

Power to the Pupils: Community Energy delivering solar and educational outreach

- APSE 3rd July 2025

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- *Cyngor Sir Benfro - Pembrokeshire County Council*

























Background

- 2nd phase
- 1st phase resulted in 6 schools with PV –last of FIT offers
- Prework takes time,
 - Procurement, Sell 2 Wales, - new to me
 - 4 bids, Cost & Curriculum & Capability weighted
 - Egni Successful – not cheapest but exemplar curriculum support
 - PPA with annual increase, capped at grid, 26 yr term
- Slow, bureaucratic and necessary!

Sites

- ~750 kW to date, of ~1.5MW
 - Mix of schools & leisure centres
 - Larger systems best effort value,
 - Is school energy, climate advocate ?
 - Existing PV & CHP, metering important



	SITE NAME	TYPE	PEAK POWER (KW)
	Pembroke Dock Community Sch...		243.54
	Fishguard Leisure		166.5
	Tenby Leisure Centre		69.7
	Golden Grove School		56.1
	Ysgol Y Frenni		36
	Prendergast Primary School		36
	Ysgol Bro Ingli		27.6
	Tavernspite County Primary Sch...		26.64
	Saundersfoot School		24.8
	Cilgerran VC School		24.36
	Lamphey School		10.35

On site..

- Access, Disruption
- Condition reports

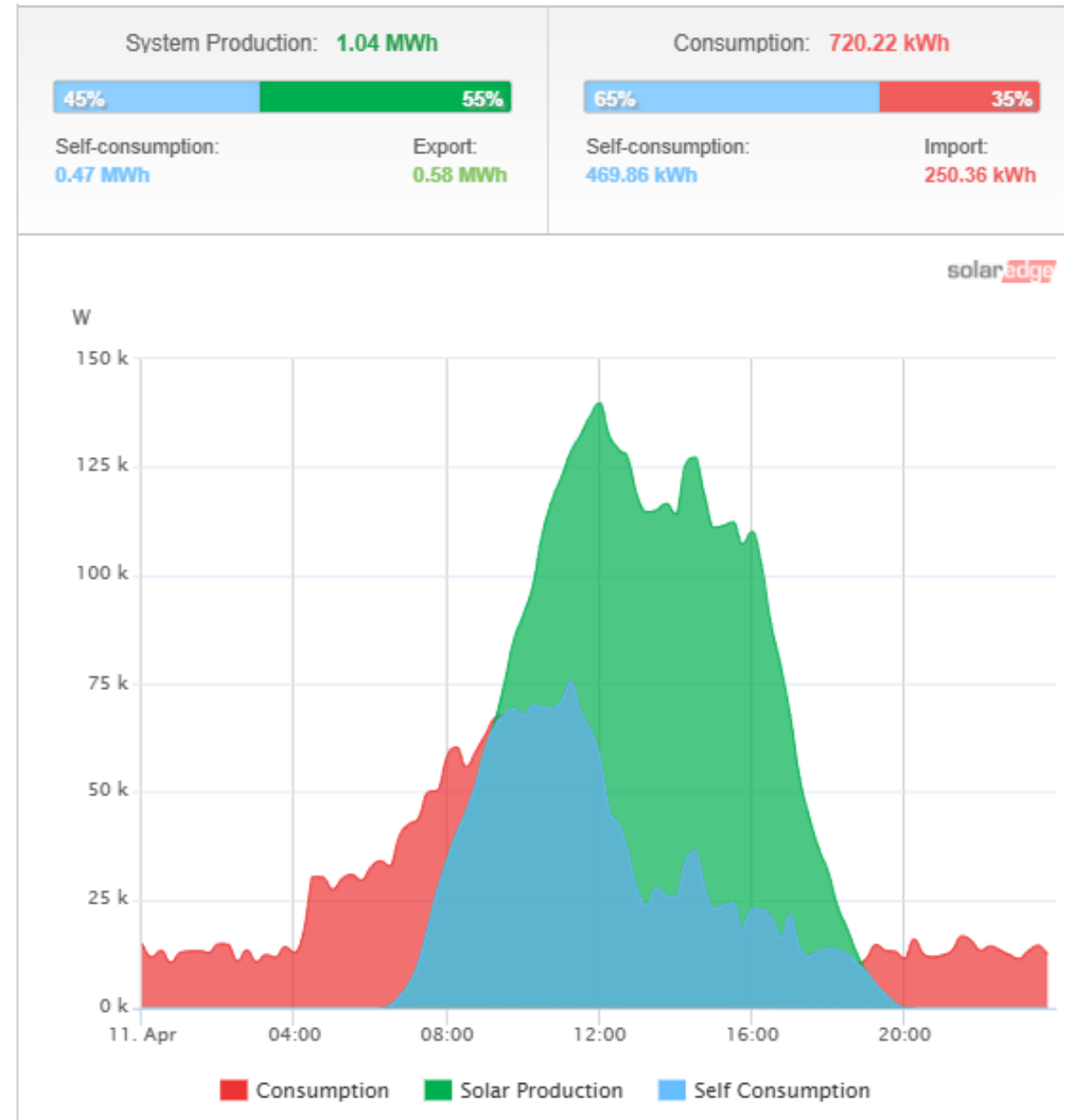
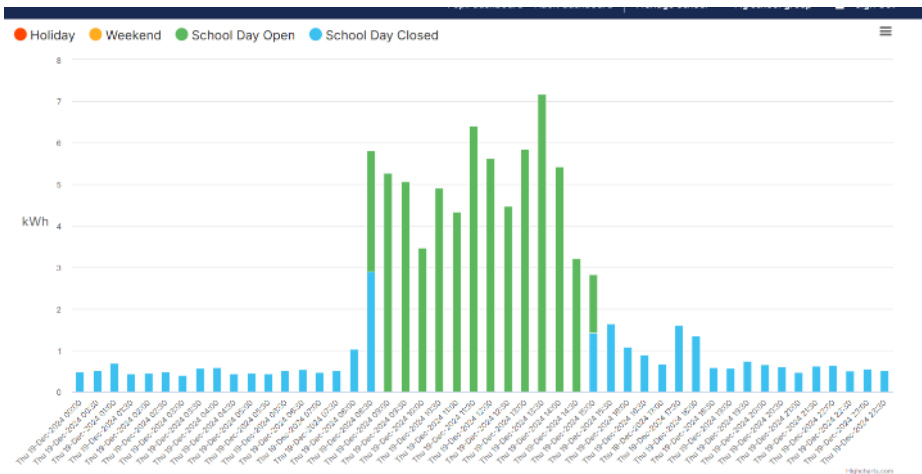


