Net Zero Terrace

Digital Customer Journey

Network Innovation Allowance

Smart Local Energy System (SLES) Integration Strategy

Lead: SP Electricity North West (SP ENW) and Looped Energy Communities CIC (LEC)

Author: Edgar Yamaguchi

Reviewer: Phoebe Andrew

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1. Purpose Context and Rationale

1.1 NZT Overview

Net Zero Terrace (NZT) is a Network Innovation Allowance (NIA) project that aims to demonstrate an affordable, scalable pathway to decarbonising existing UK terraced housing. The project combines building fabric improvements, ambient loop heating, low-carbon domestic technologies, and community-scale energy coordination to address both carbon reduction and fuel poverty. NZT is designed to operate across multiple homes, testing how domestic and community energy assets can be integrated to improve comfort, resilience, and affordability for residents, including those in vulnerable circumstances.

1.2 Purpose of this Document

This document outlines the digital journey of customer data across the Fairer Warmth (FW) system, identifying any necessary adjustments to ensure smooth data flows and General Data Protection Regulation (GDPR) compliance. The purpose of the document is to:

- identify the customer data required to support FW functionality across engagement, enrolment, deployment, and operation;
- describe, at a high level, how customer data is collected, held, made visible, and shared through FW at each stage;
- provide a view of when and why customer data is disclosed to external parties or made available via role-based access; and
- support governance and legal review by suggesting where contractual arrangements, consents, or data sharing agreements are required to enable those data flows.

This document is intended to support governance, assurance, and legal review activities. It does not constitute a legal agreement, a definitive data protection impact assessment, or a final system specification. Rather, it provides an evidence-based snapshot of current assumptions regarding customer data flows through FW, to inform further legal analysis and platform development.

The data flows, roles, and arrangements described reflect the current understanding of the FW platform and the NZT delivery model. As the programme develops, system design, integrations, and data handling practices may evolve and will be subject to ongoing governance, legal review, and compliance processes.

2. Governance, Principles and Compliance Context

This section sets out the governance context within which FW data flows are defined and assessed. It establishes the governance layers, principles, roles and data classifications that inform the data flow mapping presented in later sections. This section is informed by D1.9b Governance Framework (See Section 7).

Certain governance decisions that will impact how customer data is handled over time are still under development and review. For example, detailed policies relating to data retention, deletion, and handling of data subject rights (including withdrawal of consent and right to erasure), as well as the specific technical approach to pseudonymisation and anonymisation, have not yet been finalised. These decisions will be taken through the established NZT governance processes and, once agreed, should be reflected in the relevant data sharing agreements, contracts, and platform controls.

As these decisions remain pending at the time of writing, they are intentionally omitted from this document. The data flows and agreements described should therefore be read as operating within the current governance framework outlined in D1.9 Governance Framework (See Section 7), with the understanding that future governance outcomes will "trickle down" and be incorporated into contractual, technical, and operational arrangements as they are defined.

2.1 NZT Data Governance Layers

The NZT data governance model has four core layers:

1. **Household-Level Governance (Energy Club)**
   Democratically governed cooperative representing resident interests, overseeing value allocation and data use.
2. **Operational Delivery Governance (Local Development Organisation + *Looped Energy Communities CIC* (LEC))**
   Data processing, quality assurance, consent, security, and technical standards.
3. **Infrastructure Governance (AssetCo)**
   Controls access to aggregated operational data for financing, assurance, and O&M. No personal data is shared.
4. **System-Level Governance (LEC + Distribution Network Operator (DNO) (through its Distributed System Operation (DSO) function) + Local Authority (LA))**
   Management of aggregated data at feeder and regional levels, enabling Smart Local Energy System (SLES) operation and dynamic LAEP planning.

FW is proposed to operate within the Operational Delivery Governance layer, while providing the primary interface to households governed through the Energy Club layer.

2.2 Data Governance Principles

The data flows associated with FW are intended to be designed and assessed in line with the NZT data governance principles outlined in Table 1.

