

## STO Supervision

### ***Introduction***

Supervision is a key issue when introducing a STO: laws may be well designed, but do not have real impact as long as checks and incentives/sanctioning fees are not in force.

Supervision also means proper monitoring of the STO impact.

So far, most of the analysed STOs do not include, or include a very weak monitoring of their impact, which is a really negative issue, because it is not possible to compare results with the targets set in the preparation phase.

### ***Indicators***

This paragraph shows a list of indicators which should be considered when designing the STO monitoring. At least two categories of indicators are crucial: figures related to buildings and figures related to checks.

Further indicators related to the impact of a STO on the market, are described in tool 5.1 – Monitoring of the market.

#### Buildings:

- number of buildings addressed by the STO (also in terms of m<sup>2</sup> of living area and of people addressed by the STO); to be compared with the next indicator.
- how many buildings applied successfully for being exempted?
- if the ordinance is not “solar only”: share of buildings (new/refurbished) which chose solar thermal to comply with the law;
- real figures for surplus cost in new/refurbished buildings (check that this value is reasonable);
- number of cases where the minimum obligation foreseen has been definitely overcome (e.g. buildings which chose a 50% share of solar thermal on hot water demand, when the STO requirement is 30%).

#### Checks:

- how many people in the Administration have been trained to perform checks?
- share of negative checks in the design phase;
- number of random checks in the installation or operation phase and share of negative situations;
- number of sanctioned situations and rate of accomplishment (payment of the fees).

### ***How the checking issue has been solved in past STOs***

#### Inspections in the design phase

- Baden Wuerttemberg (D):

The compliance with the law is to be certified by an authorised expert and to be presented to the communal/district authority. Authorised experts are all experts authorised for energy performance of building certificates, as well as authorized craftsmen of the heating and construction sector, as well as chimney sweepers. Both, the house owner and the authorised expert have to sign the certificate. It was kept as simple as possible in order to ensure an easy handling by the authorities.

The certificate form sheet can be downloaded from the STO database.

The certificates for new buildings have to be presented together with the building permission. For existing buildings, it is foreseen that the administration receives a

notification from the local chimney sweeper which again receives a notification from the house owner in the moment of the modernisation of the central heating system.

- Carugate Municipality (I):  
Designers are supposed to fill in a check list with the parameters of the solar thermal plant. The Municipality does not perform a detailed check of the energy calculation, but a more general check of the consistency of the documentation.
- Rome Municipality (I):  
The documentation for submitting the request of building permission must include a technical report, signed by a professional, assuring that the requirements are fulfilled.
- Lazio Region (I):  
The Municipalities are in charge of checking that the applications fulfil the requirements. This check should be done before releasing the building permission, but no further details are provided.
- Portugal:  
Check of the overall design process concerning the Thermal Performance of the Building.
- Ireland:  
Within the Greener Homes Scheme (comprehensive legislation about buildings) a technical assessment is required.
- Spain, Catalunya Region, Barcelona Municipality and Pamplona Municipality (ES):  
Architects or engineers responsible for the construction may obtain the permit from their own professional organization (architects or engineers association). The association checks, among other requirements, if the solar thermal installation has been proposed in the draft project. If so, the project is permitted and then the project developer may present it to the municipality in order to get the construction work license.

#### Inspections after installation

- Baden Wuerttemberg (D):  
Random inspections are foreseen, however the right for access to the building was not fixed in the law.
- Carugate Municipality (I):  
second check (building phase): during the construction, when solar panels are installed. The responsible person is the Director of Works.
- Rome Municipality (I):  
One more check about the installed plants and their capability to cover the required energy consumption is done before the building is declared liveable.
- Portugal:  
Two check after the building construction, one by a qualified expert, one by the Municipality.
- Spain, Catalunya Region, Barcelona Municipality and Pamplona Municipality (ES):  
After the building construction, it must be checked if the installation operates properly. This record must be presented to the corresponding entity delegated by autonomous region (usually, the regional industry ministry but also the municipality) in order to obtain the operation certificate. The entity should check the fulfillment of the presented project according to the applicable legislation.
- Spain and Pamplona Municipality (ES):  
A "Manual for the Use and Maintenance" of the thermal installation must be elaborated in order to obtain the operation certificate.
- Catalunya Region, Barcelona Municipality and Pamplona Municipality (ES):  
Check by a certified installer.

### Regular inspections

- Spain:
 

There are two different checking procedures that may ensure the proper maintenance of solar thermal installations: the surveillance plan and the preventive maintenance plan.