Benefits - the three C's

- Carbon
 - Reduced grid demand less carbon 0.2kg/kWh .. Diminishing effect
- Curriculum
 - Education officer, classroom support, Energy Sparks, events at Les Ctrs
- Cash
 - 30% saving on grid in Yr1, other non energy savings, per unit levies etc
 - Future price rises is somewhat insulated , increments by cpi+1%
 - PCC 2019 Climate Emergency was Net zero carbon, not net zero cost..

Benefits - Carbon

- Carbon,
 - Annual Carbon submission
 - 1kWp ~ 850kWhpa ~ 170kg abated
- Consumption
 - Near real time data
 - Simple UI



Benefits - Consumption data

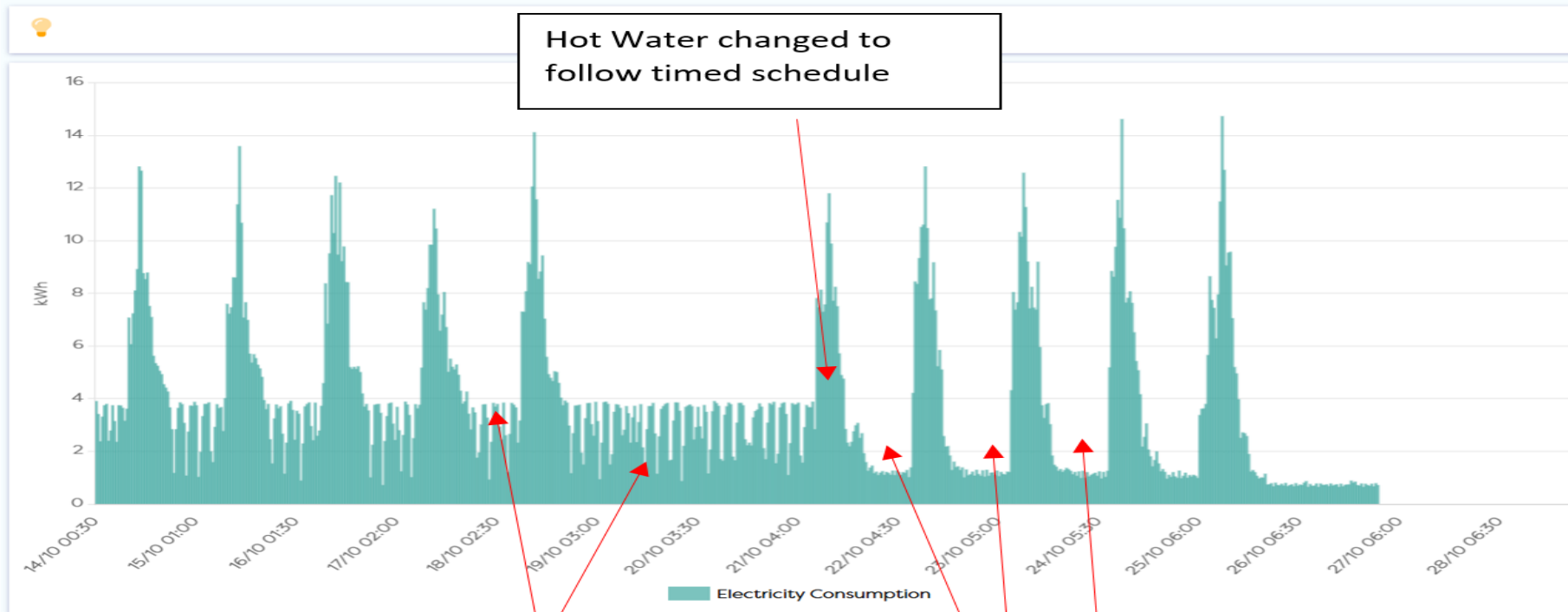
Puncheston electricity demand before and after hot water cylinder changed from manual to timed operation