Table 1: Data Governance Principles

ID	Principle	Summary
P1	**Community Data Sovereignty**	Household-level data is owned by residents, stewarded through the Energy Club, and processed under explicit consent. Residents retain enforceable rights over access, correction, restriction, and deletion, subject to safety constraints.
P2	**Non-Extraction**	Data must not be used to extract value away from households or the community, nor enable proprietary lock-in or secondary commercialisation by any actor.
P3	**Fairer Share Logic**	Value derived from NZT system operation, including flexibility revenues and avoided reinforcement, must be allocated transparently, equitably, and for community benefit under agreed governance.
P4	**Safety, Privacy, and Compliance Over Utility**	Privacy, safety, and data rights take precedence over optimisation or performance. All systems must comply with applicable data protection, energy, cyber, and regulatory standards.
P5	**Data Minimisation and Least Privilege**	Only the minimum data necessary to support safe system operation, service delivery, maintenance, diagnostics, security, regulatory compliance, and agreed community value shall be collected. Access to that data shall be limited to the minimum required for each authorised role and permitted purpose, in accordance with the principle of least privilege.
P6	**Transparency and Auditability**	Data collection, use, and outcomes must be transparent to residents, with full audit trails, logs, and regular compliance reporting maintained.
P7	**Interoperability and Standardisation**	Systems must comply with NZT Digital Spine standards, including common schemas, Application Programming Interfaces (APIs), and interoperability with Home Energy Management System, Community Energy Management System, and SLES, avoiding proprietary lock-in.
P8	**Accountability Across the System**	Roles, responsibilities, and access boundaries must be clearly defined and enforced, with escalation, redress, and liability mechanisms in place.
P9	**Purpose Limitation and Ethical Use**	Data may only be used for defined NZT purposes. Any new or expanded use requires ethical review, Data Protection Impact Assessment (DPIA) consideration, and governance approval.
P10	**Learning, Improvement, and Adaptation**	Data may support learning and system improvement where it respects household rights, applies data minimisation, and follows approved governance processes.

2.3 Roles and Responsibilities

Table 2 summarises the intended roles of the NZT key actors in relation to FW.

Table 2: Actor Roles and Responsibilities

Actor	Primary role	Responsibilities in relation to FW
Residents	Data originators and end users	Provide personal and household data, preferences, feedback, and consent; interact with the platform during onboarding and operation.
Energy Club	Community-level governance	Provides oversight of data use; stewards aggregated community data and represents resident interests.
Local Development Organisation (LDO)	Local operational delivery and engagement	Supports engagement, customer support, and operational coordination using limited, role-appropriate data.
Energy Champion(s)	Safeguarding and resident support	Local ambassador acting under LDO governance to support residents, especially those requiring additional protections and safeguarding needs.
LEC	Platform operator	Operates and maintains FW; processes data in line with consent, governance principles, and compliance requirements.
AssetCo	Infrastructure assurance	Receives aggregated, non-personal performance and financial data for assurance and financing purposes.
Distribution System Operation (DSO)	Network coordination	Receives aggregated and anonymised system-level data to support network management and flexibility.
Local Authority (LA)	Planning	Receives anonymised system-level data for planning, sequencing, and MEL
Equipment and System Provider(s)	Technical integration support	Supports integration of relevant equipment and supplier systems with FW, including secure exchange of authorised data and agreed control signals.
Centre for Energy Equality (CEE)	FW platform operator	Operates the Fairer Warmth platform during Stage 3, managing resident engagement, data collection and consent in accordance with applicable governance, privacy and security requirements.

Access to data by each actor is intended to follow **[P5]** Data Minimisation and Least Privilege.

2.4 NZT Seven-Layer Data Model

The NZT seven-layer data model, outlined in Table 3 is used to describe how data is structured and flows across different levels of the system.

Table 3: NZT Seven-Layer Data Model

Layer ID	Description	Typical content	Interaction with FW
L1	People and engagement data	Preferences, consent, feedback, vulnerability indicators	Direct interaction
L2	Property and fabric data	EPCs, surveys, archetypes, fabric characteristics	Direct interaction
L3	Building Energy Model (BEM) / Techno-Economic Model (TEM) data	Demand curves, heat loss modelling, retrofit scenarios	Indirect (inputs and summaries)
L4	Financial model data	Standing charges, cost curves, Internal Rate of Return (IRR)	Indirect (summarised outputs only)
L5	Home Energy Management System (HEMS) data	Device telemetry, temperatures, battery state	Indirect (summarised)
L6	Community Energy Management System (CEMS) data	Cluster optimisation and flexibility outputs	Indirect (aggregated outputs)
L7	SLES / DNO network data	Feeder-level constraints and performance	No direct interaction

2.5 Data Categories Used in This Document

For clarity and consistency, data referenced in this document is grouped into a small number of categories outlined in Table 4. These categories are used when describing data flows, visibility, and sharing arrangements in later sections.

