Ukraine Shelter Cluster

Winterization Recommendations 2025-2026

UKRAINE SHELTER CLUSTER
Coordinating Humanitarian Shelter and Settlements

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Version 1.2

1 Contents

2 Acknowledgement

This standard operating procedure (SOP) is the result of the work of the Ukraine Shelter Cluster's Technical Working Group (TWiG) on Winterization 2025-2026.

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Medair	UNICEF
ACTED	Save the Children
Protection Cluster	FAO
Solidarités International	People in Need

Special contribution from:

Right to Protection	CCCM Cluster
UNHCR	ZOA
Caritas Ukraine	ERC
DRC	TGH

3 Context

It is estimated that since February 2022, close to 2.5 million housing units have been damaged, with over one-fourth of the damaged units being destroyed, while three-fourths are partially damaged. In the housing sector, there has been a 13% increase in the cost of damage since the RDNA4 was released. Beyond official estimates, the first half of 2025 witnessed the most significant damage to housing in the country's east, south, and northern regions, further deteriorating the situation and increasing the number of people displaced from their homes and in need of thermally insulated shelter. Furthermore, the security situation in Donetska and Kharkivska Oblasts has deteriorated, with evacuations being declared since August 2024. In Sumska Oblast, the number of evacuated persons since the beginning of 2025 has also increased.

The upcoming winter of 2025–2026 will be detrimental to various groups of people, including internally displaced persons (IDPs), those not displaced in war-affected areas, returnees, and host communities. Despite the launch of Resolution #930 in September 2023 and the significant work of shelter partners to equip and thermally insulate collective sites, the increased number of displaced persons and re-damage to collective sites that were already rehabilitated continue to make the repair and rehabilitation of collective sites a vital life-saving intervention.

Additionally, IDPs are frequently housed in privately rented substandard houses that, like most of the housing in Ukraine, may lack adequate insulation. Returning and non-displaced individuals also face similar insulation challenges in their homes, and the situation is worsened by war-related damages such as leaking roofs, broken windows, and damaged perimeter walls, which compromise the thermal integrity of the houses. This is particularly relevant to the areas within or close to the front line. However, even in larger cities, targeted attacks on energy infrastructure will result in increased power outages and reduced heating capacity.

Disruptions to centralized and electric heating systems, particularly in urban areas, have had a profound impact on the affected populations. District heating networks remain highly vulnerable – a single damaged facility can interrupt services for entire neighbourhoods. Even when infrastructure is technically operational, heating often remains economically inaccessible due to rising tariffs, irregular income, and depleted savings. Based on operational experience from 2024 to 2025, solid fuel continued to serve as a critical fallback solution across both rural and urban contexts. In-kind distributions frequently proved more effective in remote or frontline communities when regulated fuel markets were not functioning, access was restricted, or regular suppliers refused to deliver. Where market conditions allow, cash assistance is the preferred modality, as it enables a more effective, dignified, and context-adapted response by empowering beneficiaries to manage their heating-related priorities directly. To support appropriate use, cash must be accompanied by IEC materials that guide beneficiaries on, for example, optimal quantities and the proper use of firewood.

Given the consistent wintertime targeting of Ukraine’s energy infrastructure and the recurring inoperability of heating systems during the coldest months, solid fuel and stoves (including fittings and installation equipment) must be prioritized, irrespective of ongoing price fluctuations.

Damage or lack of maintenance has affected the heating systems in collective sites and individual houses and apartments. In many cases, these systems – including water heaters, electricity grids, gas and hot water pipelines, internal pipes, radiators, and stoves – must be reactivated, repaired, or replaced. Portable heating appliances should be provided in cases where the heating system is dysfunctional or cannot be restored before the upcoming winter season.

Lessons learned from 2024–2025[1] also highlighted the importance of pre-positioning heating appliances and solid fuel in advance of peak winter months, ensuring that procurement and last-mile delivery are not delayed by poor road access. Special attention should be given to female-headed households and elderly individuals, many of whom are unable to physically unload, store, or process large firewood deliveries.

In addition to addressing heating issues, essential household items such as warm winter clothing, thermal underwear, thermal blankets, and quilts are needed for displaced individuals, returnees, and all those affected by the war who have lost their belongings, lack access to markets, or cannot afford to purchase essential winter items. While many have been provided with these items in the previous year, the Shelter Cluster recognizes that daily shelling incidents continue to occur, in addition to the newly evacuated persons. These individuals may require such items, and interventions should be based on a sex- and age-disaggregated household needs assessment, according to the vulnerability criteria outlined in the Shelter Cluster 2025 Activities Handbook. These provisions can be made either in-kind or through cash/voucher assistance, specifically for winter preparations.

Assistance was guided by the principle of deduplication, where partners were encouraged to confirm whether beneficiaries were already receiving state subsidies and assess whether the amount received was sufficient to meet their needs. The Shelter Cluster has consistently worked to minimize duplication in winter activities both within and between clusters through traditional coordination mechanisms. Accurate and timely reporting by partners into the RAIS+ platform is crucial for enabling cross-checking and ensuring harmonized coverage.

In light of the evolving context and based on operational lessons from the 2024–2025 winter season, the Shelter and NFI Cluster has adjusted its planning assumptions and priorities for the 2025–2026 winterization response. Key programming directions reflect the need for early preparedness, stronger coordination with governmental actors, improved targeting and deduplication mechanisms, and diversified delivery modalities tailored to market constraints, infrastructure damage, and household vulnerability. This includes a stronger emphasis on remote and newly affected areas, early procurement and pre-positioning, reinforced information sharing on energy-efficient practices, and closer linkages between in-kind and cash-based interventions.

Contextual risks, such as energy infrastructure disruptions, fluctuating fuel markets, and recurring displacement, should be explicitly factored into winterization planning. This includes pre-positioning in high-risk areas, contingency planning for shifts between cash and in-kind modalities, and ensuring flexibility to adapt to changing market conditions.

[1] Shelter Cluster Lessons Learned for Winterization 2024-2025

4 Cluster HNRP Objective Two

For the Humanitarian Needs and Response Plan (HNRP) 2025, the Shelter Cluster has dedicated a single objective solely to Winterization:

"Cluster Objective 2 is to deliver life-saving emergency shelter and NFI assistance, mitigating the impacts of harsh winter weather for internally displaced people, and non-displaced war-affected people, ensuring their safety and dignity with a focus on areas with high severity levels." [2]

5 Winter Objectives

Although there are dedicated winter activities, other regular cluster activities can also contribute to resilience against winter. Therefore, in this document, activities are categorized according to the three following winter objectives (WO) to clarify their winter purposes.

