

**The Portuguese
ordinance**
Quality assurance schemes
Rafael Ribas
rribas@vajra.pt



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1. Certification of the collector



- +** •The most complete quality testing scheme in Europe
- International validity
- Gives confidence to the owner
- •First step towards a general quality scheme, but doesn't guarant the quality of the rest of the installation
- The performance testing scheme has still a high level of indefinition
- Long time to certificate a collector and see it in the list of the ADENE and of the Solterm software.

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2. Installer certification- 1 week course

- It's already a startpoint to a solar knowledge
- Gives confidence to the owner
- In most cases is only a glimpse of solar culture
- The courses are too much theoretical and lack concrete practical and operational solutions
- A more practical and actual formation is needed for the monitors



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3. Quality certification of the installations

- Non existing
- Difficult to implement



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4. Certification of the **planners** - Non existing

The big collective systems are gaining a big share of the market due to the **STO – complex systems**

- The **STO** originates a flow of newcomers arriving on the market with a poor level of solar knowledge, specially for big systems
- The general courses for solar system planners are still not consistent
- The only support for installation concepts comes from some good foreign brands.
- Difficulty to impose a certification to engineers (OE)



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5. Technical impositions in the regulations - Non existing

- In fact it's not a negative point, looking at the old fashioned Spanish impositions (backup never in the solar tank) and the problems they create to some valid and actual installation concepts.
- At the moment we prefer the liberty to follow new developments
- To do something implies the preparation of a very consistent manual of actual, good practices with a flexible method to follow new developments. **NOT EASY!**



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6. Guarantee impositions

- Actual regulation: Maintenance contract of 6 years
- Previous imposition in the program “Solar hot water for Portugal”: 6 years guarantee for all parts of a solar system including maintenance service.
- The last one was very much criticized because the installers had to give the extension of guarantee to those parts which normally have 2 year guarantee, obliging to calculate the related uncomfortable price increase.
- The actual situation is not clear and the subject is being analysed at the ADENE.

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7. Architectural barrier

a) In general the architects are still not aware what to do to prepare the apartment building to solar:

- Place for the collectors (and their integration)
- Place for technical rooms

b) There are still many architects who are not fully aware about the STO regulations!



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8. Dimensioning of the installations

- The rule of 1m²/occupant had no specification of related performance of the collector: It gave rise to overdimensioning problems of systems with performant collectors
- Now it is corrected with a method with a reference collector (non selective) which “calibrates” the minimum energy that has to be collected.
- In the next revision of the regulations it is expected that the definitive method will be the minimal solar fraction imposition like in the Spanish STO.



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9. Solar calculations – SOLTERM software

- A good and valid simulation scheme
- Only for DHW calculations
- In mixed systems (Combies) there is no way to calculate the output for DHW
- No schemes for multistorage systems nor for freshwater modules.
- Doesn't calculate the losses of the distribution ring.
- No other software accepted for the official DHW solar contribution calculation.



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10. General negative points of the STO

- In the battle for the quality of the installations the weakest point is : poor installation concepts knowledge of the installers and planners
- The STO produces a pressure to low prices which can induce poor quality to the installations
- The STO invites a lot of inexperienced suppliers to the market creating “noise” and lowering the mean level of solar knowledge: some poor solutions gain market because of the number of these voices.
- In this moment the effort of the “qualified experts” is much more on the RSECE and the building energy calculations part of the RCCTE and the solar thermal is still a poor “cousin”, as there is no technical impositions in these installations.

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11. General positive points of the

STO Despite of the majority of buildings now under construction are still not attained by the STO, it has a very effective impact as publicity for solar.

- Many promoters are applying solar thermal in projects which aren't still subjected to the STO just as a selling argument
- The fact that the STO is integrated in the general energy certification scheme, invites the solar to be sought as a solution to increase the energy class of the building: the higher classes A+ oblige to apply the solar thermal.
- The STO comes in a moment where there is already a generalised awareness about climate change, creating a positive reaction towards the solar systems.



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12. General conclusions

The general balance is **POSITIV**:

- The echo of the quality crisis of the 80ies and 90ies is beeing overcome.
- The actual offer of solar kit's with certified collectors has a good general level
- The image of solar is positive: there is a general acceptation of the STO from all parts: final users, constructors and promoters. Only the architects are in retard.
- There is already enough quality on the market to be said that a generalised quality crisis is no more expected.



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THANK YOU – OBRIGADO!

