

A vibrant illustration of a smart home. The house has a grey roof with a satellite dish and solar panels. The walls are composed of various colored panels, each containing an icon for a smart device: a security camera, a fingerprint scanner, a washing machine, a refrigerator, a computer monitor, and a power button. The house is surrounded by various icons representing smart home features: a lightbulb, a water tap, a fan, a cloud with gears, a speech bubble with a gear, a Wi-Fi signal, a satellite, a city skyline, and a green landscape with trees. The background is a mix of purple, yellow, and white circles.

LOW COST TECHNICAL SOLUTIONS

Training module

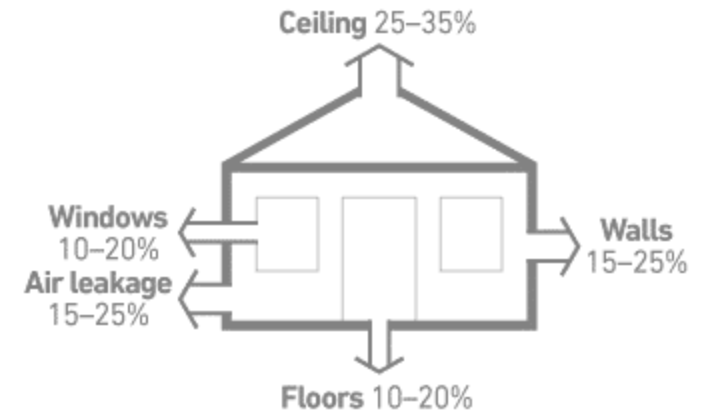
2020 - SOGESCA



EmpowerMed

Technical solutions for insulation

A well-made insulation helps to use the heating and air conditioners effectively, helping to save money and increase comfort.



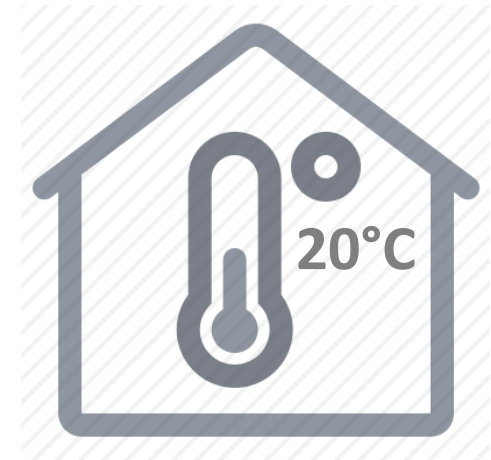
HEAT LOSS WITHOUT INSULATION

Losses from	Solution
Windows	Shutters
	Curtains, without covering the radiators
	Replacement or modernization
Ceilings	Insulating layer (up to 30 cm)
Floors	Insulated basement (low height)
Walls	Evaluation of materials and thickness of the insulation
Doors	Door brushes
	Letterbox covers
Chimney	Chimney balloons

Technical solutions for heating

Temperature

- Thermal comfort = 20°C (during winter months)
- Turn down the heating 2-3°C:
 - when airing the room
 - when not at home
 - before going to bed



Radiators

- Make possible that radiator heat is not obstructed by furnitures
- Put reflective radiator panels behind the radiators
- Clean the radiator from dust.



Technical solutions for cooling

Temperature

- Recommended indoor temperatures = 26°C (in summer months)

Devices

- Set ceiling fans to rotate counter-clockwise
- Turn on your bathroom and kitchen fans, when necessary
- Clean fans and filters and maintain air-conditioning units constantly
- Change the incandescent lights with LED
- Turn off/unplug appliances when you are not using them
- Benefit of canopies and trees shadows to keep fresh the house

Investment

- Invest in high energy efficiency cooling system
- Invest on insulation of windows and doors



Lighting tips

- Switch off lights when unnecessary
- Turn on the light only where needed
- Remove unnecessary lamps (de-lamp) in over lit areas
- Replace incandescent lamps with energy efficiency LED lamps:
 - Uses up to 80 % less electricity
 - Last up to ten times longer



Traditional lamp	Compact fluorescent lamp	LED lamp
25 W	5 W	2 W
40 W	8 W	5 W
60 W	12 W	6 W
75 W	15 W	10 W
100 W	20 W	13 W
150 W	35 W	26 W

80% savings

Up to 90% savings



Electronical devices tips

- Switch off all electronical devices (TV, PC, tablet, etc.) when not in use, avoid the *Standby mode*
- Set devices on *Energy saving mode*
- Unplug chargers from the wall when not using them
- Use the battery more often (PC, tablet, phone)
- Reduce screen timeout time
- Reduce screen brightness



House appliances tips

Kitchen

- Clean your stovetop often
- Turn off the heat a few minutes early
- Seal the doors (oven/fridge)
- Set the temperature:
 - 7 °C in the fridge
 - -18 °C in the freezer
- Use dishwasher when fully loaded
- Run your dishwasher on low temperature or use *Eco program*



House appliances tips

Bathroom

- Use the *Eco/energy efficiency program* of your washing machine
- Use washing machine when fully loaded
- Run your washing machine on a cooler cycle
- Decrease the water heater temperature to $50 \div 55$ °C
- Use the night rate to heat water in the boiler
- Turn off the exhaust fan
 - 20 minutes is enough to remove humidity



Maintaining the equipment means make them live longer!

Water saving tips

- Use tap aerator or efficient showerhead to reduce the water flow
- Repair leaks as soon as possible
- Use efficient low-flow shower head
- Encourage family members to take shorter showers
- Use a water-saving device in your toilet cistern
 - reduces water usage by 40% to 50%
- Install a water meter if possible
- Water your garden during the cool part of the day



Some instruction videos

Title of	Youtube link
How to install weather stripping for dummies	https://www.youtube.com/watch?v=sAPv9wdrNuo
How to fit a water saving tap aerator	https://www.youtube.com/watch?v=jkb0fjx_R08
How to install radiator foil	https://www.youtube.com/watch?v=48co8eLBUmg



THANK YOU !



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Partners :