Winter Objective 1: **Personal Insulation**
Maintaining core body temperature through various personal non-food items, including winter clothing, NFI for winter, etc.

Winter Objective 2: **Winter Heating**
To raise and maintain core body temperature. The heating type varies by building type and location, including those using natural gas, centralized heating, electric heaters, liquefied gas, and solid fuel. Understanding the type of heating and related expenditure (utilities or solid fuel) by location, household, and market assessment is vital for identifying the most appropriate modality of assistance.

Winter Objective 3: **Shelter Insulation**
To protect from the weather elements and provide essential insulation (shelter should have at least one warm room and, depending on the number of inhabitants, heated sleeping spaces). Interventions can also aim to seal the house's thermal envelope in winter and improve substandard housing to enhance insulation and heating efficiency.

[2] Please see the Shelter Cluster chapter in HNRP 2025.

6 Activity Reports

6.1 Winter Duration

The duration of one winter season refers to the six-month period from October 16th until April 15th each year. The winter reporting period lasts from the beginning of October to the end of April.

6.2 Reporting Mechanism

The mechanism for coordination, deduplication, and reporting will be the following:

- Coordination at the hub level will take place through communication in the agreed-upon planning process for all winter activities.
- Beneficiary information must be logged in **RAIS+** to allow for deduplication between both cash and in-kind forms of assistance for the planned activity.
- Partners are expected to analyze the results of the deduplication in RAIS+ and confirm the final list of eligible recipients.
- Final reporting of the activity must be submitted via **ActivityInfo** at the national level.

Table 1 - Reporting

WO	Activity	Status	Ideal implementation timeline	When to report as a completed activity	Deduplication
WO1: **Personal Insulation**	1. Winter Clothing	Specific Winter activity	From August to October, prepare pre-identified households for winter. From October to March, to support newly displaced or evacuated persons, or the most recent victims of shelling, with basic items for maintaining core body temperature	Following the distribution and reconciliation of beneficiary lists, the deadline for the entire winterization and winter period is April reporting, which will take place at the beginning of May.	RAIS+
	2. NFI for Winter	Specific Winter activity	From August to October, prepare pre-identified households for winter. From October to March, to support newly displaced or evacuated persons or recent victims of shelling with the most basic items for maintaining core body temperature	Following the distribution and reconciliation of beneficiary lists, the deadline for the entire winterization and winter period April reporting will take place at the beginning of May.	RAIS+
	3. NFI for Households	Regular or Emergency Response Programming	Shelling victims were informed through a SADDD-based household needs assessment, based on vulnerability criteria, in the Shelter Cluster Activities Handbook for newly displaced or evacuated persons.	Following the distribution and reconciliation of beneficiary lists, this activity can be reported ideally in the month following the distribution – it won't be tagged as a winterization activity outright.	RAIS+
	4. NFIs for Collective Sites	Regular programming	Due to accommodating newly displaced persons who may arrive in winter or at any other time of the year.	Following the donation at the mentioned collective site	Shelter CCCM Cluster Deduplication Tool at CC level, donations in RAIS+

WO	Activity	Status	Ideal implementation timeline	When to report as a completed activity	Deduplication
WO2: **Winter Heating**	1. Winter Energy	Specific Winter Activity	August to October to prepare pre-identified households for winter, with the latest distributions occurring in November	At the subnational level, once the initial distribution is complete. For ActivityInfo, pay close attention to the distribution date, which should align with the actual distribution date. The deadline for reporting to ActivityInfo is January, with reporting to be completed in February. Fuel distributed from March onward could be considered a failure to meet the winter energy needs of the season and may be excluded from the Cluster's reporting.	RAIS+
	2. Winter Cash for Utilities	Specific Winter Activity	October to April to prepare pre-identified (August – September) households for winter	April reporting during the month of May Reporting to be done according to the actual disbursement date, included in seasonal reporting. Cash assistance for utilities should be disbursed no later than the end of March, with reporting finalized in April.	RAIS+
	3. Heating Appliances	Specific Winter Activity	August to October to prepare pre-identified households for winter, with the latest distributions taking place in November.	For ActivityInfo, please note that the activity date aligns with the actual date of finalization for the installation or distribution. The recommended deadline for reporting to ActivityInfo is January, with reporting to be completed in February.	RAIS+

WO	Activity	Status	Ideal implementation timeline	When to report as a completed activity	Deduplication
	4. Winter heating, materials, and fuel in collective sites	Specific Winter Programming	August to October to pre-identify and prioritize collective sites	Following the completion of the distribution	Joint Shelter and CCCM Cluster Database, RAIS+ donations category
WO3: **Shelter Insulation**	1. Insulation of Substandard Houses	Specific Winter activity	Year-round (May-May)	For ActivityInfo, this activity is ideally reported in the month following the completion of the works.	SIDAR (under development)
	2. Category I Repairs (Light and Medium) of war-damaged housing to close the thermal envelope	Regular Programming	Year-round	For SIDAR, as soon as the address is enrolled in agency programming (see the SOP on emergency response for guidance on enrolment), upon completion of works, complete the checklist in SIDAR and ensure that the thermal envelope is checked for all works that complete that standard. For ActivityInfo RMM, the month after the completion of the works	SIDAR
	3. Refurbishment of Collective Sites	Regular Programming	Year-round	Before commencing the work, inform the subnational coordinator and the CCCM Cluster which collective sites have been selected for repair. For ActivityInfo, reporting on the completion of works is ideally done in the month following the completion of repairs.	SIDAR (under development)

7 Winter Response Strategy

7.1 Modalities of Assistance

For winterization 2025-2026, the Shelter Cluster is building on its experiences from the previous winter season to determine which modalities are appropriate where and for whom.

Cash is one of several modalities through which Shelter objectives can be achieved and shall be recommended as the preferred response option whenever feasible and aligning with beneficiary choice. However, regardless of the modality selected, cash-based or in-kind, responsible programming requires evidence, tools, guidance, and operational capacity to achieve shelter outcomes (refer to the Shelter Cluster's 2025 Activities Handbook and this technical guidance). Humanitarian organizations should ensure that the modality is assessed, utilized, and monitored effectively, and remain flexible to switch to alternative modalities if needed. This provides greater assurance that the activity has the desired outcome.

Depending on the context, please refer to the recommendations in the following ground rules:

- Please see the modality section per activity in the Shelter Cluster 2025 Activities Handbook or Activity Matrix 2025.
- Please use the Joint Shelter Cluster Post-Distribution Monitoring Tool for evidence-based insights on the effectiveness of the implementation of Winter Energy (SN201B) activity.
- It is crucial to always consult the relevant Hub (subnational) Shelter Cluster Coordinator before planning the intervention to receive the best possible advice regarding the modality of response. For contact information of the Hub coordinators, please visit the Shelter Cluster Website.

