

	STEPS	ACTIONS	REFERENCES	MAIN OBJECTIVES
<b>Analysis</b>	<b>Background</b>			
	Directive for Energy Performance of Buildings, and other UE directives/specifications	Literature	<a href="http://europa.eu/scadplus/leg/en/lvb/l27042.htm">http://europa.eu/scadplus/leg/en/lvb/l27042.htm</a> <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002L0091:IT:HTML">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002L0091:IT:HTML</a>	Focus on the problem: - To understand the official background - To analyze the main general problems (standard, how to calculate efficiency, ecc.) - To understand the relations between buildings energy efficiency and a (real or hypothetical) local energy plan
	Standards to calculate the energy efficiency	Literature	ISO/TS 21931-1	
	National Energy Certification and evaluation systems	Literature	Sustainable Building Method (SB Method) Green Building Challenge (GBC), Sistema casa qualità <a href="http://www.itaca.org/documenti/news/protocolloITACAsintesiagosto08.pdf">http://www.itaca.org/documenti/news/protocolloITACAsintesiagosto08.pdf</a> <a href="http://www.itaca.org/news+dettaglio.asp?ID=80">http://www.itaca.org/news+dettaglio.asp?ID=80</a>	
	National law (Italian): buildings energy efficiency directives, national and local energy plans	Literature case studies analysis	<a href="http://www.itaca.org/edilizia+sostenibile.asp">http://www.itaca.org/edilizia+sostenibile.asp</a> <a href="http://www.itaca.org/documenti/news/audizione.pdf">http://www.itaca.org/documenti/news/audizione.pdf</a>	
	<b>Building energy efficiency: definitions and declensions</b>			
	Empirical models	Literature	<a href="http://www.iea-alep.pz.cnr.it/home.htm">http://www.iea-alep.pz.cnr.it/home.htm</a> list of model create by universities and research centers	How to measure the building energy efficiency? Comparison among models (considering that the models must be understand by citizens)
	Real data models	Literature	on site sensors: <a href="http://smartlife.sentec.co.uk/smart_energy_monitoring.php">http://smartlife.sentec.co.uk/smart_energy_monitoring.php</a>	
	Other possibilities	Literature / Interview	<a href="http://www.e-u-z.de/">http://www.e-u-z.de/</a> the kit for measure	Comparison between certification and model (somebody gives you a certificate, you implement a model)
	<b>Model critical analysis</b>			
	Data Quality analysis	Literature		Define a model to measure the energy efficiency, citizen oriented, some questions are: - Is the energy efficiency equal for everybody? - Do the models consider the dwellers behaviour? - Do the models consider the external factors (territorial/environmental)? - Do the models consider the buildings life cycle? At the end of this step I'll probably choose a model that will be the starting point of my model
	Data Quantity analysis (territorial and environmental data that influence the measurements)	Literature	Chris Butters, Sustainable Value Map <a href="http://www.sust.org/pdf/chris_butters.pdf">http://www.sust.org/pdf/chris_butters.pdf</a>	
	Data understanding (the target are the people)			
Data representation				
<b>Design</b>	<b>Redefining an active energy efficiency participation model</b>			
	Actors contribution to create new data	Literature/ Interview		This phase is very important to design the experiment, I'll do some interviews in loco to analyze in deep how to build a participation strategy
	Actors contribution to collect data and information (considering the same problems of data quality)	Literature/ Interview	Possible Case studies: Hedebygade, Copenhagen, Denmark Solar buildings Gårdsten, Gothenburg, Sweden**	
	Strategy to participate <b>using NT</b> (using multiplication rather than addition)	Literature/ Interview /design	<a href="http://www.mysusthouse.org/game.html">http://www.mysusthouse.org/game.html</a>	How to involve citizen o participate
	From a model for measuring to a model for improving (design)	Literature/ Interview /design		
	<b>Building an energy plan by scenarios</b>			
	From the participation model to community scenarios			
The technological platform architecture to manage the model and the scenarios	Design			
<b>Experiment</b>	<b>The experiment: how to involve citizen to improve energy efficiency and to build the first scenario using GI and NT? Can the NT build and monitor a conscious improvement of the energy efficiency?</b>			
	First scenario: improving the building energy efficiency	Experiment		
	Second scenario: distributed /democratic energy	Experiment		



\*\*Solar buildings Gårdsten, Gothenburg, Sweden:

"In another renovation project, this time in Sweden, Solar Buildings Gårdsten, individual metering was also used as a solution for affecting the consumption of the inhabitants. Space heating is metered by room temperature measured in living rooms and bedrooms. Temperature measurements are transmitted from this sensor to a memory in the stairwell. Information from here is passed on to a receiving station, where all the measurements are processed. The final result shows how warm it is and how much the tenant will pay. The tenant decides on the temperature in the apartment with the aid of thermostats on the radiators. An incentive was made that the basic rent is based on a temperature of 21 degrees. If the tenant wants it warmer it will cost extra, if the tenant wants it cooler there will be a rebate. Similarly, measurement of cold water, hot water, and electricity are taken and reported.

# DATA AND ARCHITECTURE T

## HOW MUST BE A PLATFORM? ACTORS ORIENTED

