Summary of rooftop solar analysis

Location: Bordeaux, France **Date of analysis**: Dec/2021

***Recommendation**: install 24 solar panels (43.008 m^2), for a net present value of 7149.72€ euros, with a payback of 15.48 Years.*

Main economic results

Financing	NPV (EUR)	Payback (years)	IRR (%/year)	LCOE (EUR/kWh)
[Gov. subsidies and] 75% debt	6660	16.28	4.9	0.123
[Gov. subsidies and] 100% equity	7150	15.48	4.5	0.099
[No gov. subsidies and] 100% equity	4704	17.53	3.4	0.099

Additional results

The change of heating mode from gas to electricity and the associated increase in electricity consumption will generate an NPV of 12074.67 € and a payback period of 13.61 Years for a project with 24 solar panels.

Main inputs and assumptions

Household and Economics

Electricity Consumption	7368	kWh/year	Inflation	1.5%	per year
Electricity price – buy	0.1605	EUR/kWh	Bank loan interest rate	2.47%	per year
Electricity price – sell	0.1	EUR/kWh	Bank loan maturity	5	years
			Equity cost of capital	1.59%	per year

PV panels

Peak power	370	W/panel	System losses	15%	of output
Panel area	1.792	m^2/panel	Degradation with age	0.5%	Per year
Useful life	25	Years	Maintenance costs	10	EUR/year per panel
			Total cost of optimal installation size (without subsidies)	19468.94	EUR
			Total cost of optimal installation size (after subsidies)	16938.14	EUR

Government subsidies

"Self-Consumption Premium" depending on the size of the installation. Feed-in-Tariff of 0.1 €/kWh for installation up to 3 kWp.

Some PV panel suppliers

- https://www.effy.fr/nos-offres/installation-solaire
- https://particulier.hellio.com/blog/conseils/simulation-panneau-solaire
- https://www.insunwetrust.solar/

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