Table 4: Data Categories

Category ID	Category name	Description	Example data
A	Household data	Personal and engagement-related information provided by residents	Name, contact details, consent, preferences
B	Property and fabric data	Information describing the physical characteristics of the home	Energy Performance Certificate (EPC) rating, building archetype, survey data
C	Modelling data	Analytical outputs used to assess performance and scenarios	Demand profiles, retrofit modelling outputs
D	Financial and commercial data	Cost, tariff, and value-allocation information	Standing charges, Fairer Share summaries
E	Device and system telemetry	Operational data from in-home and local systems	Temperatures, energy use, battery state
F	Aggregated system data	Community- or system-level operational data	Flexibility windows, feeder-level summaries

3. Fairer Warmth System

Within the SLES architecture defined in D1.4 System Architecture (See Section 7), FW provides the primary customer-facing digital layer through which residents are onboarded, supported, and engaged. FW is intended to be the main interface between households and the NZT system throughout the customer journey, from early engagement through to live operation.

In practical terms, FW aims to enable households to:

- register interest and onboard to the scheme;
- provide the information, preferences, and consent required for participation;
- interact with the system during operation, including setting comfort and affordability preferences, providing feedback, and receiving notifications; and
- receive clear information about system behaviour, outcomes, and their participation in SLES operation.

In this role, FW is expected to function as the user interface and customer relationship management layer for the SLES. It is designed to capture resident intent, preferences, and context in a structured way and translate these into inputs that can be used by downstream systems operating within the SLES. At the same time, FW presents summarised and understandable outputs from those systems back to residents, supporting transparency and trust without exposing technical complexity.

This approach is intended to ensure that residents are not required to interact directly with technical control systems, optimisation tools, or multiple vendor-specific platforms. Instead, FW acts as the governed mediation layer between customers and the technical components of the SLES, applying consent, role-based access, and data minimisation principles to all customer data handled through the platform.

In addition to its role for residents, FW also provides interfaces for other authorised actors within the NZT governance model, as outlined in Section 2.3. These role-based views support delivery, operational support, and governance functions while ensuring that access to customer data remains proportionate, purpose-limited, and aligned with the data governance principles set out in Section 2.

4 Stage-Based Customer Data Flow Mapping

This section sets out how customer data is intended to be collected, held, displayed, and disclosed through the FW platform across the NZT delivery lifecycle (Figure *1*Figure 1). This document focuses on Stages 3-6, where customer data is collected, structured, integrated, and used in live operation within FW.

Each subsection describes a specific project stage and is accompanied by a table listing the customer data required to support FW's functions at that point. The tables focus exclusively on customer data and identifies the data category and system layer (as defined in Section 2), the source of the data, how it is exposed within FW, and whether FW enables onward disclosure to other actors or systems. Non-customer system data is excluded, except where it is directly derived from, or has a direct impact on, household-level participation or outcomes.

References to role-based access in this section describe controlled visibility of customer data within the FW platform based on an actor's role and purpose. Where such access allows data to be viewed, extracted, or reused outside the FW interface, it is treated as an onward disclosure enabled by FW. The tables do not define technical access controls but provide a functional view of who can see or receive which customer data at each stage, forming the evidence base for identifying the contractual arrangements, data sharing agreements, and safeguards required, as set out in Section 5.



Figure 1 Key Stages of the NZT Methodology

Please note that the tables listed below are intended to provide a view of potential customer data flows to support legal, governance, and technical review. As FW development progresses, and as wider SLES design and governance decisions are finalised, some data items may be removed, refined, or added.

Additionally, customer data listed in the tables below is assumed to be treated as legacy data within FW for auditing, compliance, safeguarding, and analytical review purposes. Where specific data items are later determined to be non-legacy within the ongoing governance work (for example, data that must be deleted upon withdrawal or after a defined period), this should be explicitly set out in the relevant data sharing agreements, customer terms, or retention schedules once defined.

