SFHA – Energy and Net Zero Forum

Mark Sreeves

About Sava

Who we are

- Established 1983
- National Energy Services (NES) until 2018
- Provide education, technology, and compliance services to building owners, surveyors and the wider property industry
- Set up UK's first energy rating scheme in 1990 - the National Home Energy Rating (NHER)
- Instrumental in the introduction of EPCs
- Co-developed the national calculation methodology RdSAP
- Specialists in energy calculation software and EPC data retrieval
- Software used by housing providers to analyse their stock and understand their improvement options

Our software is used by 200+ housing providers to analyse the energy efficiency of 3 million+ residential properties

Sava
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Sava Intelligent Energy

Delivering your Energy and Net Zero Carbon objectives

Since 1994 – over 25 years of energy calculations for housing providers

Background:

- Principal feature has always been to analyse energy efficiency of a stock with limited data
- Launched in 1994
- Auto Evaluator, AutoAssessor & then AutoAssessorPRO
- Intelligent Energy

Key facts:

- 3 million+ social housing properties under analysis
- 200+ housing providers using our technology
- Cloud based, open integration using web services
- Integrates with all major housing and asset management systems

Sava Social Housing User Forum

Aimed at: users or potential users of Sava Intelligent Energy

When: Wednesday 21st May 2025 10am to 4pm

Where: central Glasgow

Topics: SHNZS, RdSAP10, funding, integration with capital works

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Energy targets

- The Social Housing Net Zero Standard (**SHNZS**) will replace the Energy Efficiency Standards for Social Housing (**EESSH**).

- **EESSH** was introduced in **March 2014** with a target of **EPC Band E-C*** by **Dec 2020**
- **EESSH2** was introduced in **June 2019** with a target of **EPC Band B** by **Dec 2032**
  - **EESSH2 2025 milestone**
    - By 31 Dec 2025, no Social Housing re-let below EPC band D
    - By 31 Dec 2025, no energy efficiency improvements should worsen the EI rating of a home or the air quality
  - **EESSH2 2032 milestone**
    - By 31 Dec 2032, all Social Housing meets EPC Band B

**target dependent on fuel/property type*

What is SHNZS

- EESSH2 reviewed in 2023 after publication of **Heat in Buildings Strategy**
- **EESSH2** targets put on hold pending the review
- The **EESSH2 2032 milestone** did not align with the Scottish Gov't **net zero targets for heating.**
- To meet **net zero by 2045** all homes must be using a **zero direct emissions heating system**

- The consultation on SHNZS closed March 2024

Two key questions:

- where are we now

- how do we meet the target(s)

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Intelligent Energy Standalone

Bringing in data from multiple data sources

Updates via periodic data refreshes

Sava Intelligent Energy
Integrating with your asset management system

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Building on the ‘one version of the truth’

Intelligent Energy
Data retrieval

How it works

1

Details of lodged EPCs (RRN/PRRN + Assessor ID)