- Partners are encouraged to use the JMMI dashboard to analyze market functionality. The dashboard is updated monthly.
- Vulnerabilities and capacities are household-specific. Select modalities based on household vulnerability status (e.g., older persons and persons with disabilities), access to markets, access to banking services (e.g., digital or mobile cash transfers), and the capacity of the market to supply quality items at the correct scale and time.
- Humanitarian actors should conduct independent needs and market assessments and coordinate closely with other actors and local authorities.
- **Cash** is the preferred modality when local markets are functional and accessible, and when the targeted population has the capacity to access and use them effectively. It provides recipients with flexibility and choice, while also stimulating the local economy, among other benefits.
- In areas where markets are unavailable, lack capacity, and the target population cannot access markets elsewhere or belongs to vulnerable categories unable to access markets, **in-kind** assistance is recommended. These areas are primarily located around the frontline oblasts.
- Thus, partners are encouraged to establish predefined "switch triggers" for shifting from cash to in-kind (or vice versa) if market functionality, accessibility, or security conditions change significantly during implementation.

7.2 E-learning Materials

The free Ukrainian-language online course "Winter Preparation and Energy Conservation" was created by Shelter Cluster Ukraine in collaboration with UNHCR and is available on the Prometheus platform. It offers practical, low-cost tools to help war-affected households prepare their homes for winter, retain heat, reduce energy consumption, and improve indoor comfort. This course is a valuable resource for beneficiaries as they plan for the winter season, especially in areas with limited access to heating solutions or construction support.

Partners are encouraged to inform affected households and local authorities about the course and promote its use as part of winter preparedness efforts.

7.3 Cold Spot Analysis 2025/26

The key findings of REACH are as follows:

- The Cold Spot Index (CSI)[3] for winter 2025/26, identified Kharkivskyi and Bohodukhivskyi (Kharkivska oblast), Sumskyi, Shostkynskyi (Sumska oblast), and Kramatorskyi (Donetska)[4], as the raions with the highest winter-related risks due to a combination of severe winter conditions, high levels of vulnerability (significant presence of internally displaced persons (IDPs) and elderly populations), and significant war-related damage.
- War-related damage has significantly impacted Ukraine's energy generation and distribution infrastructure, exacerbating the population's vulnerability to winter conditions through frequent power outages, disrupting essential services like heating and water supply. The winterization response should remain flexible and adaptable to address the potential further degradation of the energy infrastructure.

[3] Cold Spot Risk Assessment Winterization 2025/2026 (REACH)

[4] Several frontline hromadas were not included in the Cold Spot Index Analysis.

7.4 Targeting, Prioritization, and Vulnerabilities

Before starting any activity, partners should ensure that Shelter Cluster Activities Handbook recommendations have been addressed. The Handbook chapter "Targeting, Prioritization and Vulnerabilities," together with "Preconditions" and "Activity-specific vulnerabilities" sections for each activity, provides instructions that help to reach and assess the most vulnerable households and individuals. When prioritizing one area over another, Shelter Cluster strongly recommends coordinating with Shelter Cluster sub-national coordinators and engaging with the affected community and local authorities.

Following Ministry of Reintegration Order No. 376 dated 28.02.2025, nine oblasts were identified as priorities for assistance with solid fuel: Dnipropetrovska, Donetska, Zaporizka, Kharkivska, Luhanska, Mykolaivska, Khersonska, Sumska, and Chernihivska oblasts.

Consistent with the role of complementarity with the State's initiatives, the focus of shelter and NFI humanitarian agencies' winterization programs should be all families who:

Table 2 - Beneficiary selection

1.	**In general, they will have their winterization needs unmet because:**
•	they do not have the capacity
•	not receiving winterization-related state support (state subsidies or other winterization programs)
	and, at the same time,
	and more specifically
2.	**live in the areas identified as priority areas for winterization assistance:**

Shelter Cluster plans in HNRP 2025 focus primarily on areas known as the Crescent[5] zone, which is highly targeted by the continuous Russian attacks. The Crescent currently includes areas in Southern, Northern, and Eastern oblasts and prioritization inside this zone is for:

- areas where displaced households remain in collective sites due to a lack of access to adequate housing alternatives.
- areas with difficult access to services and markets.
- frontline and isolated areas.
- areas with a concentration of damaged houses and apartments.
- areas receiving significant numbers of evacuated populations, where winterization support is necessary to mitigate secondary displacement and avoid creating pull factors.

Or,

Apart from the risk of sudden aerial Russian attacks on civilian infrastructure, the Central oblasts are not as critical as the Crescent zone. Activity prioritization should be considered in case of an emergency crisis for:

- areas where collective sites are still used as a temporary shelter solution in response to sudden displacement.
- areas with a high concentration of IDPs renting accommodation or being hosted.

and, at the same time,

3.	**belong to one of the prioritized target groups:**
•	displaced families (including those in collective sites).

[5] **The crescent:** As of July 2025, this term pertains to the regions, or oblasts, where the front line of the ongoing war passes through directly. As of now, this includes Kharkivska, Dnipropetrovska, Sumska, Khersonska, Zaporizka, and Donetska, where the front line lies within the borders of these oblasts. Additionally, Chernihivska oblast is included, as the front line aligns along the border with the Russian Federation in this area.

- non-displaced war-affected people and returnees in damaged houses.
- displaced, non-displaced, and returnee families in substandard houses.
- displaced, hosting, non-displaced, and returnee families are not able to pay utility bills or need solid fuel assistance.

and, at the same time,

4. **belong to one or more of the vulnerability groups.** Please use Chapter 5 and the related annexes in the 2025 Activities Handbook to identify the most vulnerable people:

- Persons with Disabilities or Injury.
- Persons with Chronic Illness or Serious Medical Conditions.
- Older Persons: Individuals aged 60 years and above.
- Women and Girls at Risk: Including single female-headed households, women caregivers, pregnant or lactating women, adolescent or unaccompanied girls, survivors or those at risk of gender-based violence, trafficking, or exploitation, and women with compounded vulnerabilities (e.g. disability, age, no support system, or belonging to a minority group).
- Members of Minority Groups: Including Roma, Crimean Tatars, stateless persons, individuals with undetermined nationality, and LGBTIQ+ persons.
- Children at Risk: Including unaccompanied or orphaned children, those separated from parents, families with children living at the frontline*, children in state care, or living in overcrowded or unsafe conditions, and LGBTIQ+ children/adolescents etc.
- Families with children under three years old.
- Families with three or more children (under 18 or 23 years if they are studying).
- Foster families.
- People Facing Severe Socio-Economic Hardship: Including unemployed individuals (particularly aged 40–60), families who lost their primary income earner due to conflict (death, injury, disappearance), those without access to social protection, and persons unable to meet basic needs such as food, shelter, clothing, heating, or medical care. This also includes people living in substandard housing at risk of displacement and lacking insulation.