4.1 Stage 3 – Creating Demand

Stage 3 is focused on early community engagement and demand building. Its purpose is to enable residents to express interest in the NZT programme, understand at a high level what participation involves, and allow delivery partners to assess engagement levels and geographic coverage within a target area. At this stage, no operational or technical integration takes place. Data collection is limited to early-stage engagement information required to support communications, feasibility assessment, and planning. Any Special Category (SC) data is noted.

To fulfil this role, FW must provide:

- a mechanism for residents to register interest in the programme;
- a means for residents to provide basic personal and address information;
- a structured way for engagement data to be viewed by delivery teams for planning and outreach purposes.

Table 5 outlines a list of all customer data that will be imported, displayed and exported during stage 3 to support these functions.

Table 5: Stage 3 Customer Data Items

Customer data item	Cat. / Layer	SC Data	Source	Exposure via FW	Onward disclosure enabled by FW
Full name	A, L1	No	Resident	FW internal; Resident view	LDO – role-based access
Email address	A, L1	No	Resident	FW internal; Resident view	LDO – role-based access
Phone number	A, L1	No	Resident	FW internal; Resident view	LDO – role-based access
Home address	B, L2	No	Resident	FW internal; Resident view	LDO – role-based access
Postcode	B, L2	No	Resident	FW internal; Resident view	LDO – role-based access
Expression of interest status (registered / date)	A, L1	No	Resident	FW internal; Resident view	LDO – role-based access (aggregated and individual)
Estimated energy and property performance indicators (high-level)	A/B, L1/L2	No	Open-Source Data and/or resident provided.	FW internal; Resident view	LDO – role-based access (planning and engagement only); BEM/TEM – modelling inputs
Self-reported affordability indicators	A, L1	No	Resident	FW internal; Resident view	LDO – role-based access (engagement prioritisation)
Consent to be contacted	A, L1	No	Resident	FW internal; Resident view	LDO – role-based access
Preferred contact method	A, L1	No	Resident	FW internal; Resident view	LDO – role-based access
Privacy policy acceptance record (timestamp, version)	A, L1	No	Resident	FW internal; Resident view	No onward disclosure

4.2 Stage 4 – Confirming Demand

Stage 4 marks the transition from interest to formal participation in the NZT programme. This stage establishes the contractual, eligibility, and safeguarding foundations required for households to proceed to deployment and operation. This includes confirming participation, capturing eligibility-related information, and identifying any vulnerabilities or support needs that may affect delivery or operation.

To support this transition, FW must provide:

- a mechanism for residents to formally enrol in the NZT programme;
- structured capture of eligibility, vulnerability, and grant-related information;
- secure handling of sensitive customer data required for safeguarding and affordability; and
- preparation of customer records so that downstream systems can operate within agreed parameters once deployment begins.

Table 6 outlines a list of the customer data that will be imported, displayed and exported during stage 4 to support these functions. Note that access to special category data must be granted on a named, role-based basis and subject to enhanced confidentiality and safeguarding.

Table 6: Stage 4 Customer Data Items

Customer data item	Cat. / Layer	SC Data	Source	Exposure via FW	Onward disclosure enabled by FW
Participation Agreement (timestamp, version)	A, L1	No	Resident	FW internal; Resident view	LDO – role-based access; Energy Club – role-based access
Energy Club membership status	A, L1	No	Resident	FW internal; Resident view	Energy Club – role-based access
Medical dependency status (yes/no)	A, L1	Yes	Resident	FW restricted internal; Resident view	LDO – role-based access (flag only); Fairer Share – derived attribute
Medical dependency supporting evidence	A, L1	Yes	Resident	FW restricted internal; Energy Champion (role-based access)	No onward disclosure
Heat-dependency vulnerability status (yes/no)	A, L1	Yes	Resident	FW restricted internal; Resident view	LDO – role-based access (flag only); Fairer Share – derived attribute
Heat-dependency supporting evidence	A, L1	Yes	Resident	FW restricted internal; Energy Champion (role-based access)	No onward disclosure
Grant eligibility status	A, L1	No	Resident	FW internal; Resident view	LDO – role-based access (status only); Fairer Share – derived attribute
Grant eligibility supporting evidence	A, L1	No	Resident	FW restricted internal; Energy Champion (role-based access)	No onward disclosure
Preferred contact and support requirements	A, L1	No	Resident	FW internal; Resident view	LDO – role-based access

