

# Towards the ideal Solar Thermal Obligation...

proSTO

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# THE GOAL IS...

...learn from the past experience to develop ideal Solar Thermal Obligations (STOs)

So please think about:

- ☀ where the main “hot spots” are
- ☀ what a STO should include
- ☀ what it should definitely avoid

The ideal model of STO will be implemented by our Local project partners, according to local conditions

Brussels, May 29<sup>th</sup>-30<sup>th</sup> 2008



# ANALYSIS OF CASE STUDIES

☀️ 11 questionnaires collected (4 Italy, 4 Spain, 1 Germany, 1 Ireland, 1 Portugal) 

- ☀️ How it was born (date, promoter)
- ☀️ Scope (geographic, which buildings, technologies, exemptions)
- ☀️ Actors involved and roles
- ☀️ Foreseen checks and sanctioning fees
- ☀️ Flanking measures (communication, training, etc.)
- ☀️ Costs (side of the Administration, the building company, etc.)
- ☀️ Qualitative and quantitative results
- ☀️ Barriers, errors and success factors

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# BIRTH...

## ☀ Initial basis:

☀ EC directive (EPBD) plays a key role...what about the new one?

☀ Also important is the interest from some stakeholders

## ☀ Reasons of the promoters:

☀ reducing environmental impact without burdening citizens

☀ subsidies are not enough

☀ *“Our justifiably ambitious climate protection goals are reachable. However, this needs active fighters.”*

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# ...AND "CLONING"

"Cloning" is a diffuse practice in STOs (e.g. Spain, Province of Milano)



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# SCOPE - BUILDINGS



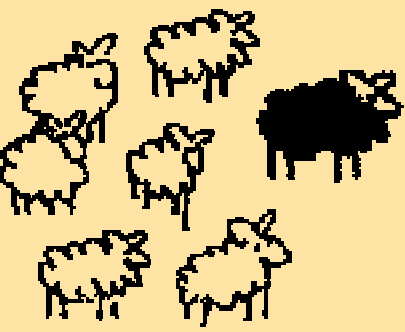
- ☀ The geographical scope directly influences the STO contents
- ☀ The STO should cover as much as possible of the building stock



- ☀ Hot spots:
  - ☀ Define which building typologies (different rules are needed)
  - ☀ Define which refurbishment activities fall under the scope of the law (e.g. when heating plants are concerned? When “refurbished” power is higher than XXX?)

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# SCOPE - EXEMPTIONS



I won't be  
solar...

- ☀️ The exemption issue is a hot spot
- ☀️ Small buildings
- ☀️ Germany: not centralised heating system (Italy?)
- ☀️ Special buildings (e.g. industrial)

# SCOPE - EXEMPTIONS



- ☀ Historical areas/buildings: all Cities have, so is it more a matter of positive or negative attitude?
- ☀ Carugate: collectors not seen from below; boilers should be preferably inside
- ☀ What makes sense to exclude from the beginning?

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# SCOPE - TECHNOLOGIES



- ☀ Sensitive issue for building companies (Germany, Italy)
- ☀ Almost all regulation are not “solar only”, even if we think so; in Italy several examples of “solar only”, since they are either “wrong clones” or have been promoted by “solar people”
- ☀ Italian national law is very vague
- ☀ Portuguese RCCTE allows the usage of other renewable technologies (PV, wind, and geothermal), even for other purpose than hot water if they capture, on an annual base, the same energy as the mandatory solar thermal system
- ☀ Spanish CTE: “solar thermal is a priority”; Barcelona: “Mainly a solar thermal regulation. However, other RES technologies are allowed”... what does it mean exactly? Are not priorities set on a market basis, if the legislation allow different choices, therefore competition decides?

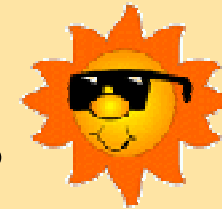
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# SCOPE - TECHNOLOGIES



☀️ Should we avoid “borderline” technologies (e.g. heat pumps, district heating, cogeneration)?

☀️ Why are the Spanish ordinances “so solar”?



☀️ Should we really promote a “solar only” obligation?

# ACTORS, ROLES AND COSTS

- ☀ Is an independent body needed for managing and monitoring the STO? It should be different from who is enacting the STO
- ☀ Costs: for Barcelona it is about 90,000 €/year (2 full-time jobs)
- ☀ What about small municipalities? Should Regions take the lead?
- ☀ Developing the STO could cost 3,000÷5,000 € for a Municipality with less than 30,000 inhabitants...is it too high for you?
- ☀ Building surplus cost: 0.3÷1%
- ☀ What about involving building companies? Relevant, but they lighten the ordinances...