These vulnerability criteria are informed by the Protection Cluster's guidance "Protecting and Prioritizing People with Specific Needs in the Ukrainian Humanitarian Response", which offers a comprehensive framework for identifying households with heightened risks and unmet needs. They may be adapted (through the addition, modification, or removal of specific elements) in line with each partner organization's internal policies, mandates, and donor requirements.
For example, consistent with its mandate, *UNICEF intends to apply the criterion "children and / or families with children" along the front line during the upcoming winter season.

Nonetheless, given the evolving context, partners should equally implement periodic re-verification of vulnerability status during the winter project cycle to identify newly vulnerable households and adapt targeting accordingly.

8 Winterization Objective One:

Personal insulation - maintaining core body temperature

The feasibility of local markets must be systematically assessed to inform the appropriate modality for winterization NFI support, whether in-kind or cash-based assistance. This approach not only ensures responsiveness to evolving market dynamics but also upholds the preferences of affected populations regarding how they receive help.

Considering the extensive distribution of NFI kits during the initial 3.5 years of the response, the Shelter Cluster emphasizes the importance of conducting market functionality and household-level needs assessments disaggregated by sex, age, and disability. Such assessments ensure that winterization assistance is evidence-based, tailored to actual needs, and delivered in a manner that promotes dignity and efficiency.

Items referenced in sections 8.1 and 8.2 should not be treated, procured, or reported as a fixed kit. For the 2025–2026 winterization season, it is anticipated that the primary recipients of these items will be individuals who have been recently displaced, evacuated, or affected by shelling. In such contexts, it is strongly encouraged to tailor assistance to the actual needs of each household, thereby avoiding the provision of unnecessary items and the accumulation of solid waste in areas with already constrained waste management services.

Partners are advised to use the RAIS+ deduplication and reporting tools to ensure that distributions of non-food items are appropriately contextualized and aligned with the specific needs of each beneficiary.

Quality Control for In-Kind Assistance

Each participating organization is mandated to adhere to its internal quality control procedures, encompassing various dimensions of aid provision. This comprehensive approach not only upholds the dignity of beneficiaries but also fosters their well-being while maintaining harmony with aid efforts from other organizations. To reinforce this commitment, the cluster technical coordination serves as a resource for partners who require additional guidance or direction. This collaborative framework reinforces the seamless coordination and delivery of aid, affirming the cluster's overarching goal of providing effective and dignified support to those in need.

About Reference Costs in This Document

All prices indicated in the document are in U.S. dollars, inclusive of VAT with exception of the winter energy and utilities activities. Please ensure that you consider the exchange rate when reviewing the costs.

The recommended prices provided by the Shelter Cluster are intended as general guidelines and are subject to fluctuations influenced by inflation and market dynamics. These prices are designed to provide partners with a general idea of the price range for their winter planning calculations. It is essential to note that larger organizations often engage in bulk purchases from international suppliers under pre-negotiated contracts, which can result in more favorable pricing.

Note: The Shelter Cluster's approach to winter-related non-food items (NFI) builds on the same harmonization principles as for other activities but avoids the use of fixed kits. Items should be selected based on assessed household needs:

- On one side, the Cluster acknowledges the different capacities, approaches, and strategies that different partners have in this response, which will necessarily result in differences in the composition of the winterization NFI they will choose to distribute.
- On the other side, the Cluster promotes the harmonization of the response as a way to make sure that (a) winterization assistance received by anyone in need is complete, sufficient, and up to the agreed standards and (b) social cohesion: minimize the risk that differences in type and amount of assistance received by communities living in similar contexts but covered by different agencies lead to tensions with beneficiaries, authorities, donors, etc.

If necessary, partners are expected to coordinate with the relevant sub-national Shelter Cluster Coordinator to achieve a degree of flexibility in designing their response, including the possibility of adding winterization items to the list recommended in this document, based on their strategy, assessment, and capacity and with a needs-driven, context-tailored approach; they will be requested to comply with the principles of harmonized assistance mentioned above.

8.1 NFI for Winter (SN202A)

This activity supports the provision of individual non-food items for winter preparedness, aimed at ensuring thermal comfort and dignity during the cold season. Typical items include:

Table 3 – NFIs for winter

NFIs for Winter* Composition and indicative prices 2025-2026			
Item	**Cost**	**Item**	**Cost**
Mattress	23 USD	Power bank	20 USD
Sleeping bag	17 USD	Thermos flask	17 USD
High thermal blanket	17 USD	Portable stove + dry fuel (or candles)**	17 USD
Rescue foil blanket[6]	5 USD	Battery-powered flashlight	25 USD

*Quantity of each item is 1 piece for 1 person

**Or portable single-burner gas cooking stove using gas cylinders (butane or propane-butane gas)

Please see the pictures (examples) of recommended items in Annex 16.1.

When market conditions and beneficiary profiles permit, distributing cash or vouchers is recommended to provide beneficiaries with greater freedom of choice and stimulate local economies. However, in-kind distribution remains highly valuable and is prioritized in locations where markets are non-functional or inaccessible, particularly in frontline and border areas.

In 2024–2025, winter NFIs were frequently delivered to war-affected households in high-risk zones where displacement, repeated shocks, and disrupted markets made local procurement unfeasible. Replenishment was often required due to the loss or deterioration of existing items and a lack of access to suitable goods.

[6] Items like rescue blankets should be accompanied by a user manual that clearly explains how to use them for the intended beneficiaries.

Recommendations for partners:

- Conduct market functionality and household-level assessments to determine actual NFI needs, using sex-, age-, and disability-disaggregated data (SADDD).
- Distribute only relevant and prioritized items based on assessed household gaps. Avoid pre-packaged kits unless their contents are locally validated.
- Use RAIS+ to verify prior assistance and avoid duplication.
- Avoid stock-driven or partial distributions that do not fully address winter needs.

8.2 Winter Clothing (SN202B)

(Distribution of warm clothes to increase individual thermal comfort)

The Shelter Cluster anticipates that, since winterization clothing was distributed to war-affected populations, including displaced persons and residents of frontline or border areas, in the first 2.5 years of the crisis, the primary persons needing this assistance will be newly displaced and evacuated individuals, as well as new victims of shelling. The selection of persons for this type of assistance should be informed by a household needs assessment based on the vulnerability criteria found in the Shelter Cluster 2025 Activities Handbook. The specificity of this activity regarding sizes, gender, and personal preferences suggests considering the feasibility of conducting it preferably via cash or voucher modality.

