WEBINAR POWERED BY
TCL SunPower

pv magazine
WEBINARS

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Inside small commercial storage projects: what real European installations can teach installers



Matthew Lynas
Editor
pv magazine



Adam Wolf
Director GTM
TCL SunPower Global



Charles Liddall
Senior Technical Sales
Bimble Solar



Paul Hamid
Director
PH Energy Systems

pv magazine group

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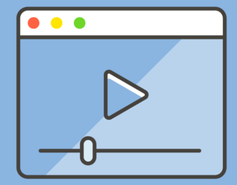
Welcome!

Do you have any questions



Send them via the Q&A tab. We aim to answer as many as we can today!
You can also let us know of any tech problems there.

We are recording this webinar today



We‘ll let you know by email where to find it and the slide deck, so you can re-watch it at your convenience.

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Inside small commercial storage projects:

What real European installations can teach installers

TCL X5 C&I storage



WHAT USUALLY STOPS THE JOB

Four reasons installers walk away from C&I storage opportunities

01

A bigger install than you are used to

Heavy kit, several boxes, more wiring on site.

02

Sizing without a C&I engineer

Load data, peak demand, battery and inverter matched separately.

03

Paperwork and grid approval

Every market has its own documents, and delays land on the installer.

04

Nobody wants to learn on the first job

Who helps at commissioning, and who answers the phone in year eight.

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01

A farm with no grid

Case study: Electricidad EUFON, Burgos



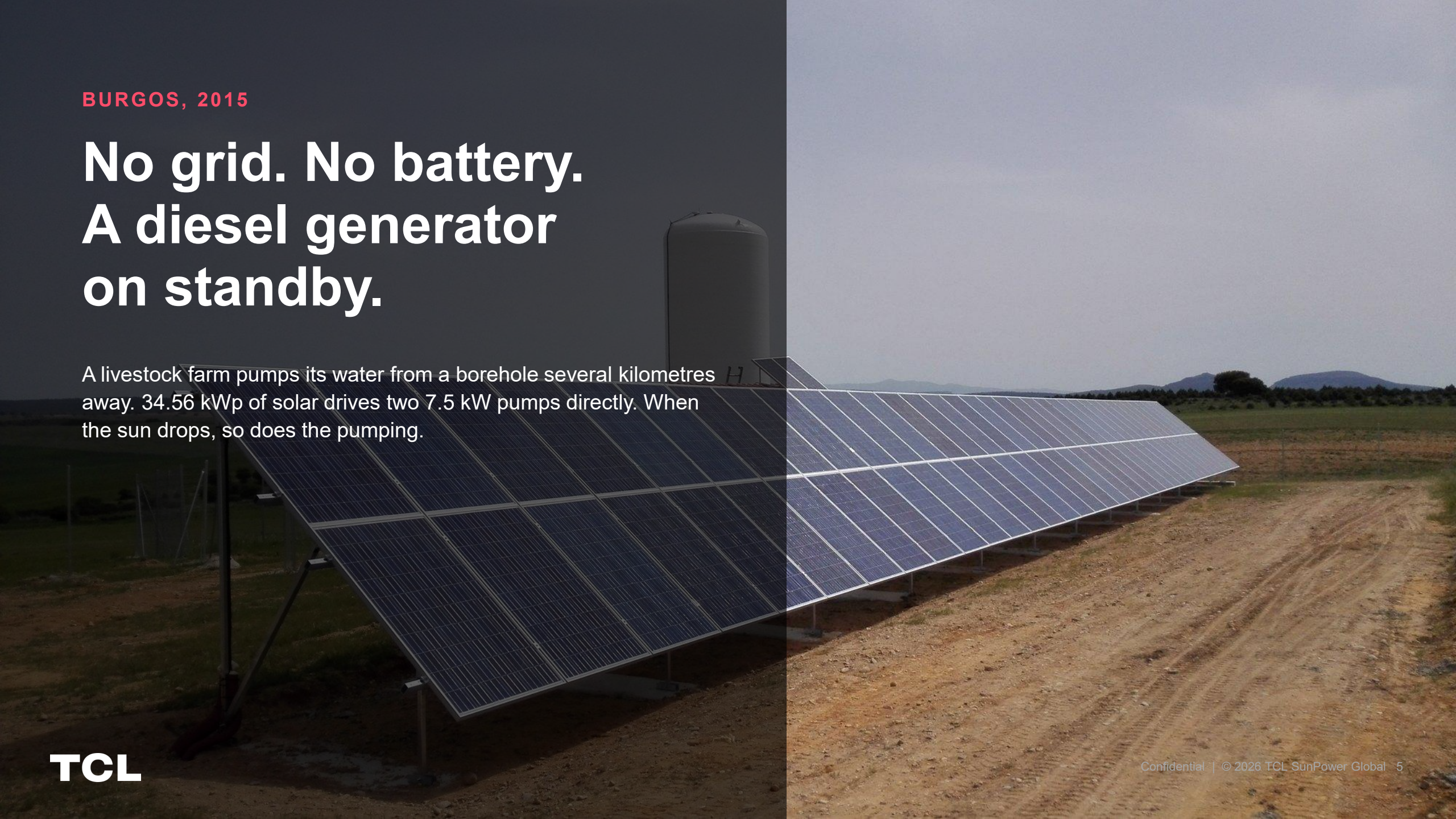
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BURGOS, 2015