4.3 Stage 5 – Deployment

Stage 5 focuses on preparing households and systems for live operation. The purpose of this stage is to ensure that all technical identifiers, configuration data, and customer preferences are in place so that energy systems can be commissioned and connected safely and effectively. This stage bridges the gap between contractual readiness and operational use.

To enable deployment, FW must provide:

- collection and validation of household technical identifiers (e.g. smart meter and device references);
- onboarding of in-home energy systems into the platform context;
- capture of initial comfort, hot water, and affordability preferences from residents; and
- structuring of customer data so it can be lawfully and accurately used during live operation.

FW functions as the customer-facing configuration and coordination layer, preparing data for operational systems without yet driving optimisation or control. Table 7 outlines a list of all customer data that will be imported, displayed and exported during stage 5 to support these functions.

It is anticipated that, at a later stage, aggregated and anonymised insights derived from FW data may be made visible to the LA to support planning, sequencing, and Monitoring, Evaluation and Learning (MEL) activities. However, this has not yet been confirmed and is therefore omitted from the Stage 5 data mapping. Any future onward disclosure to LA will be strictly limited to aggregated, non-identifiable outputs and will align with the prohibited uses and data governance principles set out in D1.9b Governance Framework (See Section 7). In particular, the sharing of personal data, household-level identifiers, or device-level telemetry with LA or the DSO is explicitly prohibited.

Table 7: Stage 5 Data Items

Customer data item	Cat. / Layer	SC Data	Source	Exposure via FW	Onward disclosure enabled by FW
Smart meter identifiers (MPAN)	B, L2	No	Resident	FW internal; Resident view	DCC – service linkage
Proof of address for meter matching (e.g. energy bill image)	A/B, L1/L2	No	Resident	FW restricted internal	DCC– service linkage
Half-hourly electricity consumption data	E, L5	No	DCC	FW internal; Resident view (summarised)	Fairer Share – aggregated use; BEM/TEM – modelling inputs
Smart meter data quality and availability indicators	E, L5	No	DCC	FW internal	Looped (operations), authorised support/maintenance functions for diagnostics and troubleshooting; no public or commercial disclosure.
HEMS system identifier and vendor details	B, L2	No	HEMS vendor / Installer	FW internal	Authorised operations, maintenance and support functions (including HEMS support where applicable)
Installed asset metadata (heat pump, battery, DHW, TRVs)	B, L2	No	Installer	FW internal	BEM/TEM – modelling inputs
Initial heating temperature schedules	A, L1	No	Resident	FW internal; Resident view	Fairer Share, HEMS vendor
Initial hot water schedules	A, L1	No	Resident	FW internal; Resident view	HEMS vendor
Heating and hot water control rules (e.g. limits, constraints)	A, L1	No	Resident	FW internal; Resident view	HEMS vendor
Household affordability parameters	A, L1	No	Resident	FW internal; Resident view	Fairer Share
Holiday mode or absence indicators (initial setup)	A, L1	No	Resident	FW internal; Resident view	HEMS vendor
Household tariff and pricing information	D, L4	No	Resident / supplier data	FW internal; Resident view	Fairer Share

4.4 Stage 6 – Post-Deployment Operation

Stage 6 represents the live operational phase of the NZT programme. Its purpose is to support ongoing delivery of affordable, comfortable, and safe energy services while enabling transparency, feedback, and community-level coordination. At this stage, customer interaction, operational performance, and governance oversight all occur in parallel.

To fulfil this role, FW must provide:

- a clear interface through which residents can view information about their energy use, costs, and participation;
- mechanisms for residents to adjust comfort and hot water settings within agreed limits;
- channels for residents to report issues, provide feedback, and signal changes in circumstances;
- routing of customer inputs to authorised operational systems and delivery teams; and
- presentation of aggregated outcomes to governance bodies without exposing household-level data.