The first refers basically to steps that ensure the correct operational values of the installations by checking up the main equipment parts such as solar collectors, the primary circuit and the secondary circuit.

The second refers to visual inspections, performance tests and other tests that applied to the installations ensure correct functioning. This plan enforces at least an annual maintenance on solar thermal installations with collector surface areas smaller than 20 m<sup>2</sup> and a biannual maintenance on those with collector surface areas bigger than 20 m<sup>2</sup>. Detailed maintenance requirements for each installation part (collector, storage and exchange systems, hydraulic circuit, electric and control system and energy back-up system) have been set. Maintenance records must be written on an installation book and sent to the ministry in order to prove the correct functioning of installations.
- Catalunya Region, Barcelona Municipality and Pamplona Municipality (ES):
 

Random inspections must be carried out by the corresponding municipal entity. The municipality monitors if proper maintenance of solar thermal installations is taking place.

### ***How the sanctioning issue has been solved in past STOs***

#### Existing sanctioning

- Baden Wuerttemberg (D):
 

50.000 € for non- or delayed presentation of the certificate;  
100.000 € for non-compliance with the law.
- Spain:
 

Fines go from 3.000 to 100.000 €, depending on the level of violation.

In case that the owner, the designer, the manufacturer or another entity from the supply chain (e.g. laboratories) do not comply with the obligations stated on the RITE with respect to the solar thermal installation, there are sanctioning fees according to the “Law 21/1992, de 16 de julio, de Industria”, articles 30 to 38, applicable to administrative infringements.
- Catalunya Region and Barcelona Municipality (ES):
 

From 6.000 to 60.000 €, depending on the level of violation.

The sanctioning fees are graded as follows: Slight infringement, fines up to 6.000 €; Serious infringement, fines up to 45.000 €; Very serious infringement, fines up to 60.000 €. The sanctioning procedures are established and managed on a regional level. The Generalitat de Catalunya is, in this case, the authority in charge of these procedures.
- Pamplona Municipality (ES):
 

In case that the owner, the designer, the manufacturer or other entity from the supply chain (e.g. laboratories) do not comply with the obligations stated on the RITE (1998) with respect to the solar thermal installation, there are sanctioning fees according to the “Law 21/1992, de 16 de julio, de Industria”, articles 30 to 38, applicable to administrative infringements.

#### Not existing

- Carugate Municipality (I), Rome Municipality (I), Lazio Region (I), Italy, Portugal, Ireland

## ***How the monitoring issue has been solved in existing STOs***

### Existing monitoring

- Baden Wuerttemberg (D):  
The certificates presented at the communal authority are collected at communal level but also in a centralised archive at the Ministry for the Environment for the purpose of evaluating the law impact. The data stored basically correspond to the data of the certificate.
- Carugate Municipality (I):  
The Municipality together with the local energy agency, is monitoring the outcome of the regulation.
- Italy:  
Monitoring should include the evaluation of the obtained results and possible proposal for improving the legislation.  
Regions must perform the following activities:
  - collection and update of the data on energy use in building, in order to elaborate a database of the average building energy performances at regional level;
  - monitoring of the application of the law, of the fulfilment of the targets and of the open issues;
  - assessment of the impact (bureaucratic cost, services provided) on the final users;
  - assessment of the impact on the building market, the building and material companies and the manufacturing and installation companies;
  - study on the development and improvement of the legislation framework;
  - evaluation of potential future scenarios for the energy demand in the civil sector;
  - assessment of the energy and environmental issues of the whole building chain;

The results of these activities should be communicated to the Ministry for Economic Development and the Ministry of Environment, which shall elaborate a national scenario, to be transferred to the Parliament.

- Portugal:  
Copies of building energy certificates are centrally collected.
- Spain:  
The Institute of Diversification and Energy Saving (IDAE) launched the Plan of Renewable Energies is responsible for monitoring.
- Catalunya Region (ES):  
ICAEN is monitoring the Collector surface installed.
- Barcelona Municipality  
The Barcelona Energy Agency monitors the ordinance. The agency is not independent from the authority which enacted the regulation. (BCN)
- Pamplona Municipality (ES):  
The number of processed projects was monitored.

### Not existing

- Rome Municipality (I), Lazio Region (I)

## ***Imprint***

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See [www.solarordinances.eu](http://www.solarordinances.eu) for more information on solar thermal ordinances and the ProSTO project.

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