No grid. No battery. A diesel generator on standby.

A livestock farm pumps its water from a borehole several kilometres away. 34.56 kWp of solar drives two 7.5 kW pumps directly. When the sun drops, so does the pumping.



TCL



The 2015 direct pumping controls

2026: THE FARM OUTGREW IT

More animals, more water

A new borehole and a 9 kW pump

The livestock operation grew, and so did its water demand.

Pumping only when the sun allows

Output rose and fell with irradiance. Surplus solar could not be kept for later.

The generator ran longer every year

And it had to be started by hand, on site.

JUNE 2026: SAME ARRAY, ADD STORAGE

One X5. No new panels.

Surplus solar is stored

And used to keep the pumps running into the night.

Clouds no longer cut the pumping

The battery holds pump output when PV production dips.

The generator is the last resort

The generator dry contact is connected to the X5 to automate turning it on/off as needed.

EUFON's controls decide when to pump

Their PLC reads the X5 battery status and starts the pumps automatically.



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THE INSTALL

Commissioned two days after work started

9 JUNE

Work starts on site

11 JUNE

X5 commissioned

27 JULY

Automation complete



> The TCL X5 enabled us to upgrade the existing direct solar pumping system into a hybrid system with battery storage, without having to expand the photovoltaic array. Surplus solar energy that previously went unused can now be stored and used to extend pumping beyond daylight hours.

Adolfo Bartolomé Redondo Head of Renewable Energy, Electricidad EUFON

EARLY OPERATING DATA | 1-3 SEPTEMBER 2026

By day

Surplus solar charged the battery

After sunset

Pumps kept running from the battery

Generator

Did not start in the three day test

HOW THE X5 SUPPORTS INSTSALLERS

Less to install. Less to go wrong.

The inverter is inside

One enclosure, preassembled and wired in the factory. Your crew takes a delivery instead of building a system on site.

Sized from the roof and the load profile

Built-in EMS runs peak shaving, self-consumption and time-of-use. 100 to 400 kWh on one inverter.

Off-grid and generator ready

On-grid, off-grid and microgrid modes. Switchover under 20 ms. Generator input up to 138 kVA.

Supported on your first installation

Remote technical support through your first commissioning, in your language. One number for install, commissioning and warranty.



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02

A farm store going electric

Case study: McCaskie Country Stores, Stirling



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STIRLING, 2026

McCaskie Country Stores

One of four McCaskie country stores in Scotland, serving farmers and rural customers. They wanted their own solar, in line with their carbon commitments, and solar to charge EVs by day.