FW operates as the primary customer interaction and data exchange layer within the SLES, translating resident intent into controlled system actions and returning understandable outcomes to households. Table 8 outlines a list of all customer data that will be imported, displayed and exported during stage 6 to support these functions.

Note that Fairer Warmth's role in facilitating billing payments, aside from displaying energy bill values and breakdowns, has not yet been confirmed. Current assumptions are that any payment handling would be delivered via an accredited third-party payment service provider. As a result, banking or payment card data is not included in Table 8. Any future inclusion of payment-related customer data would require additional contractual arrangements, explicit customer consent, and compliance with applicable financial and data protection standards, and would be subject to further legal review.

Where residents choose to pause, opt out of, or withdraw from aspects of live operation, FW is expected to capture only the customer-facing status or request needed to route the change to the relevant operational process. Detailed technical decommissioning records are outside the scope of this FW data flow map unless they are imported, displayed or disclosed through FW.

Table 8: Stage 6 Data Items

Customer data item	Cat. / Layer	SC Data	Source	Exposure via FW	Onward disclosure enabled by FW
Ongoing household electricity consumption summaries	E, L5	No	Data Communications Company (DCC)	FW internal; Resident view	Fairer Share – aggregated use;

Customer data item	Cat. / Layer	SC Data	Source	Exposure via FW	Onward disclosure enabled by FW
					BEM/TEM – modelling updates
Derived household energy spend estimates	D, L4	No	Fairer Share	FW internal; Resident view	No onward disclosure
Household carbon impact indicators	F, L6	No	FW analytics (derived)	FW internal; Resident view	No onward disclosure
Current heating setpoints and schedules	A, L1	No	Resident	FW internal; Resident view	HEMS vendor
Current hot water schedules and rules	A, L1	No	Resident	FW internal; Resident view	HEMS vendor
Temporary heating or hot water boost requests	A, L1	No	Resident	FW internal; Resident view	HEMS vendor
Affordability preference updates	A, L1	No	Resident	FW internal; Resident view	Fairer Share
Holiday mode or absence updates	A, L1	No	Resident	FW internal; Resident view	HEMS vendor
Comfort feedback (too hot / too cold)	A, L1	No	Resident	FW internal	LDO – role-based access; LEC operations
Affordability feedback (struggling to afford energy)	A, L1	No	Resident	FW restricted internal	LDO – role-based access; Fairer Share – derived signal
Resident feedback, issue reports, and service requests	A, L1	No	Resident	FW internal	LDO – role-based access
Safety-related alerts linked to household data	A/E, L1/L5	No	FW analytics / HEMS	FW restricted internal	LDO – role-based access
Household participation and engagement indicators	A, L1	No	FW analytics	FW internal	Energy Club – aggregated only

Customer data item	Cat. / Layer	SC Data	Source	Exposure via FW	Onward disclosure enabled by FW
Aggregated household outcome contributions	F, L6	No	FW analytics	FW internal	Energy Club – aggregated only
Aggregated household flexibility availability	F, L6	No	CEMS (derived from HEMS operational data, including asset capabilities, schedules, comfort constraints and availability)	FW internal; DNO admin view	DNO – aggregated only
Household response to flexibility event (e.g. load reduction, shift)	E/F, L5/L6	No	CEMS (from HEMS telemetry)	FW internal; Resident view (summarised)	LDO – role-based access; CEMS records; DNO – aggregated only
Dispatch or control action affecting household assets	A/E, L1/L5	No	CEMS	FW internal; Resident view (explanatory)	HEMS vendor
Aggregated community CO_2 reduction metrics	F, L6	No	FW analytics (derived from household data)	FW internal; Resident view; Energy Club view	Energy Club – aggregated only
Aggregated community participation and performance indicators	F, L6	No	FW analytics	FW internal; Energy Club view	Energy Club – aggregated only
Support interaction and service request logs	A, L1	No	Resident	FW Internal; Resident view	LDO – Role-based access; LEC – Role-based access
Home asset telemetry data	E, L5	No	HEMS	FW internal; Resident view	LDO – Role-based access; LEC – Role-based access
Participation or opt-out status for live FW-enabled services	A, L1	No	Resident	FW internal; Resident view	LDO – Role-based access; LEC – Role-based access

5 Required Agreements and Consents to Support Customer Data Flows

Table 9 below identifies the minimum set of contractual agreements, data sharing arrangements, and customer consents required to support the customer data flows described in Section 4. This table is intended as a practical evidencing tool to support legal review and refinement. It does not constitute a definitive legal position or a complete set of contractual terms. The precise form and content of each agreement will be subject to legal drafting, data protection impact assessment, and ongoing governance review as the FW platform and NZT delivery model evolve.

