

# Bilten br. 5

11. lipanj 2021.

## PROJEKT ENES-CE se bavi pitanjem energetske učinkovitosti u Središnjoj Europi

### Razvoj i objava alata za potporu komunikaciji u građanskim energetske projektima

Jedan od zadataka u projektu ENES-CE je i razvoj raznih alata za širu javnost. U ovom alatu, fokus je stavljen na komunikaciju i gospodarsku učinkovitost. Sveukupno su u sklopu projekta razvijena tri alata, a u ovom izdanu biltena predstaviti ćemo vam alat broj dva koji se bavi ocjenjivanjem potencijala građanskih energetske projekata.

Kod osnivanja i početnih aktivnosti novih energetske zajednica, često je problem ocjenjivanje raznih mogućih projekata i investicija. Ovaj alat jasno prikazuje koja je razina kvalitete određenog projekta. Alat je izrađen u suradnji s više institucija iz Europe te se pokazao kao jako dobar pokazatelj isplativosti fotonaponskih projekata širom svijeta. Izrađen je sa otvorenim sučeljem kako bi se omogućila integracija drugih tehničkih i ekonomskih alata, a time i mapiranje većih sveobuhvatnih sustava iz sektora obnovljive energije kao, na primjer, kombinacija fotonaponskih sustava sa dizalicama topline.

Alat je razvijen u excelu, bazira se na već postojećim alatima, a uz njega su izrađene i smjernice za korištenje. Sustav funkcionira na način da se unesu osnovni ključni indikatori te se na taj način dobije financijski pregled kao i procjena prihvatljivosti za širu javnost. Dakle, u prvom se koraku unose osnovne pretpostavke:





<b>Project Assumptions</b>					
<b>Legend</b>					
Green cells indicate information and are updated automatically based on user input into yellow cells.					
Input information about the project into yellow cells.					
Grey cells are not used.					
<b>Project Generation</b>					
		<b>Annual Escalation</b>	<b>Year Start</b>	<b>Year End</b>	<b>Notes</b>
Project Name	PV SWP				
Project Owner	Stadtwerke				
Manufacturer	IBC Solar				
Number of production units	112				
Unit Size (W)	330				
Project Size (kW)	36,96				
Generated Energy per kWp	915 kWh/kWp	-2%	1	20	
Rate of self-consumed electricity	40%				
<b>Project Cost</b>					
					<b>Notes</b>
Total Cost	€ 78.000,00				
Years to Depreciate	20				
<b>Revenue</b>					
		<b>Annual Escalation</b>	<b>Year Start</b>	<b>Year End</b>	<b>Notes</b>
Power Purchase Agreement Rate / Market RES Rate (€/kWh)	€ -	2,0%	1	20	
Funds for Self-consumed Electricity (€/kWh)	€ -	2,0%	1	20	
End customer price for Electricity (€/kWh)	€ -	2,0%	1	20	
<b>Equity &amp; Flip Structure</b>					
			<b>Year Start</b>	<b>Year End</b>	<b>Notes</b>
Flip Year	0				
Flip Buy-Out Payment/Fee	€ -		0	0	
Local Owner Percentage Pre-Flip	100%		1	0	
Local Owner Percentage Post-Flip	100%		1		
Equity Owner Percentage Pre-Flip	0%		1	0	
Equity Owner Percentage Post-Flip	0%		1		
Other Public or State Provided Funding	€ -				
EU Grant	€ -				
Local Owner Contribution	€ 78.000,00				
Equity Investor Contribution	€ -				
Total Debt	€ -				





		Annual Escalation	Year Start	Year End	Notes
<b>Incentives</b>					
Production Incentive Payment (€/kWh)	€ 0,28	1%	1	20	
<b>Expenses</b>					
Operations & Maintenance	€ 672,00	1,5%	1	20	
Operations & Maintenance Contingency Fund	€ 328,00	1,5%	1	20	
Project Management Fee	€ 323,00	1,5%	1	20	
Insurance	€ 600,00	2,0%	1	20	
Property Tax	€ 200,00	-1,0%	1	20	
Lease Payments to Landowners	€ 328,00	2,0%	1	20	
Admin/Financial/Legal Management		2,0%	1	20	
Production Tax Expense (€/kWh)	€ -	2,0%	1	20	
Warranty Expense	€ -	2,0%	4	20	
Decomm. Fund Pre-Warranty Expiration	€ -	2,0%	1	20	
Decomm. Fund Post-Warranty Expiration	€ -	2,0%	1	20	
Other Expense	€ -	1,0%	1	20	