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THE SOLUTION | MCCASKIE COUNTRY STORES

New TCL array. One X5.

INSTALLER	**PH Energy Systems Ltd, with Bimble Solar (distributor)**
PV	**New 60 kWp array - 120 TCL T-Class 505 W**
STORAGE	**TCL X5, 50 kW / 100 kWh**
POWERS	**Shop loads + 2 Zaptec Pro EV chargers**

The customer wanted quality, proper warranties and an established manufacturer. Bimble Solar proposed the X5 and TCL panels together: one manufacturer behind the whole system.

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THE INSTALLER'S DIAGRAM

Single line diagram

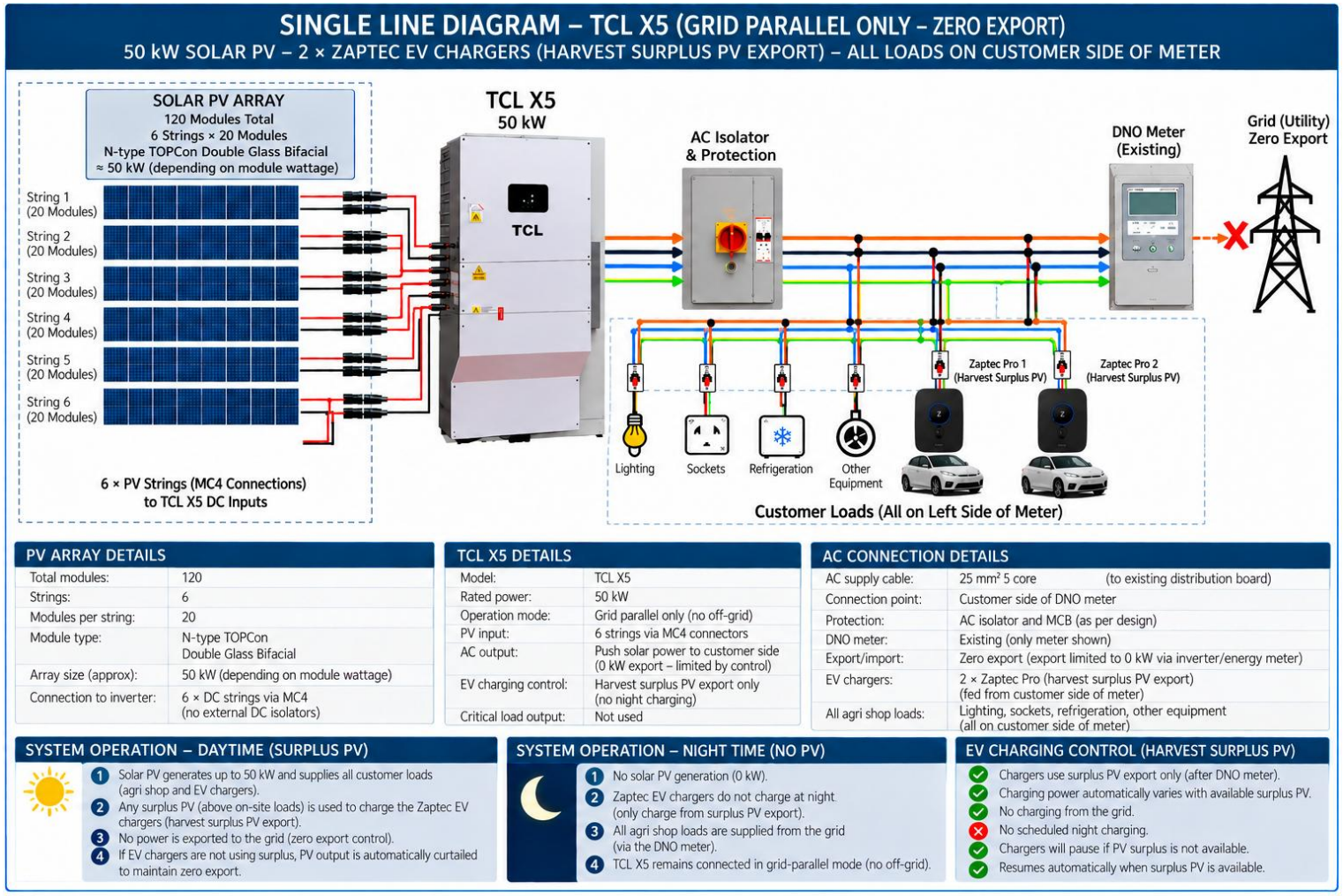
GRID-CONNECTED, ZERO EXPORT

120 TCL panels in six strings of 20, about 60 kWp, wired straight into the X5's six DC inputs.

The X5 feeds the shop on the customer side of the meter: lighting, sockets and refrigeration.

Two Zaptec Pro EV chargers run on surplus solar only. No night charging.

At night the shop runs from the grid. Nothing is exported.



GETTING IT THERE

One crate. One forklift.

Up to 60% last-mile transportation and installation cost saving.

AT MCCASKIE

Curtain-side truck
Delivered from UK stock within a few days.

Forklifted into position
No specialist foundation.

Crate to final position
Well packaged. Inverter already inside, so nothing else to lift or mount.



