - The steadily increasing demand for cooling in summertime will be assured through the use of the cold water of a nearby 30 m deep artificial lake (Ouderkerkerplas).
  - In combination the expected overall energy consumption will be reduced by at least 23%, not considering the additional measurements for energy reduction within the existing buildings.

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

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

LA SANITA' IN (TEMPI DI) CRISI
REVISIONE DELLA SPESA E OBIETTIVI DI QUALITÀ NELLE AREE TECNICHE
ARCHITETTURE, ESPERIENZE E APPORTO DI FORZE GIOVANI PER ESSERE PROTAGONISTI DELLA RIPRESA

5° CONGR NAZIO S.I
24-26 0
N.I.C. (Nuovo Ingres

reshospitals

?

Quale input può venire
dalla RES-Hospitals Guide
per dare agli ospedali
un ruolo di leader
nel rinnovamento energetico

?

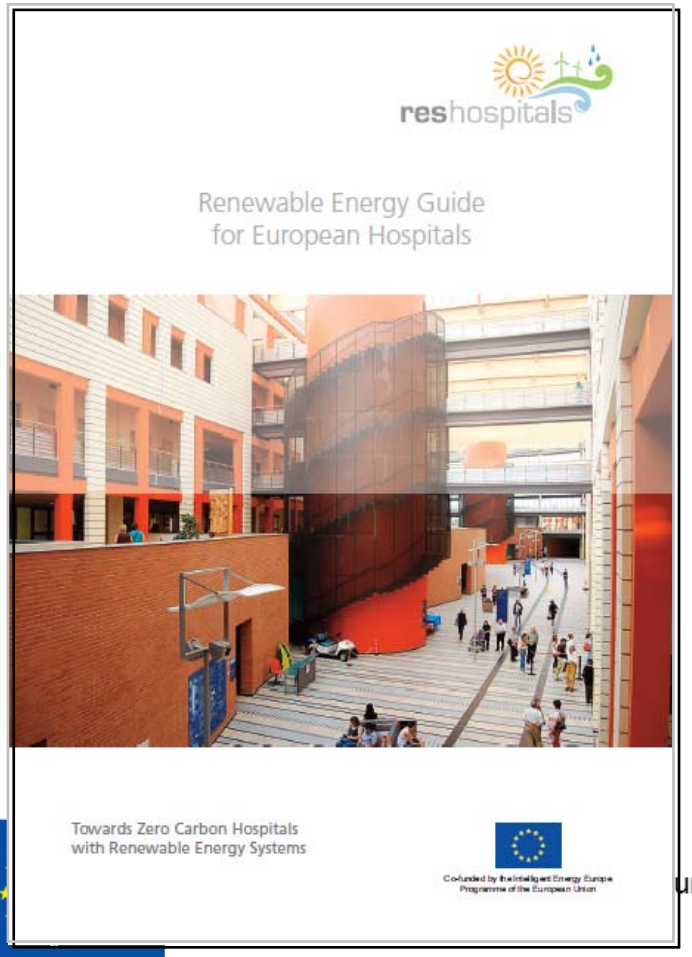
Co-funded by the Intelligent Energy E
Programme of the European Union

Indice

1. Context
2. Research method
3. Factors influencing RES use in Hospitals
4. Non technical barriers to investments
5. Identifying feasible RES options
6. Making the business case for the renewable investment
7. Ten key messages grom the Guide

The Appendices include:

b. Case study examples
c. Synthesis of good practice guides
e. Economic of renewable energy



urope

- Support **Hospital Technical Managers** to identify options for renewable energy investment and make the business case to **Hospital Management**
- Provide **Hospital Management Boards** with evidence of the importance of renewable energy for the hospital(s) under their control
- Provide **Health Ministries and Agencies** with evidence of the importance of renewable energy in meeting national CO_2 and Europe 2020 energy targets and suggest actions they can take to help overcome barriers to investment
- Provide **other policy makers** with evidence of the important contribution hospitals can make to meeting EU CO_2 and renewable energy targets and suggest actions they can take to help overcome barriers to investment

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

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

5° CONGR NAZIO S.I
24-26 0
N.I.C. (Nuovo Ingres

Key factors from Pilot Studies

reshospitals

Investment appears to be the main barrier declared by Policy Makers and Administrators

In effect other aspects have emerged:

Diffused diffidence for new technologies, especially RES related, Hospitals mainly focused on proven low risk technology

More concern for the other major items of cost for hospitals, such has staff and medicine costs

Low consideration of what can be achieved at basically no cost working with hospital staff to raise **awareness**

Limited consideration by hospitals of offsite and/or hospital led community options of RES

Substantially low consciousness of the importance directly for human health of the battle for reduction of CO2 and

The important role hospitals could and have to play in such a battle

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

Key factors from Pilot Studies

From the type of investment made

No single RES **technology can** satisfy 100% of the energy needs of an hospital, excluding specific situations.

