ENERGY EFFICIENCY PERFORMANCE-TRACKING PLATFORM FOR BENCHMARKING SAVINGS AND INVESTMENTS IN BUILDINGS

This project has received funding from the **European Union's Horizon 2020 Research** and **Innovation programme** under Grant Agreement No **885395**

Sustainable Places 2022

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Smart Meter Rollup: Learnings from Spain, Bulgaria & the UK

Connor Enright, ep group

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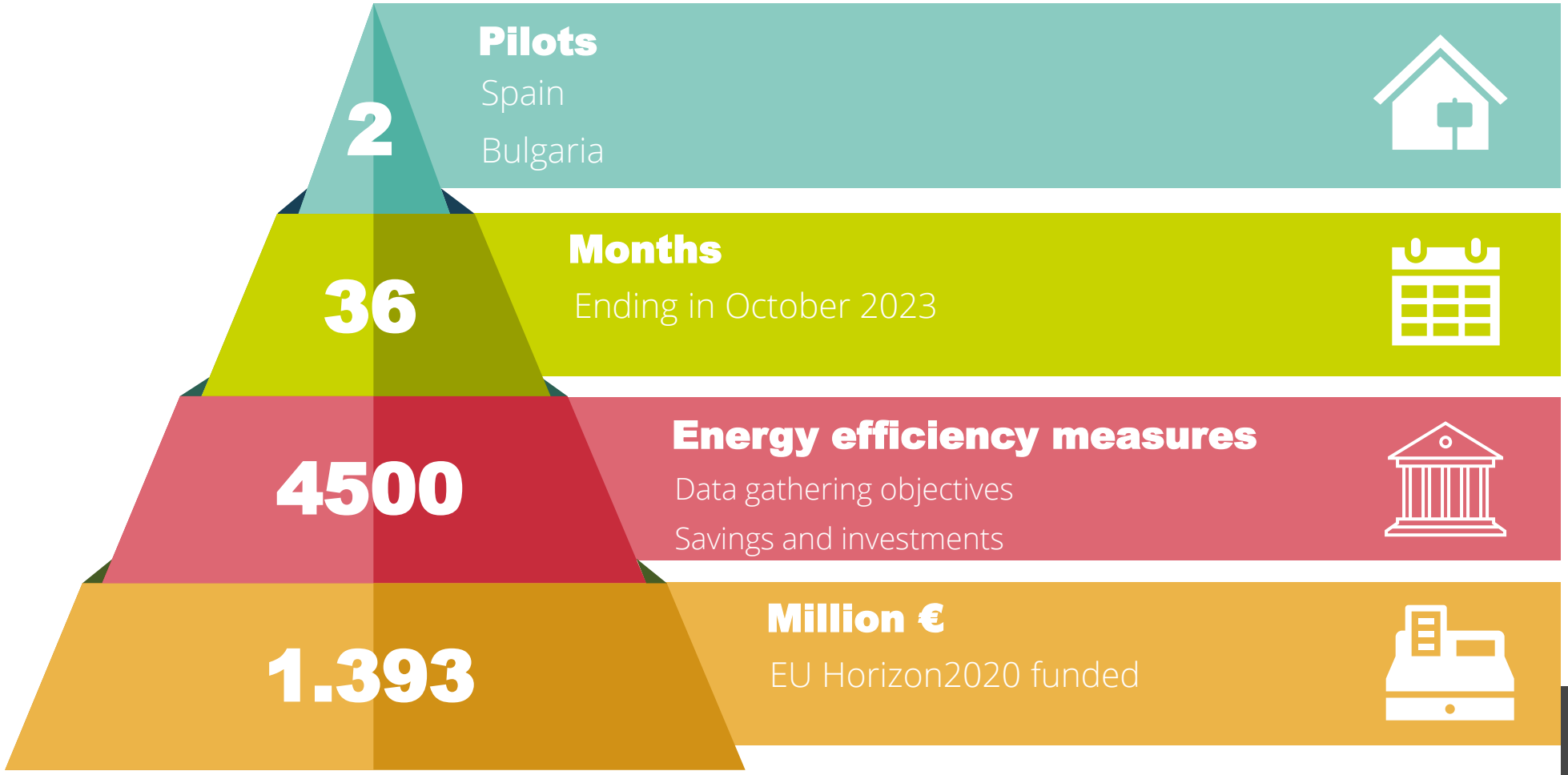
About the presenters