2

Data sent to: Intelligent Energy 'data retrieval' engine

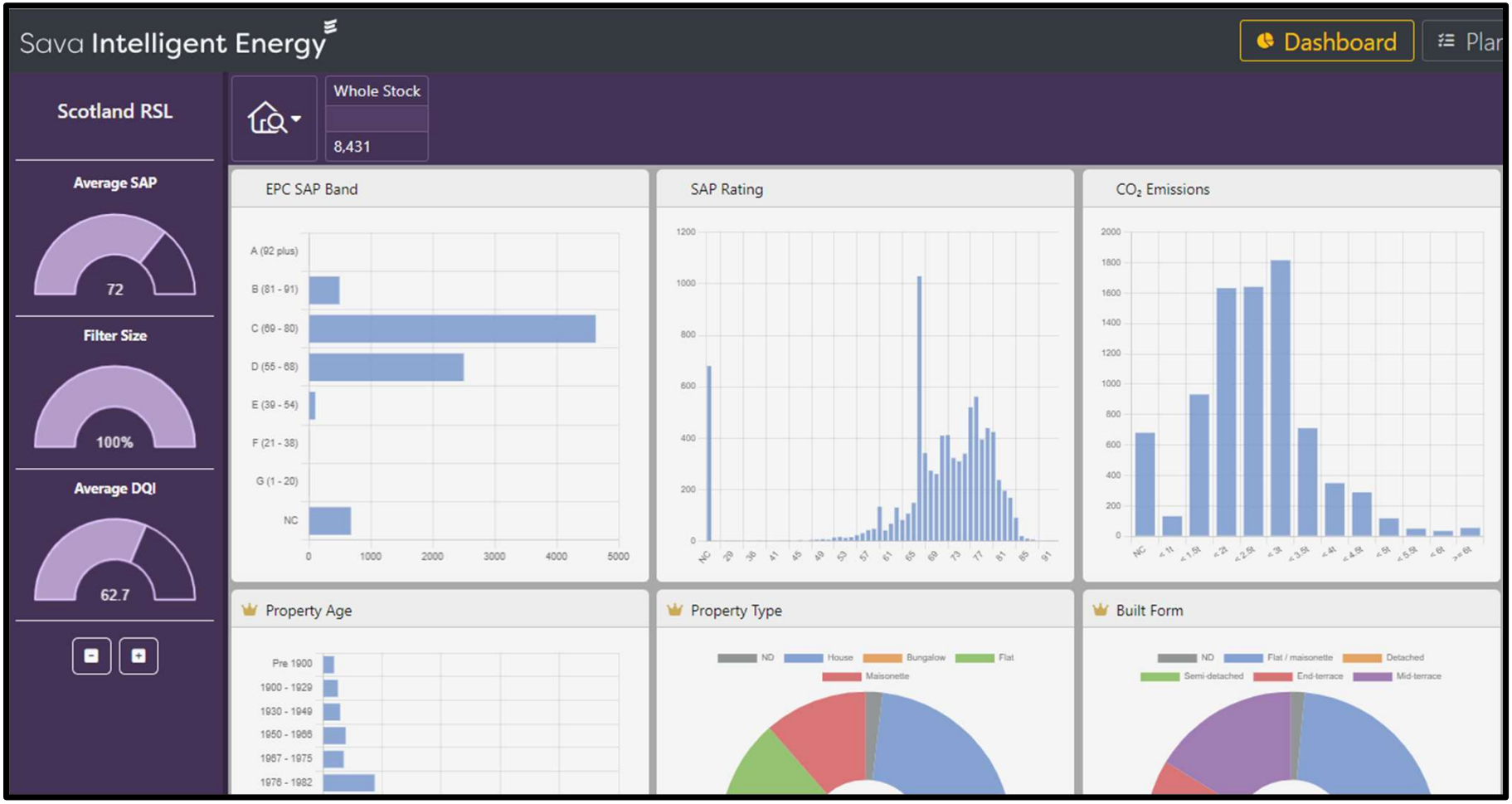
3

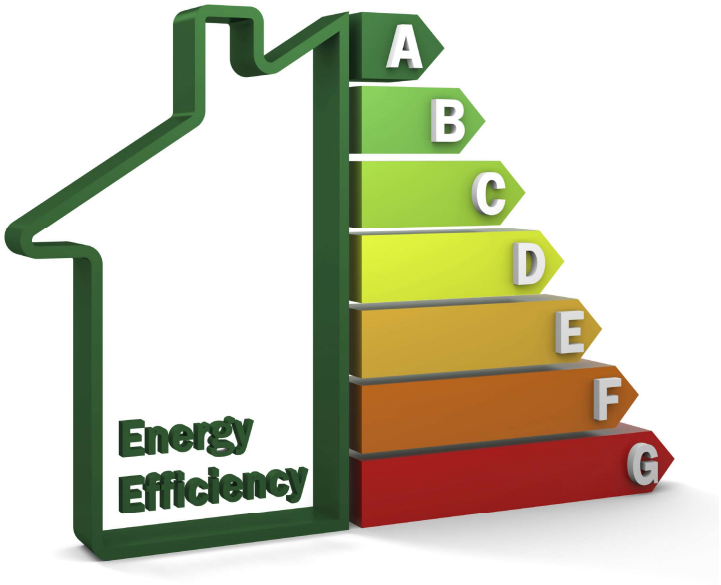
'data retrieval' identifies EPC record

4

Input data, results and recommendations returned and stored/ displayed on asset management system

Using Sava Intelligent Energy





QUESTIONS?