In most of the cases a mix of RES can satisfy over 50% of the needs at the present state of the art of the different RES technology

Renewable heat is, at the present time the main focus to achieve 50% RES by 2020.

Biomass and deep geothermal are the main contributors to % RES

Most technologies are in evolution towards higher performances and lower costs from PV to Windmills and bioenergy .

New renewable forms of producing energy are continously developped, some for specific situations other with wider possibilities, such as ocean energy.

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

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

LA SANITA' IN (TEMPI DI) CRISI
REVISIONE DELLA SPESA E OBIETTIVI DI QUALITÀ NELLE AREE TECNICHE
ARCHITETTURE, ESPERIENZE E APPORTO DI FORZE GIOVANI PER ESSERE PROTAGONISTI DELLA RIPRESA

5° CONGR NAZIO S.I
24-26 0
N.I.C. (Nuovo Ingres

resHospitals

The learning experience

There are situations among the existing hospitals, in which the location or other constraints are objective barriers to the on-site RES use.

The Zero GHGs emissions hospitals have to be pursued and hopefully be reached with collective actions involving a greath variety of Stakeholders.

In Spain the hospital of Matarò, close to Barcelona, gets its heath from “Tubo verde” a pipe that distribute heath produced at community level with the use of local waste.

In Paris the production of centralised hot water reaches 23 public hospitals through an underground distribution system.

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

Hospital Sant'Orsola – Malpighi - Bologna

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

5° CONGR NAZIO S.I
24-26 0
N.I.C. (Nuovo Ingres

... new approaches

reshospitals

To counteract the “agnosticism” underlined before, it is important to diffuse the knowledge of another form, already being under implementation, of the hospitals as **pro-active agent** in the “battle” for energy efficiency and CO2 emissions reduction.

Hospitals becoming producers of energy for their Community with the aim of increasing progressively the % of RES energy.

The hospital of Udine, in the North of Italy,but it is not the only one, has taken this proactive role.