The stage-based data item analysis in Section 4 shows that, in Stage 3, functionality is limited to engagement, enrolment, and safeguarding. The existing FW platform, developed by the Centre for Energy Equality (CEE), supports the data collection, visibility, and privacy requirements associated with Stage 3.

To support Stages 4-6, a separate operational instance of the platform is proposed that will operate under LEC.

Therefore, any data sharing agreements required beyond Stage 4 are expected to be entered into by LEC, while agreements and consents covering stage 3 will be made with FW (represented by the Centre for Energy Equality).

Each row in Table 9 represents a distinct legal mechanism required to enable specific categories of customer data to be collected, accessed, or shared at different points in the NZT project lifecycle. The table is structured to clearly set out the parties to each agreement, the purpose of the data sharing relationship, the customer data covered, and the stage by which the agreement must be in place, enabling focused legal and governance scrutiny.

Table 9: Required Agreements and Consents to Support Customer Data Flows

Agreement type	Parties to agreement	Purpose of agreement	Customer data covered (high level)	Stage
Privacy notice and early-stage engagement terms	Resident ↔ Fairer Warmth (CEE)	Establish lawful basis for early engagement, registration of interest, and communications prior to formal enrolment	• Identity and contact details (A, L1) • Address and postcode (B, L2) • Indicative energy, property, and affordability information from resident or open data sources (A/B, L1/L2) • Communication preferences and privacy acceptance records (A, L1)	3
Primary NZT participation contract and data sharing agreement	Resident ↔ LEC	Single integrated agreement authorising participation in NZT, defining governance, consent, purpose limitation, and lawful processing of customer data across all NZT subsystems. The agreement must clearly describe how customer data is used within the SLES, how identifiable data is restricted to defined functions, and how data is anonymised or aggregated before any onward sharing with external organisations. It must embed the NZT data governance principles, including purpose limitation, data minimisation, non-extraction, transparency, and resident rights, and set out how consent, withdrawal, access, and deletion requests are handled over the lifecycle of participation.	• Identity, address, and participation records (A, L1; B, L2) • Safeguarding and eligibility data including medical and heat dependency (A, L1) • Smart meter data access consent (A, L1) • HEMS data exchange and bounded control consent (A, L1) • Affordability parameters and tariff information (A/D, L1/L4) • Feedback, issue reports, and service interaction data (A, L1) • Consent for modelling data use (BEM identifiable; TEM anonymised)	4
Smart meter data service agreement	LEC ↔ Data Communications Company (DCC)	Provision of customer-authorised smart meter data to support billing visibility, modelling, and system operation	• Half-hourly electricity consumption data (E, L5) • Meter status, availability, and data quality indicators (E, L5)	5

Agreement type	Parties to agreement	Purpose of agreement	Customer data covered (high level)	Stage
HEMS data sharing and interoperability agreement	LEC ↔ HEMS vendor	Enable exchange of in-home system telemetry and receipt of bounded control requests while preventing secondary or extractive use	• Heating and hot water schedules, setpoints, and rules (A, L1) • Device and system telemetry including temperatures and asset status (E, L5) • Control and dispatch signals affecting household assets (A/E, L1/L5)	5
Operational support data access agreement	LEC ↔ Local Delivery Organisation (LDO) and Energy Champions	Permit role-based access to customer data required for engagement, safeguarding, and operational support activities	• Contact details and addresses (A, L1; B, L2) • Feedback, issue reports, and support requests (A, L1) • Safety-related alerts and limited household context (A/E, L1/L5) • Support interaction logs (A, L1)	4-5
Modelling data sharing agreements (BEM and TEM)	LEC ↔ Buro Happold	Enable building energy and techno-economic modelling using customer data under strict purpose limitation	• Identifiable property and fabric data for BEM only (B, L2; limited A/B, L1/L2) • Anonymised or pseudonymised demand, cost, and performance data for TEM (C, L3)	3-4
Network & Flexibility Data Sharing Agreement	LEC ↔ DNO and Authorised Flexibility Market Participants	Governs the provision of aggregated system data to support network operation, flexibility services and energy market participation in accordance with NZT data governance structures.	• Aggregated community demand and flexibility indicators (F, L6) • Aggregated response metrics (F, L6)	4-5
Local authority data sharing agreement	LEC ↔ Local Authority	Govern provision of anonymised, aggregated data for planning, sequencing and MEL, aligned with NZT governance principles.	• Aggregated community demand and flexibility indicators (F, L6) • Aggregated response metrics (F, L6)	4-5