SHNZS – The proposals

A **fabric efficiency rating** measured in **kWh/m²/year**

- 2 options

Retention of a **Minimum Fabric Efficiency Standard**

- Met by installing a 'list of measures' by 2028

Monitor **Air quality** alongside energy efficiency measures

Clean heating in all social homes by **2045**

- 2 options targets/milestones

The Metrics in the SHNZS

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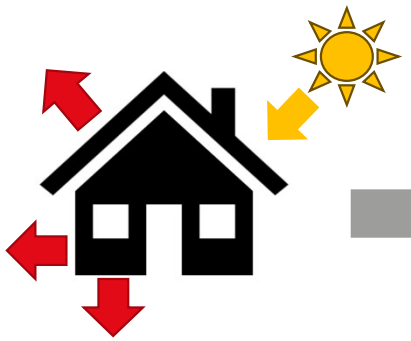
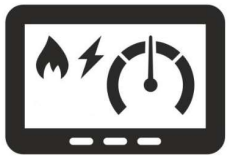
SHNZS – Space heating demand



Heat losses and gains

Space heating demand (kWh/year)

Heating system efficiency



Energy requirement (kWh/year)

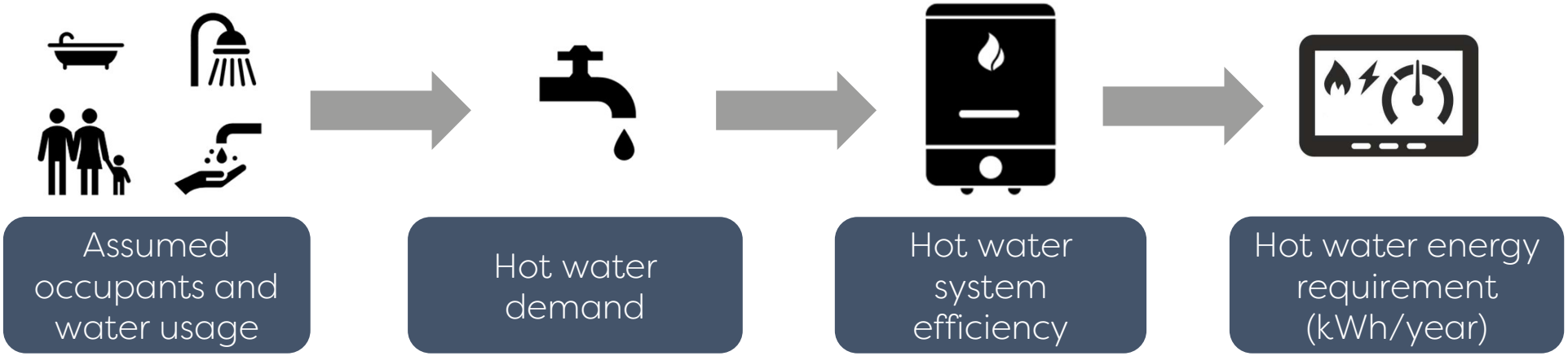
A measure of the fabric efficiency of the dwelling. Independent of the heating system used to meet the demand

Apply carbon emissions factor = carbon emissions (kg)

Apply primary energy factor = primary energy (kWh/year)

Apply costs = SAP rating

SHNZS – hot water demand



In SAP 2012 the number of occupants is inferred from the floor area, and this is used to model the DHW usage. In SAP 10 the number (and type) of showers and number of baths is collected

SHNZS – The metrics

Fabric energy efficiency – Option 1

- 112 – 162 kWh/m^2/year – space heating AND hot water demand

or

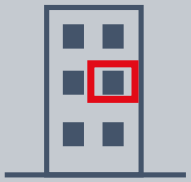
- 71 – 120 kWh/m^2/year – space heating demand

Target date : 2033

**does not include any energy for appliances or cooking*

Properties with less heat loss elements (i.e. mid floor flats) can meet the FEE much more easily.