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

Udine: rete teleriscaldamento

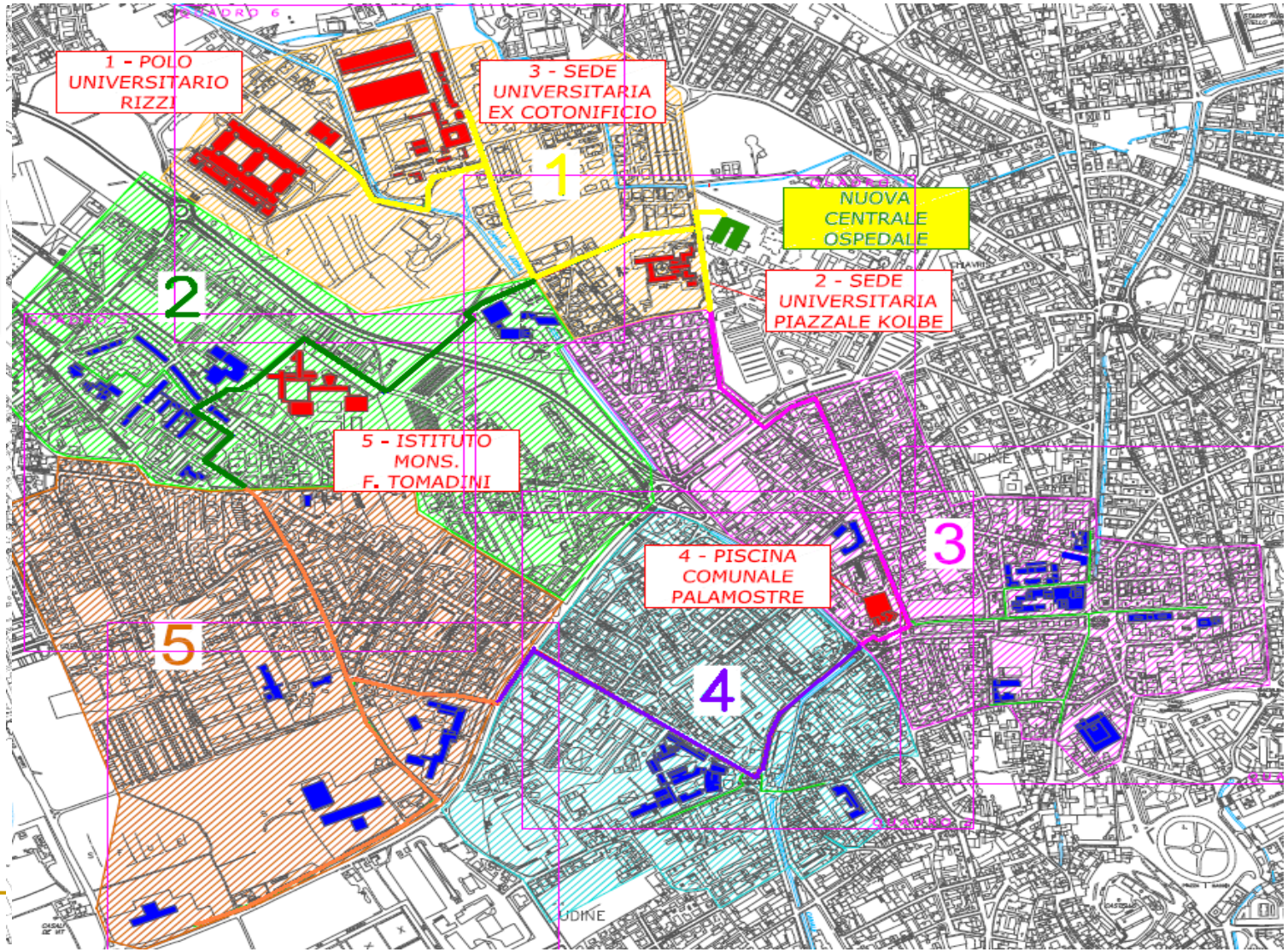
Riservata all'Ospedale 48.2 MW

POTENZA TERMICA INSTALLATA 85.9 MW

Disponibile alla Rete TLR 38 MW

Rete dimensionata per 45.7 MW

Obiettivo: SATURARE L'ATTUALE RISERVA DI POTENZA pari al 20%



Germany too, with its several community examples, confirms that the most impacting interventions for the reduction of CO2 as well as energy saving are "System" interventions.

The need for those risults is high and urgent

This require new cultural awarness and maturity that the hospital, as one of the most important social institution, is in position to help in the development, with its own example and with the diffusion of this new consciousness.

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

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

LA SANITA' IN (TEMPI DI) CRISI
REVISIONE DELLA SPESA E OBIETTIVI DI QUALITÀ NELLE AREE TECNICHE
ARCHITETTURE, ESPERIENZE E APPORTO DI FORZE GIOVANI PER ESSERE PROTAGONISTI DELLA RIPRESA

5° CONGR NAZIO S.I
24-26 0
N.I.C. (Nuovo Ingres

... and From the learning experience

reshospitals

The RES-Hospitals

Renevable Energy Guide for European Hospitals

represents the conclusive "tool" of the project for incouraging hospitals to be more strategic and sustainable about both energy reduction and production, including the wider exploitationof renewable energy opportunities at community level.

It evidence based methodology suggesting examples of how barriers were overcamed

will hopefully help for new as well for existing hospitals.

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

Res-Hospitals Objectives: Expected Impact

The potential impacts Include:

- **50% RES by 2020**
  - At least 10 of the participating hospitals
  - Indirect influence on another 100 hospitals in the participating countries
- **Zero carbon possibilities**
  - Highlight options in different cultural/economic/geographic situations
  - Encourage innovative and far sighted thinking
- **Multiplier effect on other hospitals in Europe**
  - Case-based evidence could influence another 1000 hospitals
  - *- 20% RES would reduce carbon footprint by 1 million tons of* CO_2 Potential wider influence on other public services

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

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

LA SANITA' IN (TEMPI DI) CRISI
REVISIONE DELLA SPESA E OBIETTIVI DI QUALITÀ NELLE AREE TECNICHE
ARCHITETTURE, ESPERIENZE E APPORTO DI FORZE GIOVANI PER ESSERE PROTAGONISTI DELLA RIPRESA