Table 4 - Winter clothing set

Winter Clothing set* Composition and indicative prices 2025-2026					
Item	**Cost**		**Item**	**Cost**	
for children					
Winter jacket	52.0	USD	Winter hat	7.0	USD
Winter boots	40.0	USD	Winter scarf	7.0	USD
Thick socks	3.5	USD	Thermal underwear	14.0	USD
for adults					
Winter jacket	86.0	USD	Winter hat	7.0	USD
Winter boots (for older persons - Velcro shoes)	90.0	USD	Winter scarf	7.0	USD
Thick socks	3.5	USD	Thermal underwear	23.0	USD

*A one-person set is indicated.

Items listed in this section are not to be considered, procured, or reported as pre-packaged kits. Instead, partners are encouraged to tailor distributions based on assessed household or individual needs. At the same time, the Shelter/NFI Cluster does not recommend partial or symbolic assistance – that is, distributions should aim to fully address the identified needs of each household member, rather than being limited by the available warehouse stock.

This approach promotes dignity, relevance, and efficient resource use, while also reducing the risk of unmet essential needs and unnecessary accumulation of unused items.

9 Winterization Objective Two:

Winter Heating: Raising and Maintaining Core Body Temperature

9.1 Winter Heating Appliances (SN201C)

(Distribution of heaters to increase living spaces' thermal comfort)

Home heating appliances include solid fuel stoves, electric heaters, gas heaters, and other heating appliances[7]:

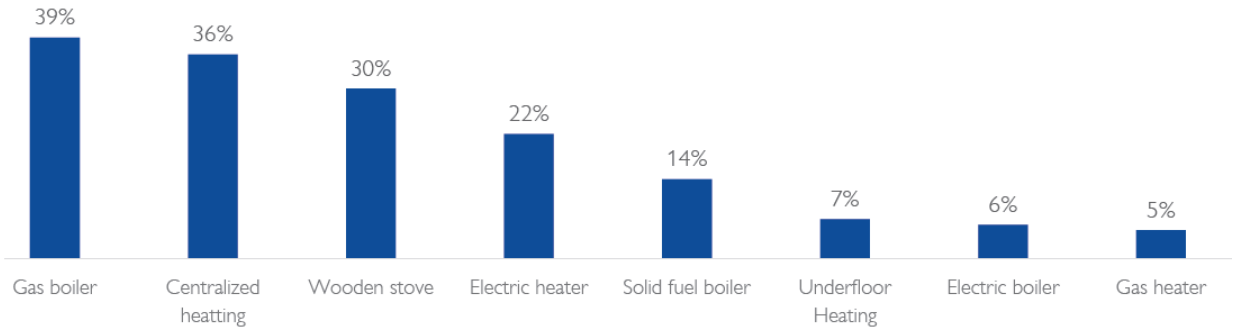


Figure 1 - Proportion of individuals reporting heating types available in their current residence

Urban areas predominantly use centralized heating (86%), while rural areas rely more on wood-burning stoves (63%) and gas boilers (45%).
Frontline communities show relatively high usage of centralized heating (40%) but lower access to modern heating alternatives.

Solid fuel heaters

Due to electric outages, Shelter Cluster will prioritize solid fuel heaters (instead of electric ones) this winter season. Solid fuel stoves are energy-efficient and economical, making them a viable option during power outages and gas disruptions. This type of appliance requires regular manual loading of firewood, which can be labor-intensive and challenging for older persons or individuals with limited mobility, especially women. A dry location for storing solid fuel is also required. These appliances are less safe than other options because of the risk of fire, the risk of Carbon Monoxide (CO) poisoning (see Annex 16.2), and the risk to child safety.

> **Note:** The Shelter Cluster recommends providing solid fuel stoves as a kit, complete with accessories and installation services.
>
> Stove heating is permitted in residential buildings with no more than two floors, excluding basements[8], due to safety concerns associated with storing solid fuel, among other factors.

[7] Winterization in Ukraine: housing, utilities, mobility, and needs. IOM DTM. December 2024
[8] Table P.1 of Annex T in DBN V.2.5-67:2013 "Heating, ventilation and air conditioning"

Table 5 - Solid fuel heater kit

Solid fuel heater - Home kit Recommended quantities (per household) and indicative prices 2025-2026				
Item	**Qty**	**Unit cost**	**Subtotal**	**Specifications**
OPTION 1 Solid fuel heater - Burzhuika stove	1 pc	230-460* USD	230-460 USD	Material: cast iron or steel. Heating area = up to 35 m^2 Applicable solid fuel: firewood and briquettes (not coal-based)
OPTION 2 Solid fuel heater - Buleryan stove	1 pc	460 USD	460 USD	Material: steel (classic). Heating area = 40 m^2 Some types have a cooking surface. Applicable solid fuel: firewood and briquettes. **For coal or coal-based briquettes, the stove could require a special design and furnace material**
Chimney with accessories	1 set	290 USD	290** USD	Double-walled pipe in galvanized steel casing (diameter 120***/180 mm, thickness – 0.5/0.55 mm). Material: main pipe - stainless steel (e.g., AISI 304). Casing - galvanized steel. Thermal insulation: basalt fiber/wool. Length of the vertical chimney – min 5 m ([9]). For all accessories, see Annex 16.3. **Important: The use of stainless-steel chimneys for coal-burning stoves is not permitted[10].**
Stainless steel sheet	1 pc	23 USD	23 USD	1,18m x 0.85m x 0.5mm With crimped or hemmed edges (prefabricated or custom-made)
Basalt heat-insulating cardboard	1 pc	21.8 USD	21.8 USD	Size: 1180x850 mm (1 sheet) 10 mm thickness
Foiled polyethylene foam canvas	4 m^2	6.3 USD	25.2 USD	Reflector for internal wall and/or ceiling. 8 mm thickness (+screws +batons)
Windows acrylic sealant	3 pcs	3.5 USD	10.5 USD	300 ml tube with operating temperature range: -20 °C...+75 °C
CO detector	1 pc	46 USD	46 USD	Portable CO detector with instructions for use
TOTAL FOR OPTION 1**			**876.5**	**USD**

*A specific type of Burzhuika is suitable for enclosed spaces and can be used for cooking. We recommend these for smaller enclosed housing units. The latest reported price is around $230. The $460 Burzhuika is more suitable for larger areas and open spaces.
**Without installation (labor) cost.

