SELCO Foundation

2025

Asset Handover for Renewable Energy Infrastructure in Health-Energy Programs

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Executive Summary

Against the backdrop of growing climate threats and widening healthcare gaps, there is an urgent need to reimagine how public health systems can be made more resilient, equitable, and sustainable. Reliable energy access is a critical enabler in this transformation - not just as an infrastructure input, but as a foundational lever for achieving universal health coverage and climate resilience.

In response to this challenge, SELCO Foundation, in collaboration with national and state health departments, embarked on a large-scale initiative to demonstrate that decentralised renewable energy (DRE) can strengthen public health systems under the Energy for Health (E4H) program.

Over the past two years, this effort has spanned 12 states in India and supported 8000+ health facilities, while sharing actionable insights and models with stakeholders across 10 countries.

From the outset of this initiative, SELCO recognised that **long-term sustainability of energy-health systems hinges on robust, locally appropriate operations and maintenance (O&M) frameworks.**

Beyond just ensuring system performance, well-designed O&M models create the foundation for institutional adoption, behavioural change, and financial planning - enabling a virtuous cycle of scale and replication. By anchoring good practices in real-world implementation, the initiative aims to shape scalable, climate-aligned pathways for resilient health service delivery.

This brief serves as a guideline on asset handover under SELCO Foundation's E4H program. Asset handover is integral to ensuring long term sustainability of assets procured and installed under the program – having an effect on the achievement of mid-term and long-term program outcomes. Given that the E4H program aims to harness clean energy solutions to strengthen primary healthcare delivery, it is necessary to consider handover to the respective State Health Departments in a manner that accounts for handover at all levels of governance.

Glossary

Definitions

Asset: Tangible items such as equipment, tools, materials, or infrastructure (e.g., solar PV systems, batteries, inverters, Luminaries, Fans, MedTech Equipment).

Asset Register: To record and track long-term, non-consumable items (assets) that are owned by the Government Health Department (State level/District level/DH/SDH/CHC/PHC/SC). It records durable items (e.g., equipment, furniture, vehicles, computers, solar systems, etc.). In Health department it is also called with other names like “Fixed Asset Register” or “Dead Stock Register”.

Asset Handover: The process of handing over the components of the solar systems to the health facility, and health department at the district and state level to ensure ownership and accountability. This involves asset verification, identification of right stakeholders to manage the assets, and entry of assets in government databases.

Abbreviations

AMC	Annual Maintenance Contract
CDMO	Chief District Medical Officer
CHC	Community Health Centre
CMO	Chief Medical Officer
DH	District Hospital
DHO	District Health Officer
DM&HO	District Medical and Health Officer
DRE	Decentralized Renewable Energy
E4H	Energy for Health
HWC	Health and Wellness Centre
NHM	National Health Mission
O&M	Operation and Maintenance
PHC	Primary Health Centre
PoC	Point of Contact
SC	Sub-Centre
SDH	Sub-District Hospital
QC	Quality Control

Why is Asset Handover necessary?

Asset handover processes are essential for ensuring smooth transitions when transferring responsibility for assets between government departments, organisations or individuals and allowing for human capacity and financial allocations for ensuing long term workability of solutions. This transfer of ownership to the right entity results in long term maintenance of systems. Effective asset handover is crucial for a number of reasons:

Clarifies Ownership and Responsibility: Asset handover formally assigns responsibility to the State Health Department, reducing ambiguity and ensuring the appropriate agency is accountable for asset upkeep.

Enables Structured O&M Systems: It lays the foundation for setting up O&M mechanisms—such as issue reporting, escalation, and resolution protocols—within the existing health infrastructure. Handover allows the Health Department to plan for human resources and ongoing support needs, ensuring assets remain functional long after donor involvement ends.

Supports Financial Planning for O&M: Once ownership is transferred, Health Departments can plan and allocate budgets at state, district, and facility levels specifically for operations and maintenance at the State, District, and health facility levels (SC/HWC/PHC/CHC/SDH/DH, etc.) to address operation and maintenance issues.

Allows for Systematic Monitoring and Verification: Handover enables departments to track and certify the presence and working condition of assets through periodic assessments.

Integrates Assets into Government Frameworks: It ensures solar and energy-efficient systems are incorporated into official asset registers – both online and offline, making them part of routine government maintenance and planning cycles.

What gets handed over?