⬇ 60% cost reduction

THE INSTALL

Installed in a day. Commissioned in two.



21 AUGUST

Installed in under a day



21 AUGUST

No major challenges on site



22 AND 23 AUGUST

Commissioned. First UK beta site

STRING DESIGN

New 60 kWp TCL array

120 TCL T-Class 505 W panels, N-type TOPCon, double glass. Six strings of 20 modules, one string per DC input.





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X5 cabinet interior

THE INVERTER IS PRE-INSTALLED

What's done before it arrives

COMMISSIONING

Commissioned with TCL support



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HOW IT RUNS

Shop first. Then the EVs.

Grid-connected, zero export.

All 60 kWp of solar runs through the X5, the site's only inverter. It powers the shop first: lighting, sockets and refrigeration.

Surplus solar is stored in the X5 battery and used to charge EVs on the two Zaptec Pro chargers.

The X5 also holds export at zero. At night the shop runs from the grid.



WHAT THE INSTALLER EXPECTS

What it delivers

£9,800 saved a year

68% of annual consumption covered by solar + storage

9 years payback

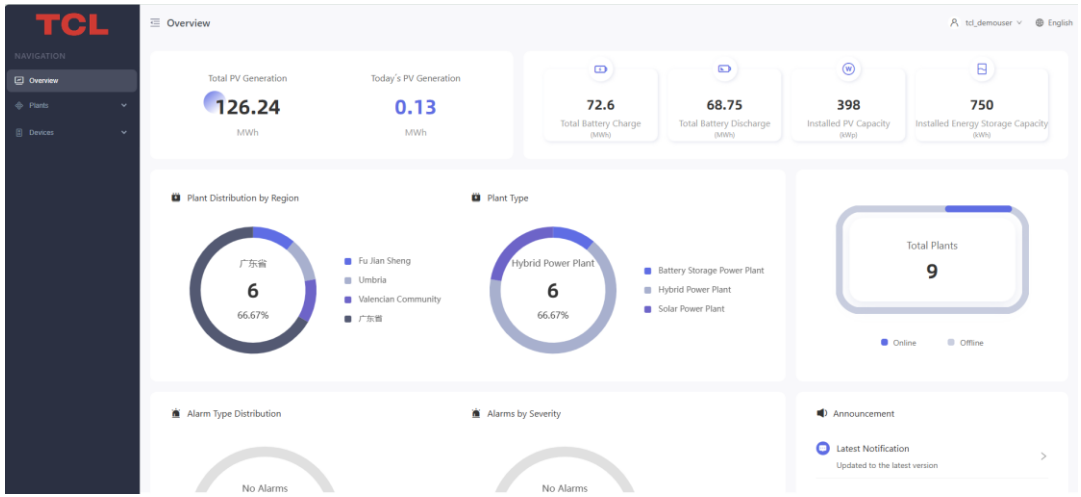
Estimates based on installer data: 48,000 kWh anticipated solar yield a year, 59,334 kWh annual consumption before install, day tariff 25p/kWh, night tariff 17.2p/kWh, system cost £90,000.