[9] Section 6.8.11 DBN V.2.5-67:2013 "Heating, ventilation and air conditioning"
[10] Section 6.8.12 DBN V.2.5-67:2013 "Heating, ventilation and air conditioning"

***Depends on the type of stove. See section 6.8.9 DBN V.2.5-67:2013 "Heating, ventilation and air conditioning" for recommendations on chimney diameter selection based on stove heat power (kW).
****The cost of the solid fuel heater was assumed to be USD 460.

As per the past years' experience with winterization support, the provision of solid fuel stoves, like the locally manufactured *Burzhuika*[11] or the popular product *Buleryan (a type of Burzhuika)*— proves to be an adequate response in case of disruption of gas and electricity supplies, as is often the case in the aftermath of damage to civilian infrastructure.

The distribution of solid fuel heaters should be limited to areas where the purchase and delivery of coal, firewood, pellets, and other similar solid fuels are feasible and practical. They should always be complemented by providing the recommended amount of solid fuel.

Electric heaters are safe and easy to use, making them a preferable option to solid fuel heaters, especially for older persons and persons with disabilities. Please note that one downside of this type of heating appliance is the potential for **power outages during the winter**.

Table 6 - Electric heater kit

Electric heater - Home kit Recommended quantities (per household) and indicative prices 2025-2026				
Item	**Qty**	**Unit cost**	**Subtotal**	**Specifications**
Electric heater convector or Oil-filled radiator	1 pc	115 USD	115 USD	Power: max 1.5 kW **Heating area = 15 m²** Wall-mounted and self-standing. Option A: convector with steel or ceramic surface **Or** Option B: Oil-filled radiator
Thermal fuse (cut-off)	1 pc	3.5 USD	10.5 USD	16A. Option
Cable	5 m	1.0 USD	5.0 USD	5 meters of cable (3 x 2.5 mm)
Foamed polyethylene canvas with a foil film	10 m²	3.5 USD	35.0 USD	Reflector. Thickness: 4 mm (min)
Mounting foam	1 pc	8.4 USD	8.4 USD	750 ml tube
Windows acrylic sealant	3 pcs	3.5 USD	10.5 USD	300 ml tube operating temperature range: -20 °C / +75 °C
		TOTAL	**184.4 USD**	

However, as highlighted by local administrations during coordination meetings, humanitarian agencies planning large-scale distribution of electric heaters in multi-apartment buildings must ensure that the building's electrical capacity is technically assessed in advance. Upgrading internal wiring or increasing load capacity may be costly and time-consuming; therefore, the recommendation is to adhere to the Shelter Cluster principle of targeted winterization assistance, based on feasibility and safety.

[11] For instructions and the safety manual, please refer to the safety manual prepared by PIN via this LINK.

LPG (liquefied propane-butane gas) heater kits are considered an effective alternative to electric and solid fuel heating options.

There are two main types of gas heaters: open-type and closed-type. Open-type gas heaters have an exposed flame and draw air from the surrounding environment, making them less safe for indoor use due to potential Carbon Monoxide buildup. Catalytic heaters are a safer version of open-type heaters. For open-type heaters, adequate natural or mechanical ventilation of the rooms is required, with additional CO control in the heated space. When distributing gas heaters and gas cylinders, agencies should include CO detectors and IEC materials to inform householders about the need for ventilation.

Closed-type gas heaters have a sealed combustion chamber and vent exhaust gases outside (chimney), making them safer and more efficient for indoor heating.

Important[12]:

- Shelter Cluster recommends LPG heaters **only for private (detached) houses**, given the limitations of existing regulations due to the strict storage standards for gas cylinders and installation of gas-using equipment.
- The installation of gas cylinders in living rooms **is not permitted**. Exceptions can only be made on a case-by-case basis, subject to appropriate technical justification and compliance with all safety standards.
- Gas cylinders must be stored in rooms with proper ventilation and an alarm system that warns of dangerous gas concentrations.
- Cylinders are subject to periodic technical inspection to ensure their safety. Cylinders with corrosive gases (such as butane-propane and propane-butane) are inspected at least once every two years.

Table 7 - Gas heater kit

Gas heater – Home kit Recommended quantities (per household) and indicative prices 2025-2026				
Item	**Qty**	**Unit cost**	**Subtotal**	**Specifications**
Autonomous catalytic **open-type** gas heater	1 pc	109.5 USD	109.5 USD	Maximum power: 4.2 kW Minimum power: 1.7 kW Gas type: liquefied butane-propane or propane-butane. Gas consumption at maximum power: 0.305 kg/h. Heating area = 40 m^2 Built-in gas control system
Gas reducer	1 pc	11.5 USD	11.5 USD	The reducer connects gas appliances, heaters, and stoves. Its outlet gas pressure can be manually adjusted from 22 to 70 bar. Gas inlet pressure: 0.3 - 7.5 bar.

[12] See sections 9 and 12 of DBN B.2.5-20:2018 "Gas supply (with amendment #1)"

Gas heater – Home kit Recommended quantities (per household) and indicative prices 2025-2026						
Item	**Qty**	**Unit cost**		**Subtotal**		**Specifications**
						The kit includes a wrench for installing and removing the gearbox.
Gas cylinder	2 pcs	63.4	USD	126.8	USD	Volume: 27 liters with a valve and the possibility of connecting a reducer. Material: steel
Worm-drive clamp, perforated W1	6 pcs	1.27	USD	7.62	USD	Material: rubber Diameter: ½ inch
Gasket	6 pcs	0.12	USD	0.72	USD	Material: rubber Diameter: ½ inch
Gas rubber hose	1 pc	1.75	USD	1.75	USD	Length: 2 meters Material: rubber Diameter: ½ inch
CO detector	1 pc	46.0	USD	46.0	USD	Portable CO detector with IEC materials
Basalt heat-insulating cardboard with foil	1 pc	26.0	USD	26.0	USD	Size: 1180x850 mm (1 sheet). 5 mm thickness
		TOTAL		**330.0**	**USD**	

The distributing partner must ensure that the client is aware of and instructed on how to safely use the gas heater kit, including its limitations, operating procedures, and refueling instructions. Refueling services should be provided to people with disabilities, older persons, and those who are not capable of doing it on their own. Before distributing gas heater kits, it is recommended to check the availability of gas stations in the area of intervention or other gas providers.