6 Summary, Implications and Next Steps

6.1 Use of Data Governance Principles as an Assessment Framework

The customer data items identified in Section 4 and the agreements and consents outlined in Section 5 have been reviewed against the NZT data governance principles set out in Section 2.2. These principles have been used as the primary framework for determining what customer data is collected, how it is processed, and where onward disclosure is permitted.

In applying this framework:

- Community Data Sovereignty [**P1**] is reflected by treating all customer-level data as originating from residents, with FW acting as the controlled interface for data provision, visibility, and sharing. Special category data is explicitly identified and constrained to safeguarding and affordability purposes.
- Purpose Limitation and Ethical Use [**P9**] is applied by mapping each data item to a defined stage and function, and by avoiding open-ended or undefined reuse of customer data.
- Data Minimisation and Least Privilege [**P5**] is applied by limiting onward disclosure to what is necessary for delivery, support, modelling, and governance, and by distinguishing between internal use, role-based visibility, and external sharing.
- Transparency and Auditability [**P6**] is addressed by making data visibility and access explicit by role, and by distinguishing between data that is displayed within FW and data that may be accessed or reused outside the platform.
- Non-Extraction and Fairer Share [**P2**, **P3**] is applied by ensuring that customer data is not used to generate private value outside the NZT framework and that derived value is allocated through agreed community mechanisms.
- Safety, Privacy, and Compliance Over Utility [**P4**] is reflected by prioritising safeguarding, vulnerability flags, and safety constraints over optimisation objectives.
- Interoperability and Accountability [**P7**, **P8**] is addressed by identifying where data crosses organisational boundaries and therefore requires formal agreements rather than implicit access.

Together, these principles provide the basis for assessing both the scope of customer data included in this document and the agreements required to support its lawful and proportionate use.

6.2 Implications for Agreements and Data Sharing Agreements

The agreement structure proposed in Section 5 reflects this assessment by:

- consolidating resident-facing permissions into a single primary agreement with FW, rather than multiple fragmented consents;
- clearly separating resident agreements from third-party data sharing agreements;
- explicitly identifying where special category data is involved and where enhanced safeguards are required; and
- sequencing agreements by stage so that data sharing capability is established before operational use begins.

This approach is intended to support legal clarity and accountability, while reducing complexity for residents and delivery partners.

6.3 Implications for FW Platform Development

The analysis of the digital customer journey in Section 4 shows that the existing FW platform can support the data collection, visibility, and privacy requirements associated with Stage 3, where functionality is limited to engagement, enrolment, and safeguarding. To support Stages 4-6, a separate operational instance of the platform is proposed that will operate under LEC. Development of this instance will include:

- implementation of integrations with external subsystems identified in this document;
- enforcement of role-based access controls consistent with the data items and disclosures mapped;
- technical support for the operational data flows defined in Stage 6; and
- execution of the data sharing and processing agreements identified in Section 5, including a licensing and service agreement between CEE and LEC governing platform operation and responsibilities.

7 Document References

Table 10: Documents Referenced

Document REF	Document Title	Description
D1.9b	Governance Framework	Defines the operational governance framework for the NZT SLES, setting out roles, responsibilities, decision-making processes and controls for data sharing, system operation and integration with DSO and local authority functions.
D1.4	System Architecture	Defines how SLES subsystems and external actors interface and connect within the NZT programme.

Note, for any documents that are not publicly available, please reach out to the project team for further detail.