Asset handover involves **providing details of the solar system,** including details on each of the components as a letter to the health facility. It includes the **manufacturer's details, model numbers, warranty period, and vendors to reach out to** when there are issues.

The letter to the health facility details the components, specifications and quantity, with the date of handover. At the district and state level, a consolidated list for all facilities is provided, along with vendor details. The letter explicitly mentions the responsibility of the state/district for any maintenance related issues, including fund allocation for repairs.

Documents to Support Asset Handover

A standardized check list for asset handover ensures that all stakeholders involved in the programme have complete knowledge of the systems installed at the health facilities as well as the vendors who are responsible for carrying out the maintenance. This list of documents will allow relevant stakeholders to not rely on the implementing agency and have holistic information on the programme.

Essential List of Documents

- Asset Handover Letter
- Warranty documents for applicable components
- User manuals, certificates, and installation reports
- AMC/O&M agreement copies (if applicable)
- Operation & Maintenance Manual: User guide for operating and maintaining the asset
- Vendor Contact Details: For O&M or warranty-related support
- Designated Facility Staff (If applicable/ Requested): Person responsible for daily use and basic upkeep of the asset
- O&M Escalation Matrix (If applicable): Contact list for issues unresolved at the facility level
- List of Spares/Consumables: If provided under asset handover (e.g., spare fuses, cleaning kits, etc.)

Desirable List of Documents/Shared If Requested

- Testing and Commissioning Reports: Results from system performance tests (e.g., load tests, voltage output)
- As-built Drawings (if applicable): For electrical layout, system design, panel positioning, etc.
- Third-party Inspection Report (if applicable): From independent technical auditors or quality inspectors
- Photographic Evidence: Before-and-after photos, geotagged images of installed assets
- Work Order / Contract Copy: For cross-verification of scope, specifications, and deliverables
- Completion Certificate: Issued by Vender/ QC Team/Tech Team acknowledging project completion (If applicable)

What is the right time to handover assets?

The **asset handover of the solar system** should be conducted **after successful installation, testing, and verification of system functionality,** and once documentation and stakeholder coordination are complete.

State	District	Facility
Asset Handover Letter Asset List	Asset Handover Letter Asset List	Installation Report Asser Handover Letter Warranty Certficate

The Process of Asset Handover in India's Health Sector

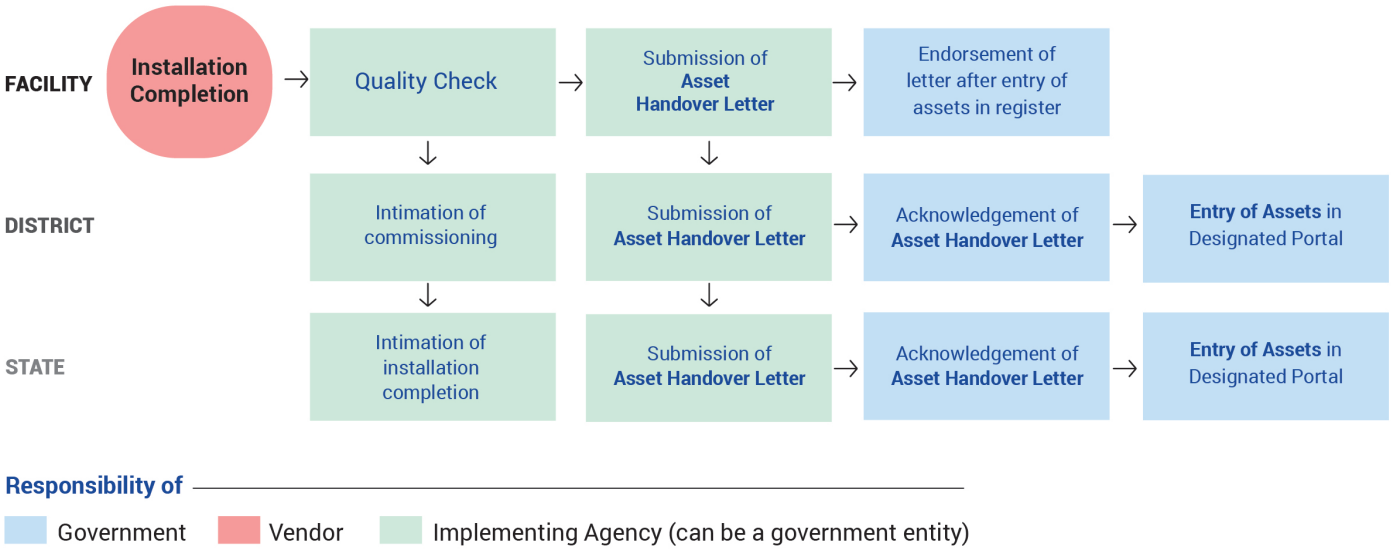
This is based on SELCO Foundation's experience through the E4H program.

