Executive Summary - Rooftop Solar Economic Analysis

Location: Curitiba, Brazil **Date of analysis**: Jan/2022

***Recommendation**: install 10 solar panels (12.00 m^2), for a net present value (NPV) of 11.003 BRL (1.739 EUR), with a payback of 8 years.*

Main economic results:

Financing	NPV (BRL)	NPV (EUR)	Payback (years)	IRR (%/year)	LCOE (BRL/kWh)	LCOE (EUR/kWh)
75% debt, 25% equity	11.003	1739	8	8.61%	0.095	0.016
100% equity	13.424	2.121	6	8.59%	0.076	0.012

Main inputs and assumptions:

Household and Economics

Electricity Consumption	2.603	kWh/year	Inflation	3.06%	per year
Electricity price – buy	0.51277	BRL/kWh	Bank loan interest rate	8.56%	per year
Electricity price – sell	0.2534	BRL/kWh	Bank loan maturity	8	years
			Equity cost of capital	0.25%	per year

PV panels chosen

Peak power	330	W/panel	System losses	14%	of output
Panel area	1.94	m^2/panel	Degradation with age	0.5%	Per year
Useful life	25	Years	Maintenance costs	50	BRL/year per panel
Total cost of optimal installation size (without subsidies)				7.950	BRL (1256 EUR)