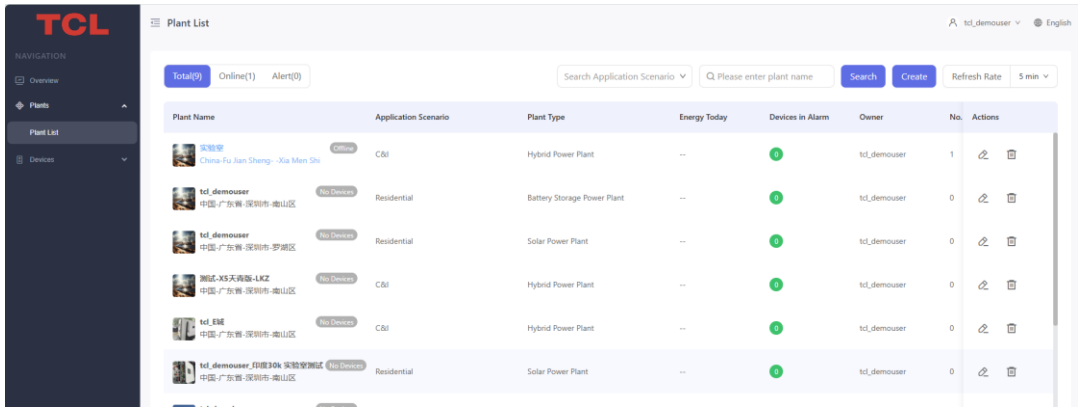
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CONTROLS AND MONITORING

What the customer sees

TCL web portal: solar generation today and to date, battery charge and discharge, plant status and alarms.







LAST WORD

Quoting your first one

03

More X5 sites

What was installed, and what it achieved



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MORE SITES | ABOUT 90 SECONDS EACH

Already running in Spain



42K Running

PATERNA, VALENCIA | LINCE RENOVABLES

Sports facility. The first X5 installation in Europe.



Green Group Canarias

CANARY ISLANDS | OFF-GRID

Off-grid eco houses, X5 with SunPower back-contact panels.



Valsur Truck

PALMA DE GANDIA, VALENCIA | INGENERGIA

Truck and bus workshop. The X5 replaced the PV inverter on an existing 63 kWp roof and covers the morning peak. Two days on site.

GETTING STARTED

Your first X5

How to get it

Through TCL distributors, including Bimble Solar in the UK.

How it is supported

Seven European countries, five languages. One number for install, commissioning and warranty.

Your first installation

Our technical team works with you remotely through your first commissioning, in your language.

tclsolar.com
www.tclsolar.com/products/tcl-x5

Bimble Solar
www.bimblesolar.com
info@bimble.solar

Paul Hamid
PH Energy Systems Ltd.
Paul@phenergysystemsltd.com

TCL

TCL SUNPOWER IS A GLOBAL LEADER IN SOLAR, FORMED BY THE ACQUISITION OF SUNPOWER BRAND, SALES & MARKETING OPERATIONS IN EUROPE BY TCL

TCL

Annual revenue backing every product warranty

FINANCIAL POWER
$43B

Global wafer producer +200 GW capacity
& 50 GW solar panel capacity

WAFER MANUFACTURING
#1

Major consumer electronics brand; solid brand equity, B2C investments

DEVICE ECOSYSTEM
200M+

27 years of expertise in inverter and thermal management technology

AIRCO MANUFACTURING
#3

TCL SUNPOWER

SUNPOWER TCL SOLAR

TIER 1 Bloomberg NEW ENERGY FINANCE

SUNPOWER

SOLAR HERITAGE
40YRS

Solar pioneer - since 1985 - inventor of back-contact tech with the largest IP portfolio