- Connor Enright, ep group, net zero finance and due diligence specialists
- Hilary Wood, EEVs, building performance and M&V specialists
- Stanislav Andreev, EnEffect, Energy efficiency consultant
- Oriol Escursell, ICAEN, in charge of developing and carrying out the Catalan energy policy

EN-TRACK project



Smart Meter Inspiration: Objectives of EN-TRACK

1. Massive and continuous data gathering
2. Adopt standard data description
3. Better data for building owners
4. More information for financial institutions

Energy consumption data:
before and after
energy efficiency measures.

Self-sustainable
after the project.

UK Context & Issues

The UK Context:

- Currently around 40% of UK homes have a smart meter, but this number is likely to increase in coming years
- As part of the national roll out of Smart Meters, significant investment has been made to establish a secure and resilient monitoring system for smart meters through the Data and Communications Company (DCC).
- Any services utilising smart meter data, such as heat-as-a-service models, require a thorough legal review to guarantee they are compliant with the strict Smart Energy Code. This results in over reliance on in-home Consumer Access Devices (CAD), which add to project costs.

Steps to access UK smart meter data:

1. Determine the name/MPAN of the meter; the supplier responsible for the meter and it's data.
2. Determine where Letters of Authority should be sent for this specific supplier
3. Write a Letter of Authority which includes the following features:
    a. A signature and date from the site/building/meter owner, valid and completed within the last 12 months.
    b. The name of the company's signatory, their registered business name, company address and company number.
    c. A clear description of the specific rights and responsibilities given to the third party (such as the EN-TRACK platform and parties responsible for data input and upkeep)
    d. A clear statement of who the company's authority is being delegated to
    e. Where possible, the letter should be typed up on the company in question's letterhead.
4. Send or deliver the Letter of Authority to the responsible supplier (either physically or digitally).
5. Check in and resolve any access issues.

Session Structure

1. The Value of Good Data: Lessons from UK Measurement and Verification
2. Smart metering in Bulgaria – myth or new opportunities
3. Introduction of the Spanish DataDis system and successful smart meter rollout, discussion of what made this a success

Wrapping Up the Rollouts:

1. **Activities and Discussion**
2. **Structured Questions**
3. **Conclusion and Follow Up Sessions**

Thank you

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The Value of Good Data:

Performance targets, savings claims, and verification

Energy Performance Contracting in the UK

Why are organisations interested in EnPCs?

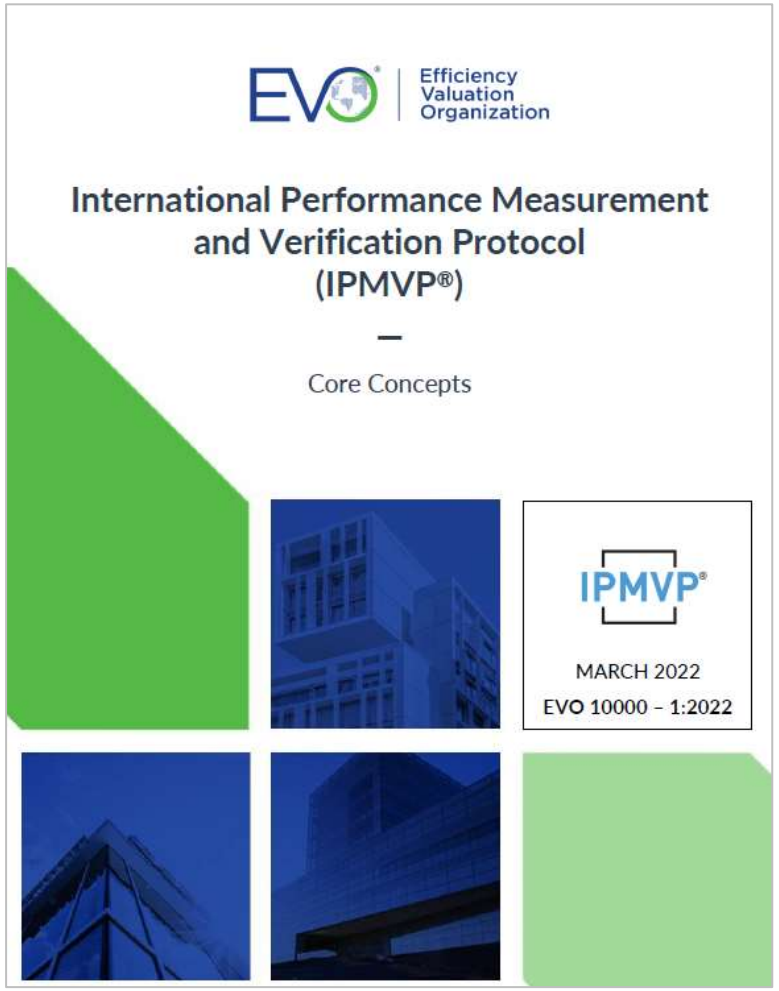
- Outsource technical expertise & risk
- Access to finance to increase viability & scope
- Several public sector frameworks in the UK