9.2 Winter Energy (SN201B)

(Distribution of heating sources: solid fuel and liquefied gas)

The provision of winter energy assistance through solid fuel (firewood, coal, briquettes, or pellets) and liquefied gas remains a critical component of the Shelter Cluster's seasonal response, particularly in rural and conflict-affected areas where centralized heating infrastructure is absent or non-functional. Solid fuel is often the only viable and sustainable heating source for vulnerable households living in damaged or poorly insulated homes. At the same time, it presents distinct technical, logistical, and protection-related challenges that must be addressed through context-specific planning, clear operational guidance, and strong coordination with Cluster coordinators and local authorities. The current chapter outlines key considerations for activity implementation, including modality selection, accountability requirements, and coordination mechanisms.

Wherever feasible and contextually appropriate, cash-based assistance for the purchase of solid fuel should be prioritized as the preferred modality. Cash enables greater beneficiary choice, supports local markets, and can reduce logistical constraints when markets are functional and accessible. However, its effectiveness depends on the availability of solid fuel at reasonable prices, the safety and reliability of supply chains, and beneficiaries' ability to access vendors.

To ensure eligibility for tax exemption and to demonstrate the purposeful use of funds, households are expected to provide including vendor-issued receipts, bank/mobile money transaction confirmations, distribution records, home visit verification forms and other relevant supporting documentation. In addition to verifying expenditure, partners should monitor whether assistance was sufficient to maintain adequate indoor warmth. This can be measured through indoor temperature checks, self-reported comfort levels, and tracking changes in fuel consumption. This approach strengthens program accountability and ensures alignment with regulatory requirements.

In contexts where markets are disrupted, inaccessible, or unable to supply sufficient quantities of solid fuel in a timely manner, in-kind distribution may be considered as an alternative option. Decisions on modality must be grounded in a market assessment and coordinated with local authorities, ensuring responsiveness to regional dynamics and household-specific vulnerabilities.

Shelter Cluster partners are strongly encouraged to engage proactively with Oblast administrations and relevant government actors to clarify procurement roles, monitor regional availability, and coordinate delivery timelines. Hub Coordinators will facilitate these discussions to promote coherent planning and avoid duplication. Please note that market conditions, stock levels, and pricing may fluctuate significantly by oblast and throughout the winter season.

Note: The Shelter Cluster strongly recommends:

- Partners to arrange solid fuel delivery directly to beneficiaries' homes.
- Combining the activity "Insulation of Substandard Houses" with «Winter Energy» for a greater impact.

9.2.1 Reference amount of heat required for the heating of a household:

According to Resolution 1169, "On providing additional support to the population for the purchase of solid fuel during the heating season" (October 15, 2024), the minimum amount of heat for one winter season for one household is **14,367,096 kcal (14.37 Gcal)**. *"One winter season"* refers to the duration of the heating season, a six-month period from October 16 to April 15.

Note: The Shelter Cluster calculation is based on the pre-calculated minimum amount of heat. There are more ways to calculate the actual amount of heat required for individual households, which would involve providing a context-specific amount of heating based on the household's needs. As an example, the partners can focus on the housing type, size of the living rooms, the number of household members in the house, and the ability of the house to heat only a small area suitable for critical functionalities (cooking, sleeping, etc.), in addition to the type of energy-efficient windows and doors, ceiling/attic insulation, etc. Furthermore, for households that have not performed any repairs, the model should consider potential heating losses if the thermal envelope is not sealed.

The table "Heating sources" compares the costs of different heating sources; its purpose is to provide guidance when choosing the type of intervention. The suggested quantity refers to the minimal quantity necessary for each source type to produce 14.37 gigacalories (Gcal) for the heating of the average household.

Among solid biofuels, bark-free wood has one of the lowest ash contents, whereas agricultural biofuels typically have high ash contents. Using solid fuels with low ash fusion temperatures increases the risk of ash slag being formed on the grate. Fusion slag disrupts the combustion process by altering primary air flows and favoring the overheating of the grate, as well as corrosive phenomena.

9.2.2 Calculation of solid fuel reference amount:

Table 8, "Heating sources," contains a **precalculated reference** amount of high-quality solid fuel. The approach for calculating the amount of solid fuel for **your particular case** is the following:

1) Check the supplier certificate (test report) for information on the working (lower) mass of solid fuel. Not applicable for firewood.

If the certificate is not provided, request that the supplier provide valid information on the type of solid fuel (including firewood species and type, coal type, etc.) and its moisture content. Refer to the "Criteria for Quality Assessment" for instructions on determining the moisture content. By using these and other parameters, you can identify the working (lower) volumetric calorific value. For instructions, see Annex 16.4.

2) Based on the recommended amount of heat (14.37 Gcal), calculate the reference amount of solid fuel for one winter season. For example:

$$Amount\ of\ firewood\ (m^3) = \frac{Amount\ of\ heat\ for\ the\ season\ (Gcal)}{Working\ (lower)\ volumetric\ calorific\ value\ \left(\frac{Gcal}{m^3}\right)}$$

Before making any calculations, make sure that the correct units of measurement are being used.

If relevant, use the precalculated working volumetric calorific values from the table in Annex 16.4.

3) For firewood, the calculated amount is presented in cubic meters. Virtually all suppliers measure firewood in stacked m^3 or loose m^3. To simplify the approach, Shelter Cluster recommends partners use an average conversion factor. The formula for the conversion from **stacked cubic meters to** solid (dense) cubic meters is as follows:

$$Amount\ of\ firewood\ (solid\ m^3) = Quantity\ of\ firewood\ in\ stacked\ m^3 \times 0.7$$

The formula for the conversion from **loose cubic meters** to solid (dense) cubic meters is as follows:

$$Amount\ of\ firewood\ (solid\ m^3) = Quantity\ of\ firewood\ in\ loose\ m^3 \times 0.5$$

Accordingly, to determine the volume in stacked or loose cubic meters, the inverse of the conversion factor must be applied. For more details, see Annex 16.5.

Table 8 - Heating sources

Heating sources - Equivalence table Quantities for one household for one **winter season (6 months)** and indicative prices* 2025-2026								
Heat amount for the winter season:	**Type**	**Lower (working) calorific value**	**Reference amount**		**Unit price** (UAH)	**Unit price** (USD)	**Tot cost** (USD/ season)	**Notes**
			Unit	**Qty****				
14.37 Gcal	**Firewood**	2.73 Gcal/m^3	m^3 / stacked m^3 ***	5.26 / **7.51**	- / **3,290**	- / **79.5**	- / **596.3**	**Hardwood species** (in this case, oak) are chopped into logs****. Wood moisture content is 20%. Generally, Burzhuika or Buleryan stoves are used.
	Briquettes	4.18 Gcal/ton	MT (metric ton)	3.44	8,900	214.5	**738**	High-quality wood briquettes, group I DSTU 8358:2015 (in this case, RUF type). The fragility of the briquettes should be taken into account during transportation and loading/unloading. Easier to handle than firewood. **Special stoves are required for coal briquettes.**
	Pellets	4.18 Gcal/ton	MT	3.44	9,065	218.5	**752**	High-quality wood pellets, group I (in this case, oak-based). **Requires a special stove or loading device for the existing stove.**
	Coal	5.7 Gcal/ton	MT	2.52	13,325	321	**808.9**	High-quality coal (in this case, gas coal grade "H"). Total moisture – 14%. **Requires special stoves**.
	LPG	-	L	483.00	35	0.83	**400.9**	Liquefied propane-butane gas.