At the facility level, the assets must be entered in the asset register/dead stock register, with a designated person responsible to carrying out the maintenance. This allows the department to conduct audits of the assets and inspect its functioning status.

At the district level, the assets are handed over to the DHO/CMO/CDMO/DM&HO and is entered in the district-level asset register. This allows the district to take ownership of the assets at the health facility and consider the requests from the facility for fund allocation for repairs.

At the state level, the assets are handed over to the State NHM or the State Health Society, that documents these assets for audits and budget allocation. The asset handover to the state also establishes the relationship between the state department and the vendor providing services for maintenance.

The following flowchart indicates the flow of information as well as the process for handover at different levels – facility, district and state. Ownership at each of these levels allows for leveraging necessary funds for maintenance, which results in service continuity at the last mile.



Checks Prior to Solar Asset

A set of checks must be carried out to ensure that the handover process is not haphazard or delayed.

Installation & Commissioning

- Solar DRE system is fully installed at the health facility.
- System commissioning is completed, and all components (panels, inverters, batteries, wiring, etc.) are tested and verified to be working as per design specifications.

Functionality Verification

- Performance checks (e.g., load testing, battery charging/discharging, inverter performance) are successfully conducted.
- Health facility staff are trained in basic operation and troubleshooting (by vendor/QC team).

Monitoring System Is Active (if applicable)

- Remote monitoring systems or data loggers (if part of the system) are activated and functional.

Documentation Is Complete

- Handover letter is prepared, listing:
  - Equipment details (make, model, capacity, serial numbers)
  - Warranty information
  - Service provider/O&M contact details
  - Responsibilities of each party

The asset handover process must be carried out within a defined timeline. It is preferred that the handover takes place within 2-4 weeks of successful commissioning, and delays beyond warranty initiation periods must be avoided. For the same, it is essential to inform and involve state and district officials, health facility in-charges and relevant O&M partners.

Planning for a Successful Asset Handover Process

A successful handover process necessitates activities before the actual handover, during the process, and after the handover is completed. A handover is complete only when the assets have been handed over at all levels of governance and the actual users are capacitated to utilise the asset sustainably.

Pre-handover activities

Communication to Staff: Staff at the health facility witness the installation of energy systems at the health facility. The vendor team interacts closely with the health staff during this time. Hence, it is essential for the district level authorities to send communication to all the health facilities in advance intimating them of the proposed project as well as the steps that will be followed for handing over the assets to the facility. While seeking permissions for installations, it should be clearly intimated to the State health officials that the handover process will be conducted, including the submission of the installation completion report, the asset handover report signed at the facility level, along with a preliminary communication on post-handover integration of assets into existing systems.

Training of Vendors: Working with diverse sets of vendors for a program necessitates training sessions with vendors which focus on disseminating the importance of handing over the assets to the government in a prescribed manner. During the training, the emphasis must be on clear communication with the health staff regarding the system and the process for final handover.

In addition, the vendors must be trained on providing the complete handover document, which includes – warranty cards, date for the scheduled maintenance and the list of components installed at the facility. As vendors often come from private sector backgrounds and may not fully comprehend government asset management requirements, bureaucratic processes, or the importance of proper documentation for audit and accountability purposes, these trainings must emphasize on specific formats essential for government operations. Training helps vendors understand their role in the broader ecosystem - not just as installers, but as key players in transferring long-term responsibility to government systems.

Handover Format for Vendors

The format for asset handover requires standardization when multiple vendors are involved and the assets must be streamlined within the government system. Standardized formats ensure that health facility staff, District Health Officers, and State Health Mission personnel can quickly locate essential information like warranty details, component specifications, and maintenance contacts regardless of which vendor installed the system. Consistent documentation enables them to identify common maintenance needs, track warranty periods across facilities, and plan procurement of spare parts or replacement components systematically. The formats must be finalised in consultation with the relevant departments and disseminated with the vendor teams before installation begins.