What makes for a good EnPC?

- Suitable buildings – including quality of data to assess the opportunity
- Saving are achieved
- Results reported clearly and transparently

Measurement & Verification

- International Performance Measurement and Verification Protocol (IPMVP®)
- Sets good practice principles, methodologies and guidance for the measurement of energy savings
- Qualified professionals are ‘PMVA’ or ‘PMVE’
- Basis for third party performance verification



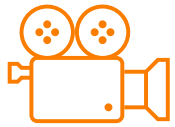
Good Practice Process

Baseline Period | Reporting Period

- ✓ Agree upfront
- ✓ Define baseline
- ✓ Define method
- ✓ Agree responsibilities
- ✓ Establish metering & data collection procedures

M&V Plan

Install Meters

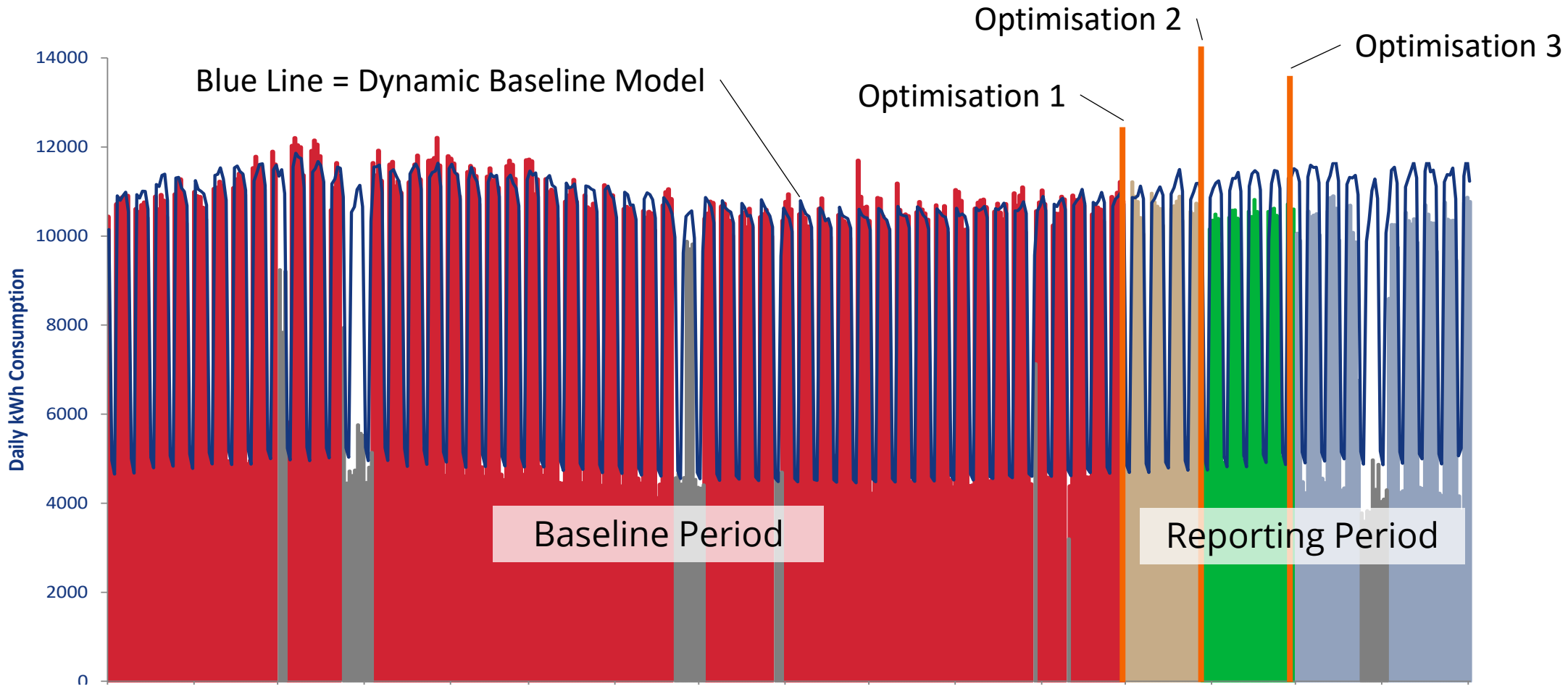


Record Events

Collect Data

- ✓ Event recording
- ✓ Data collection
- ✓ Accounting for change
- ✓ Savings claims calculated in accordance with the plan & submitted for audit

Data, Evidence & Analysis



Smart metering in Bulgaria

Current electricity metering rules:

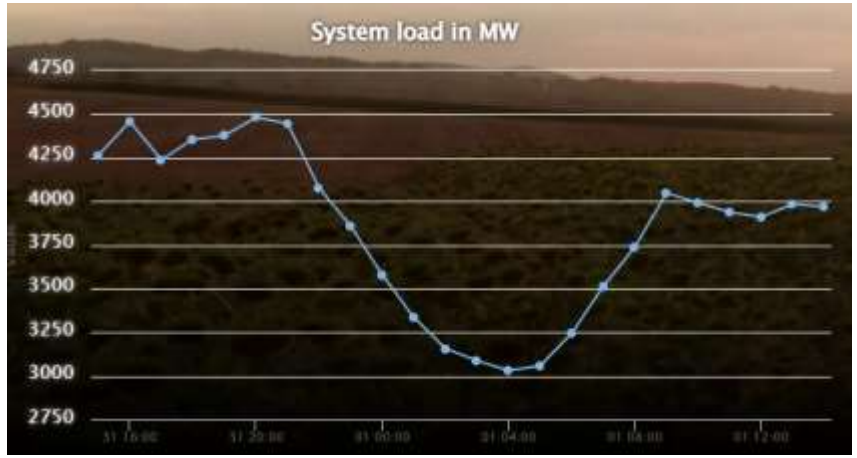
Distribution network operators are not required to install and maintain hourly commercial electricity metering devices for each settlement period for sites:

1. connected to a "low voltage" network with a provided power up to 100 kW;

2. to domestic customers.

Bills based on standardized load profiles

Expected benefits



- Behaviour change
- Actual price based on actual consumption

} improve power system management

- Prerequisite for the transition of the households to the liberalized market
- Facilitates the accounting of prosumers and energy communities

} transpose EU directives

Recommendations

Action plan for Smart Meter Rollup in Bulgaria is needed

- New rules for electricity metering
- Accelerate market liberalization
- Financial instruments for implementation of smart metering
- Mandatory measure in building renovation projects
- Communication campaign

Smart metering in Spain

Current electricity metering:

Distribution network operators are required to install and maintain hourly commercial electricity metering devices, the deployment was carried out in groups of consumers[1]:

1. Large consumers (>50 kW): >99% of smart meters

2. Medium size consumers (15 – 50 kW): 76,32% (2019)

3. Domestic customers and small consumers (<15 kW): >99% of smart meters

Bills based on hourly metered energy

1-https://www.cnmc.es/expedientes/infde01820

Datadis: Data Access I

Current data access situation

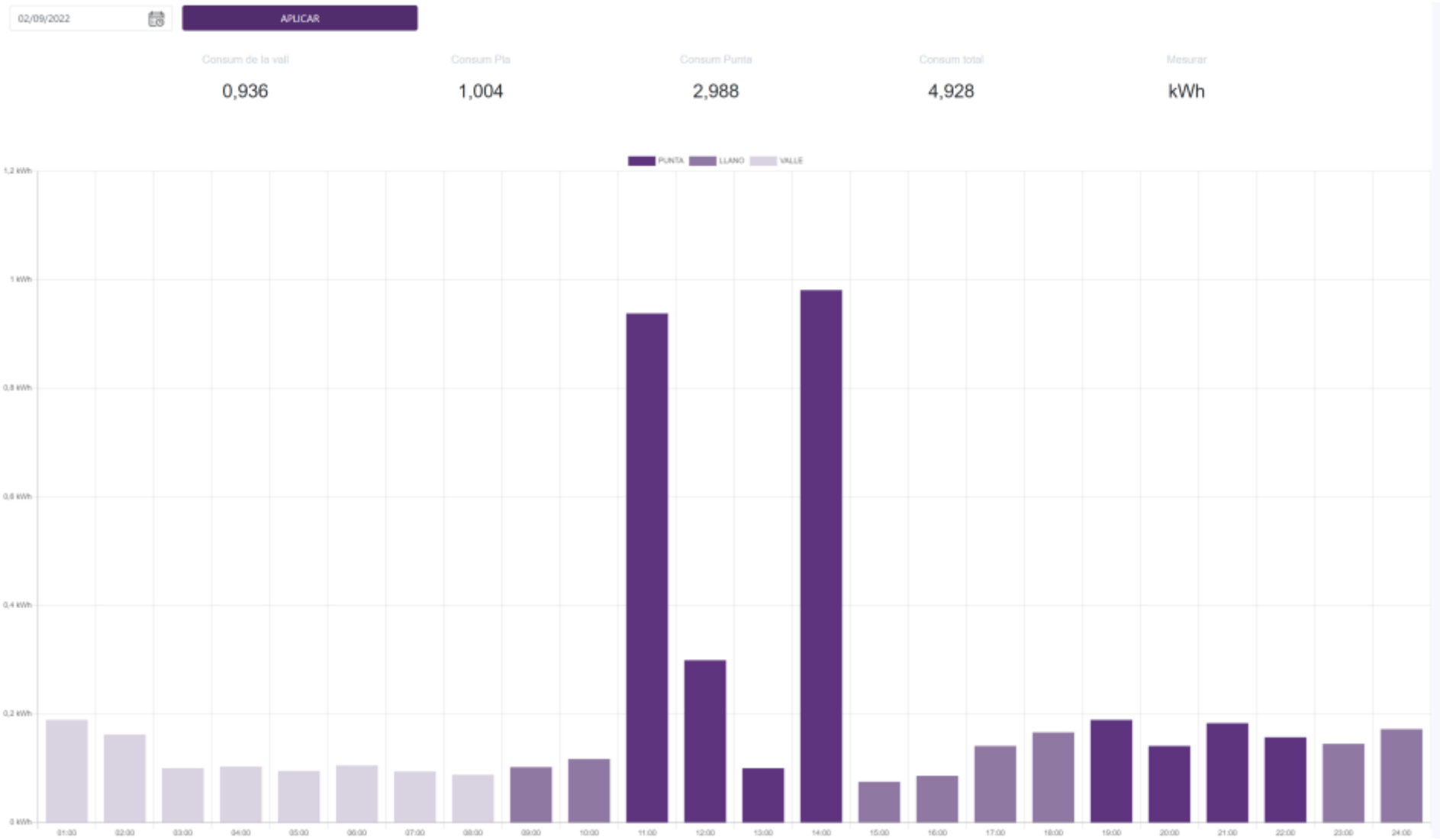
- Created on an agreement of the energy distributor companies

Datadis: Data Access II

Current data access situation

- Created on an agreement of the energy distributor companies
- Most companies provide the hourly consumption data in 1 day, both in their websites and Datadis
- Datadis allows a centralised platform to access all its buildings data bypassing the different energy distributors websites
- “Easy” sharing of the information, each user can grant any other identified user access to its readings → filling out a form, valid for 2 years

Datadis: Visualisation



Current and Expected benefits

Data utilisation: beyond readings

- Behaviour change based on day to day readings
- Implementation of AI based analysis of the gathered data

Current and Expected benefits

Data utilisation: beyond readings

- Behaviour change based on day to day readings
- Implementation of AI based analysis of the gathered data
- Simultaneous analysis of thousands of buildings without added costs
- Low barrier to entry: Datadis stores up to 2 years of data that EN-TRACK can use to perform the buildings profiling for new users

Thank you

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