5° CONGR NAZIO S.I
24-26 0
N.I.C. (Nuovo Ingres

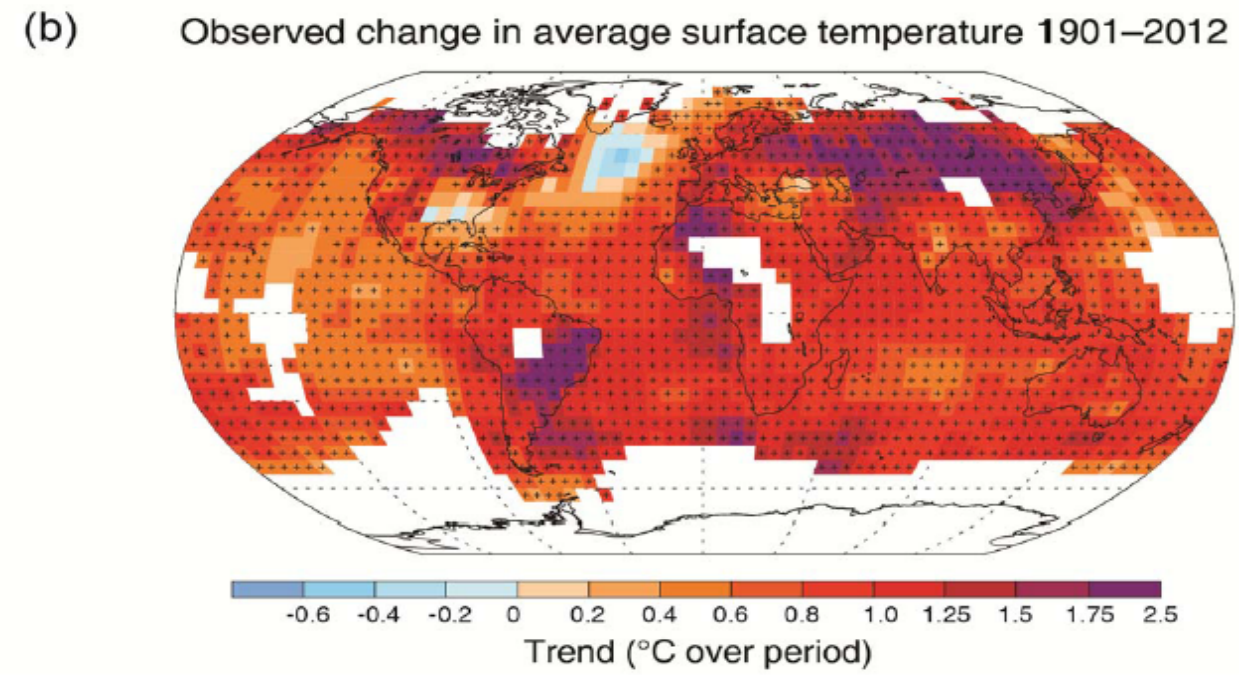
reshospitals

Una vision di
Ospedali come "driver" del cambiamento

Deve essere basata sulla
Vision
degli Ospedali
come Strumenti
Sostenibilità Generale e della Salute Pubblica

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

Siamo qui
NON possiamo andare oltre



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

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

5° CONGR NAZIO S.I
24-26 0
N.I.C. (Nuovo Ingres

reshospitals

La conlusione formale del Progetto: Novembre 2013
Cntinuerà la collaborazione con altri PROGETTI Europei:

- **EcoQUIP – Innovation for Hospitals through PCP Pre-Procurement**
- **Green Hospital**
- **Re-Co**
- **Repowermap**

Sarà creata una piattaforma per le problematiche di Ospedale – energia con

- **EuHPN Network**
- **EU BUILD-UP**

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

SIAIS
Società Italiana dell'Architettura e dell'Ingegneria per la Sanità

LA SANITA' IN (TEMPI DI) CRISI
REVISIONE DELLA SPESA E OBIETTIVI DI QUALITÀ NELLE AREE TECNICHE
ARCHITETTURE, ESPERIENZE E APPORTO DI FORZE GIOVANI PER ESSERE PROTAGONISTI DELLA RIPRESA

5° CONGR NAZIO S.I

24-26 0
N.I.C. (Nuovo Ingres

reshospitals

La Conferenza finale sarà

ASTI

November 21-22, 2013

E' benvenuta la partecipazione dei membri della SIAIS

Project Manager: ***Simona Ganassi Agger***
E-mail: ***simona.agger@gmail.com***
Asti ASL E-mail: **s.agger@asl.at.it**

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