Activities during handover

Verification of assets: During the handover phase, a systematic process is followed to ensure transparency, accountability, and awareness among all stakeholders. The first key activity is the verification of the installed solar assets. A technical or quality control (QC) team must conduct a physical verification of the system to confirm that all components are present, correctly installed, and functioning as per the intended design. This includes testing the solar panels, inverters, batteries, and associated load systems. This activity includes confirming that the staff are aware of the escalation matrix for O&M issues and ensuring that contact details for maintenance support are displayed prominently near the system (e.g., inside the battery room).

Demonstration of equipment functionality: Following verification, a demonstration is provided to the health facility staff. This involves walking them through the working of the solar energy system, including basic operations, safety instructions, and minor troubleshooting steps. This engagement ensures that users have firsthand understanding of how to operate and benefit from the system.

Signing the asset handover letter: Once the system is verified and demonstrated, the asset handover letter is signed. This letter outlines the components installed, their specifications, and assigns formal responsibility to the health facility. The letter is signed in duplicate - one copy is retained by the implementing agency (e.g., SELCO Foundation or a partner) or the vendor and the other by the health facility or district authority. This documentation becomes the official record of the handover and helps in streamlining further maintenance and support processes.

Post-handover activities

Integrating assets into existing systems: After the physical handover, the focus shifts to integrating the newly installed solar assets into existing government asset management systems at all relevant levels-facility, district, and state. This includes entering the asset details into both physical registers (e.g., Dead Stock Register) and digital databases maintained by the Health Department. The state teams often facilitate this by following up at the facility level, collecting photographic evidence of the installed systems, and obtaining acknowledgements for both asset receipt and registration.

Institutional follow ups: Regular monitoring is also planned as part of post-handover protocol. Ideally, a check should be conducted at least once a year to assess asset performance, verify system health, and identify any maintenance needs. This can be conducted telephonically by a customer relationship management (CRM) team, by personnel playing similar roles from the vendor's side.

Common Pitfalls and Mitigation Strategies

While processes for handover are standardised with clear formats for documents, there continue to be common pitfalls encountered during the asset handover process. This section delves into some of the common challenges and suggests mitigation strategies.

Pitfall	Mitigation Strategy
Incomplete Documentation • Missing or inaccurate asset details, test certificates, warranty cards, or operation manuals. • Lack of standardized documentation formats across vendors or districts.	Emphasize on documentation during vendor trainings and disseminate standardized formats. Implement digital asset management and incidence management systems for managing solar systems.
Poor Coordination Resulting in Limited Accountability • Miscommunication between the installation team and the health facility leads to confusion or delays. Due to lack of communication, stakeholders at different levels are lack clarity of their roles in the asset handover process resulting in poor accountability.	Have clear communication regarding handover with the designated PoC during the initial conversations. This ensures that the process of asset handover is followed as a step post installation. Through communication with stakeholders at the state and district level, the health staff are informed about the asset handover process and their role in maintenance.
Delayed or Partial Handover • Assets are handed over before full functionality is demonstrated. • Some components (like battery banks, inverters, spares, separate load wiring) may arrive or be installed later, leading to fragmented ownership. • Informal/partial handover without the required documentation results in limited accountability.	Installation completion report must be signed and submitted when the full functionality is checked by the staff of the health facility. In addition, a top-down approach to handover, where the assets are recorded at the state, district and the facility level will ensure that communication is streamlined and a complete handover takes place.

Pitfall	Mitigation Strategy
Integration Gaps • New assets (e.g., solar systems) are not integrated into the facility's routine operations, monitoring, or reporting systems.	 The top-down approach to handover must ensure that the assets are recorded in the official registers and digital databases, which necessitate annual audits for performance and regular monitoring. Through stakeholder interactions and trainings, it is necessary to indicate the approach towards maintenance with quality programme must conduct a well-rounded training for O&M, which must include a module on perception building to ensure that the staff at the facility understand the need of solar systems and utilise it as the primary source of energy for effective service delivery.
Unclear responsibility • Post-handover, health facilities contact the PoC from the implementing agency when they face issues related to the system.	 Training of staff must include the escalation matrix with contact details of the designated entity who will handle O&M calls. These details must also be pasted near the system (preferably in the battery room) for ease of access.

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For more information, get in touch!

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