Pembrokeshire County Council - Education /
Puncheston C P School
[Show More...](#)

Interval: Half Hourly

14/10/2024 to 28/10/2024
(UTC+00:00) Dublin, Edinburgh, Lisbon, London + DST

Type
Overlay
Add



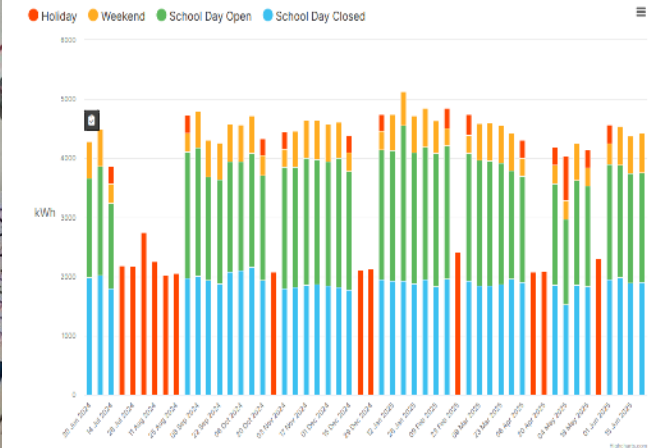
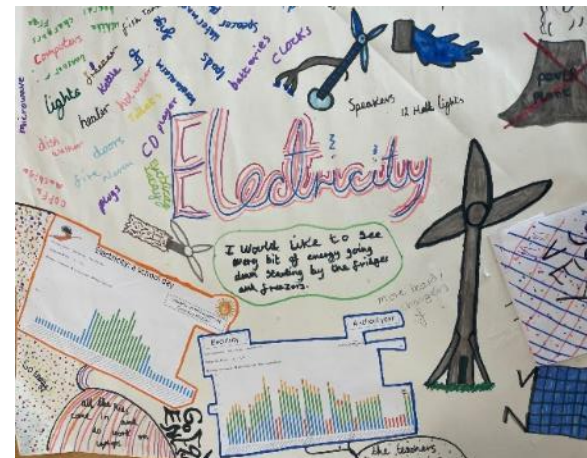
Hot Water changed to follow timed schedule

Hot water immersion and pump

Reduced electricity demand

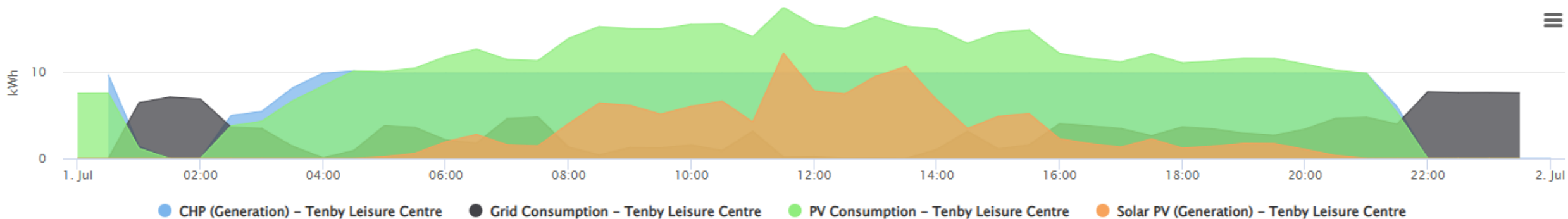
Benefits- Curriculum

- **Energy Warriors Project**
 - Energy use in schools
- **Egni Workshops**
 - Energy warriors
 - Food & fashion
- **STEM Ambassadors**
 - Universities, Industry partners
 - Online and hands on
- **SDF Funded Project**
 - Visits and trips
- **Energy Sparks**
 - Free access to PCC schools



Project evolution

- Batteries, EV, Ynni Cymru
- Hot Water
 - Base Load – significant 1/3-1/2
 - Fridges,
 - IT,
 - Water Heaters / pumped
 - CHP metering



Lessons learned

What keeps me awake ?

- Not tech, not legals, not survey or certs but grid connection
- Closed minds – to date very few

Why is it successful

- Working not for profit who are capable, passionate and willing to share
- Genuine sense of win - win & the greater good
- Benefits beyond carbon / cost reporting and into the classroom
- Collaboration- within PCC and Egni etc

Hints & Tips

- Communication and collaboration
- Speak to the schools
- Maintaining a pipeline is important as installs are school holiday focussed

Data Detail

- East facing roofs for schools as demand AM biased
- Base load is significant, batteries, HW, switch off?
- Half hourly load data important