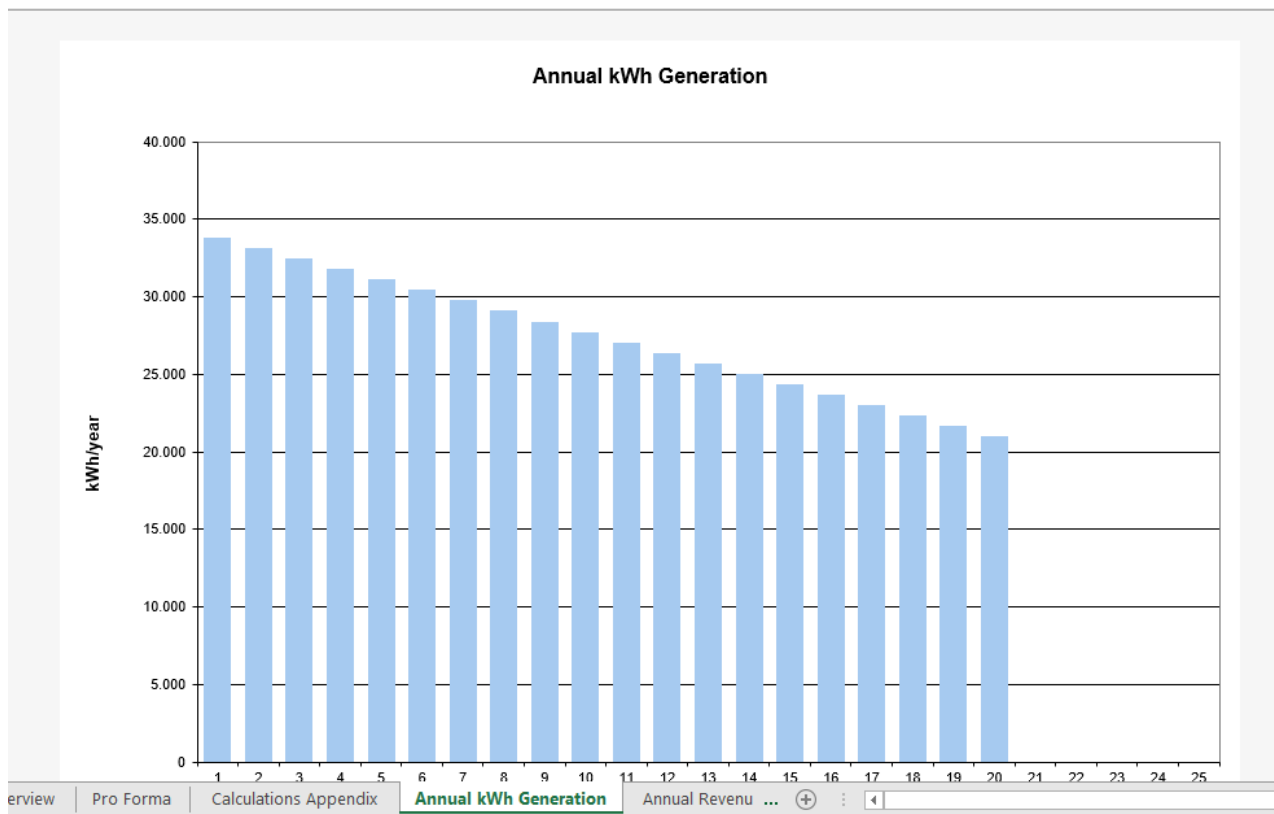
Na temelju tih brojeva dobit će se proračunati ključni indikatori učinkovitosti (KPI) kao:

- Sažetak projekta
- Godišnja proizvodnja u kWh
- Godišnji prihodi
- Prihodi od prodaje
- Rate otplate zajma
- Godišnji troškovi
- Povrati
- Novčani tijek (Cash-Flow)
- Interna stopa povrata
- I drugo





Na primjer, godišnja proizvodnja energije prikazati će se kao što je vidljivo na slici ispod:





Nastavno na financijske pokazatelje, može se mjeriti i utjecaj na mišljenje javnosti. Individualni kriteriji procjene objašnjeni su kako je prikazano na slici ispod:

### Qualitative assessment criteria for community energy projects

	Financial participation	Community ownership	Climate impact	Added value to the community
Grade	Description	Description	Description	Description
5	The project has been fully funded by the local community through sales of shares and/or debentures. The funds come predominantly from individuals or companies that have their residence in the community" - here I think it is not important to speak of financial returns	Owned by community through democratically organized entity (e.g. energy cooperative). Voting on major decisions is organised on principle "one member one vote"	Part of the comprehensive local strategy to combat climate change (SEAP, SECAP or local development strategy). Important is that the development of the strategy has involved local community stakeholders.	At least 50% of the project cost (within the NUTS contribution to permanently created jobs.
4	The project has been fully funded by citizens through sales of shares and/or debentures. The funds come predominantly from individuals or companies that do not have their residence in the community	Partially owned by local government and citizens in form of public private partnership. Citizens are organised in an organisation like an energy cooperative with "one member one vote principle".	Part of the wider structured programme of sustainability actions, possibility for the replication or expansion of the project and/or outcomes of the project are part of the coordinated strategy of multiple community stakeholders. Significant measurable effects are result of the project.	30-50% of local jobs could be sourced from the region) or system employment through created jobs.
3	The project has been funded by a combination of financial contributions from citizens, local companies, the local government and a private investor who does not come from the community.	Fully or majority owned by citizens or local investors but without governance on "one member one vote principle"	Individual larger action, with measurable and significant impact on the emissions reduction but is not part of comprehensive structured programme neither involves other community stakeholders.	15-30% of local jobs could be sourced from the region) or significant local employment through created jobs.