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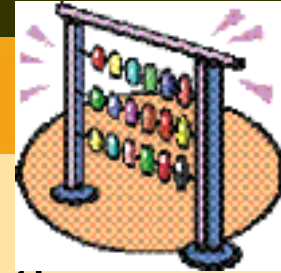


# QUALITY REQUIREMENTS

- ☀️ Quality is a key issue when solar is mandatory
- ☀️ Product: are EN standards for solar enough? Could not even “cardboard collectors” obtain the certification?
- ☀️ Installation: certification scheme for installers: how do they work?
- ☀️ Operation: is a “Guaranteed Solar Results” scheme needed? Random inspections for checking the energy yield? Maintenance contract?
- ☀️ Thermosifon/pumped systems?
- ☀️ De or over regulation?

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# CALCULATION METHODS



☀ Different approaches:

☀ % basis: we need standards for %, DHW consumption, solar yield; how is solar yield calculated, e.g. in Spain?

☀  $m^2 / m^2$  or  $m^2 / \text{occupant}$  (Germany, Portugal): not precise, but “user friendly”; is solar technology taken into account?

☀ To be avoided: mixing of heat and electricity

☀ Do small Municipalities need a calculation sheet for providing developers with it and also for their own checks? Carugate experience...

☀ Is it important to refer, if possible, to existing standards for calculation?

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# CHECKS & FEES



☀ Checks always happen at local level, therefore training is crucial (more than a flanking measure)

☀ Design phase: the check works if calculation method is simple and the personnel is well trained

☀ After construction phase: qualified installer, random checks, more?

☀ Do we need checks after a given time period or random inspections? It depends on GSR, maintenance contract, etc. The scheme must be consistent as a whole

☀ Do we need fees if there is a building permission?

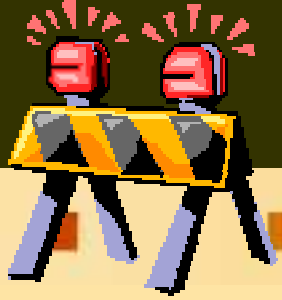
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# FLANKING MEASURES

- ☀️ Several flanking measures are operating, but...
- ☀️ ...we need more targeted actions, e.g. training for Municipality personnel, campaigns towards building companies, training on large scale solar plants for designers, etc.
- ☀️ Training for installer if we need certification (the ideal STO should be consistent)
- ☀️ Communication: “gestor integral” aims at clarifying procedures and do some bureaucratic issues on-line; it also acts as a communication tool (several know-how documents addressed to promoters, installers, architects and engineers)

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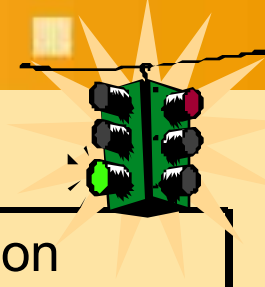
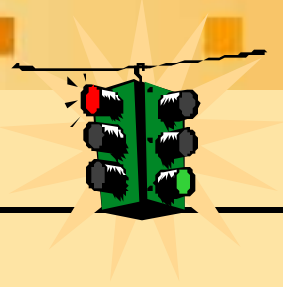
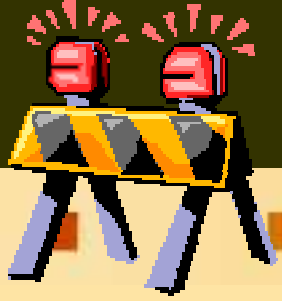
# BARRIERS



- ✿ Complex regulation
- ✿ Not clear roles of the actors involved
- ✿ Lack of knowledge of the actors involved
- ✿ Resistances from the sector of house owners and housing industry

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# BARRIERS



Complex regulation

Keep it simple! E.g. calculation method, checks

Not clear roles of the actors involved

Separate roles of developing & enacting, operating & monitoring, training, etc.

Lack of knowledge of the actors involved

Hearings, training, information campaign from the beginning (before the STO)

Resistance from "external" sectors

Involve them from the beginning (hearings), offer them enough alternative solutions

# FINAL REMARK

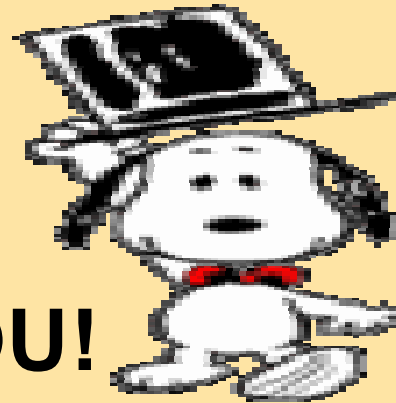
☀ The STO should be immediately operating, therefore:

☀ No application rules foreseen

☀ No need for implementing it in the building code (e.g. constitutional/federal problem in Italy)

If solar thermal is one of the best choices (economic, environmental) for delivering hot water to new and refurbished buildings...

...are we really **obliged to use the word “obligation”?**



**THANK YOU!**

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