Hot water demand based on floor area



Floor area: 60m^2

SHD: 50 kWh/m^2

Floor area: 60m^2

SHD: 112 kWh/m^2

SHNZS – The metrics

Fabric energy efficiency – Option 2

- 71 – 120 kWh/m^2/year – space heating demand

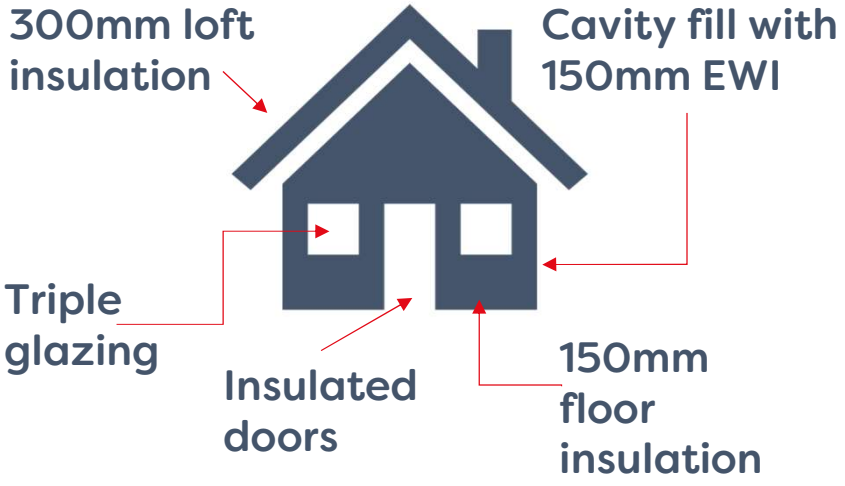
Target date : 2033

- 71 kWh/m^2/year or better

Target date : 2040

**does not include any energy for appliances or cooking*

What does a 60 m^2 detached bungalow with a 71 kWh/m^2 heat demand look like?



SHNZS – The metrics

Minimum Fabric Efficiency Standard

- All social landlords should install:

- 270 mm loft insulation
- cavity wall insulation
- draught proofing
- heating controls
- 80 mm hot water cylinder insulation
- suspended floor insulation.

Target date : 2028

What SHD does this set of measures achieve on our 60m^2 detached bungalow?

114 kWh/m^2

SHNZS – The metrics

Air Quality (alongside fabric measures)

- Some energy efficiency measures increase the air tightness
- There may be a need for mechanical ventilation
- Landlords must devise a ventilation and monitoring strategy
- RdSAP 10 will help enable this with the ability to model specific mechanical ventilation systems and record the results of a pressure test

As a rule of thumb, a pressure test of 5 $m^3/h.m^2$ @ 50 Pa or less will require mechanical ventilation to maintain the air change rate.

Mechanical ventilation with heat recovery will also help meet the space demand.

SHNZS – The metrics

Clean heat

- All social homes should have a clean heating system by **2045**

What is a 'Clean Heating system'?

- Low and zero emissions heating:
  - Electric heat pumps/direct electric heating
  - Heat networks
  - Solar thermal
  - Energy from waste

- Heat pumps (electric)
- Heat networks
- Electric panel heaters
- Modern electric storage heaters
- Electric boiler
- Electric CPSU
- Heat networks using energy from waste
- Solar water heating*

*RdSAP 10 allows for SWH to contribute to the space heating as well as the water heating

SHNZS – Clean Heat

Option 1

- Milestones which would require proportions of each landlords' stock to have had clean heating installed by target dates
- For example: 10% by 2030; 70% by 2040; 100% by 2045 (illustrative figures).

Option 2

- an interim target for properties off-gas, or using other fossil fuels.
- For example: off-gas properties by 2030

Electricity is expensive, it is imperative that the fabric of buildings is improved to reduce the space heating demand before installing electric heating.