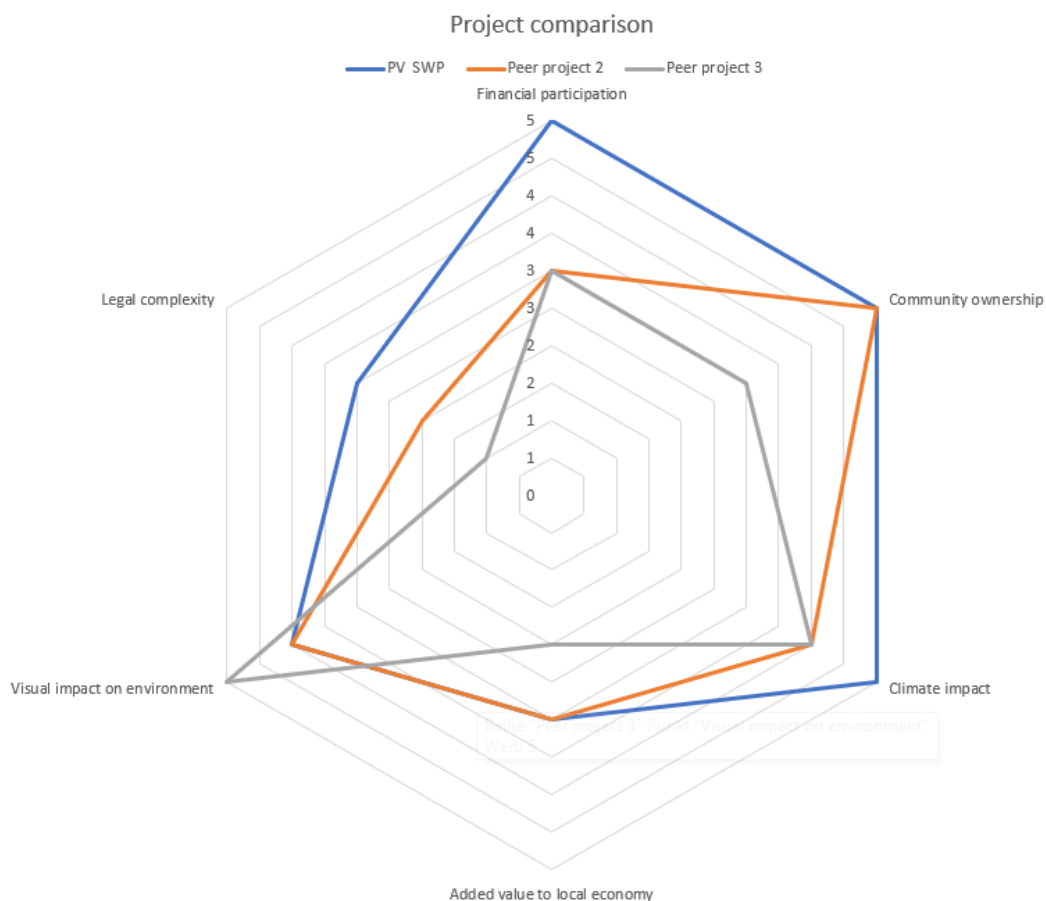




U sljedećem se koraku projekt ocjenjuje u odnos na teme prikazane na slici ispod:

Project comparison									
Project name	Financial participation	Community ownership	Climate impact	Added value to local economy	Visual impact on environment	Legal complexity	Project cost	IRR	NPV
PV SWP	5	5	5	3	4	3	€ 78.000,00	0,04	€ 32.761,30
Peer project 2	3	5	4	3	4	2	€ 350.000,00	0,08	€ 87.145,00
Peer project 3	3	3	4	2	5	1	€ 441.000,00	0,13	€ 45.621,00

Kao rezultat, prikazuje se grafika koja je vrlo vizualna i prezentna, a kako bi se projekti mogli međusobno usporediti:





U kombinaciji sa druga dva alata, zbirka je potpuna te pojedincima i grupama može pomoći napraviti prve korake prema analiziranju, definiranju i implementaciji građanskih projekata iako je posjedovanje prethodnog iskustva svakako prednost. Svi alati su besplatni i mogu se preuzeti putem sljedeće poveznice:

<https://www.interreg-central.eu/Content.Node/WPT-2.html>