DIFFERENTIATION
x3

Distinct technologies, built on strong R&D and proprietary expertise

FOR INSTALLERS
40YRS WARRANTY

Reliable supply & logistic; Technology leadership aligned with long term market needs

SINCE
2007

Local teams & legal entities on the ground in Europe

TCL GROUP INNOVATIONS IN THE SOLAR INDUSTRY

TCL SOLAR

40+
years in solar

1981
Earliest PV company in China

2005
SunPower's first utility power plant

2007
SunPower IBC solar cell with record-breaking 22+% efficiency

2009
World's first industrialized application of the diamond wire slicing process for wafer

2012
The world's first DW slicing factory. DW technology has been industrialized in the photovoltaic industry.

2016
Develop and mass produce 130 ultra-thin silicon wafers

TCL SunPower JV to build high-efficiency shingled solar modules

2019
The world premiere of G12 PV silicon wafer products

2020
TCL Technology acquires TZE

2021
50GW ultra-thin PV monocrystal wafer fab

2022
The world's Top 10 PV module manufacturer

2023
Ningxia Yinchuan DW5 smart factory started construction

Signed a strategic Agreement with Saudi VI

2024
Inner Mongolia 10GW high-Efficiency solar module smart factory

2025
TCL fully acquires Maxeon solar business outside of the US and creates a new entity : TCL SUNPOWER

2026
TCL acquires DAS Solar, reaching 40+GW module capacity

Becomes global Top 5 PV modules manufacturer

TCL: A VERTICALLY INTEGRATED SOLAR PLAYER

The only company in the solar industry with a self-built layout covering the entire supply chain



Metallurgic Grade Silicon (MGSi) Quartz → Polysilicon → Ingot TCL Zhonghuan → Wafer TCL Zhonghuan → Cell TCL DAS Solar → Module TCL Zhonghuan → Home Energy System

#1 World's leading wafer manufacturer and supplier **+ 200 GW**

+1,600 PV Patents

+800 PV R&D technicians

+50 GW PV modules Capacity



Your questions

Type them in the chat box

tclsolar.com
www.tclsolar.com/products/tcl-x5

Bimble Solar
www.bimblesolar.com
info@bimble.solar

Paul Hamid
PH Energy Systems Ltd.
Paul@phenergysystemsltd.com

Thank you

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Q&A



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The latest news

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PRINT & ONLINE

China proposes ban on exports of perovskite, tandem solar manufacturing technology

by Vincent Shaw

MOST READ ONLINE

Solar surpasses nuclear power globally for first time

by Emiliano Bellini

Coming up next

pv magazine WEBINARS

Monday
October 26, 2026

10:30 am – 11:30 am | CEST, Berlin

From ground-mounts to solar carports: Scalable mounting systems for large-scale PV projects

Wednesday
October 28, 2026

7:00 pm – 8:00 pm | CEST, Berlin
2:00 pm – 3:00 pm | EDT, New York City

A practical guide to export-limited commercial PV systems

Many more to come!

In the next weeks, we will continuously add further webinars with innovative partners and the latest topics.

Check out our pv magazine Webinar programm at:

www.pv-magazine.com/webinars

Registration, downloads & recordings are also be found there.

UPCOMING EVENT

pv magazine Week Europe

Solar and storage: what works, what pays, what's next

Innovative business models, advancing technology, and the response to growing cybersecurity concerns are among key trends reshaping European solar and energy storage markets in 2026.

Join us at pv magazine Week Europe for 4 days of dynamic discussion with industry leaders and experts, taking in these and other vital issues for renewable energy in Europe and beyond.



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Matthew Lynas
Editor
pv magazine

Thank you for joining today!