*Unit price DOES NOT include the transportation cost and unloading.
Quantity depends on a particular fuel type's calorific value and quality. Generally, the calorific value per unit is **listed on the certificate (test report).
***The conversion factor of stacked wood to solid content was assumed to be 0.7. **Stacked m^3 = m^3 / 0.7.** For the details of the approach, see Annex 16.5.
****In this table, the calculation focuses on the chopped wood, as most of the assistance is provided in chopped form. For information about round logs VS chopped logs, please refer to the State Agency "Forest Resources of Ukraine" website. LINK

Unified cash for solid fuel transfer value is UAH 19,400* (including transportation cost) for one winter (6 months)

*The firewood was taken as the most commonly used type of solid fuel in Ukraine, considering the social cohesion aspects and alignment beyond humanitarian assistance.

9.2.3 Quality control of solid fuel

To ensure proper quality, firewood, briquettes, pellets, and coal must be sourced from suppliers who have been certified. It is important that these materials are accompanied by a certificate (test report) from the supplier, whether it is a state forestry enterprise or a private organization.

Note: The Shelter Cluster strongly recommends that the following standards guide the distribution and quality control of solid fuel:

Firewood:

- DSTU EN 15234-5:2018 (EN 15234-5:2012, IDT) "Solid biofuels – Fuel quality assurance – Part 5: Firewood for non-industrial use"
- TU U 16.1-00994207-005:2018 "Firewood. Classification, accounting, technical requirements"

Briquettes (wood):

- DSTU 8358:2015 "Fuel briquettes and pellets from wood raw materials. Technical specifications."

Pellets (wood):

- DSTU EN 15234-2:2013 (EN 15234-2:2012, IDT) "Solid biofuels – Fuel quality assurance – Part 2: Wood pellets for non-industrial use" or ISO 17225-2 "Solid biofuels – Fuel specifications and classes. Part 2: Graded wood pellets."

Coal:

- DSTU 7146:2010 "Bituminous coal and anthracite for domestic use. Technical conditions."

9.2.4 Criteria for quality assessment

Calorific value: Please ensure that the supplier provides you with the appropriate certificate/test report (not applicable for the firewood), which contains information on the calorific value determined in accordance with DSTU ISO 1928:2006.

Moisture Content: For optimal burning efficiency, firewood should have a moisture content of 25% or less. Test method: Use a moisture meter to check the moisture content. The probe should be inserted into the log at various points to get an average reading.

Dimensions: Logs and chopped wood should conform to standard dimensions or the specification in the contract (if in-kind modality).

Defects: Firewood should be free from excessive rot, mold, and insect infestation. Visual inspection is used to check for visual signs of defects.

9.2.5 Verification of the legality of the firewood origin

There are numerous cases where some suppliers engage in illegal and uncontrolled logging for the sake of excessive profits. Therefore, partners should ensure that their contracted suppliers use wood of legal origin.

For this purpose, it is recommended to check whether the supplier has TTN-lis (for logs) and 1-TN (for chopped firewood) consignment notes, guaranteeing that the timber is harvested in compliance with environmental and legal standards. Templates of consignment notes are presented HERE. The video instruction for using the service to verify the legality of wood origin is available on the website of the State Enterprise "Forestry Innovation and Analytical Center" at the LINK.

TTN-lis (as well as a photo of the cargo) is stored in an open electronic database and, among other things, confirms the volume of wood (logs) in the consignment. 1-TNs does not have an electronic version and does not confirm the volume of wood (chopped firewood) in the consignment. However, in this case, it is possible to request a TTN-lis from the supplier, according to which the supplier purchased the logs before chopping.

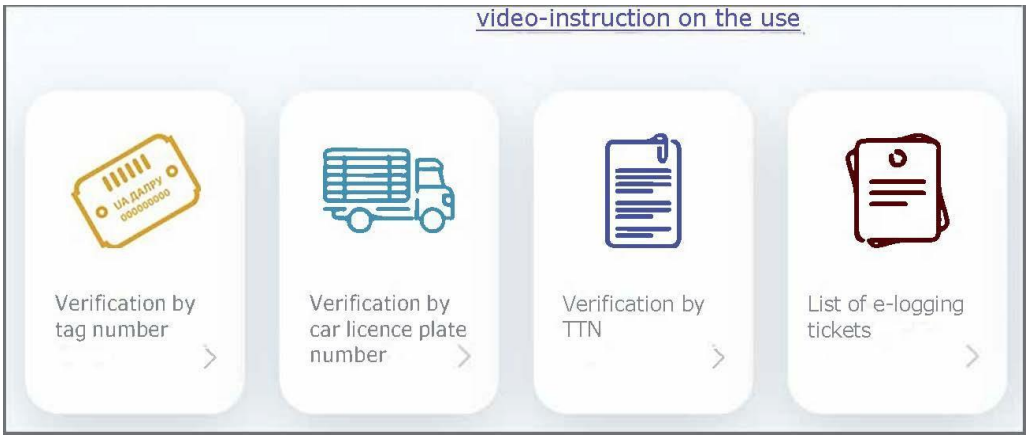


Figure 2 – Electronic database interface

The availability of a special permit for the use of forest resources (e-logging ticket) for a particular forestry enterprise can be checked by the LINK.

9.2.6 Delivery and packaging

Delivery schedules should include advance notice to beneficiaries, allowing for proper preparation for unloading and storage, especially during adverse weather conditions.

When selecting the packaging modality for firewood distributions, it is essential to ensure consistency (e.g., big bags or crates/pallets) across locations to avoid perceptions of inequality and minimize tension or stress within the affected communities.

To address recurring discrepancies in the actual quantity of delivered solid fuel due to differences between **stacked** and **loose firewood measurements** (**see Annex 16.5**), the following guidance is provided:

1) For in-kind modality:

- Partners shall procure, where possible, the **stacked firewood** (in crates / on pallets) to ensure consistency in volume measurement and delivery verification.
- Tender documentation must clearly specify **packaging requirements**, i.e., firewood must be delivered **pre-stacked** on pallets or in crates.
- Prior to contracting, a basic **capacity check of suppliers and logistics partners** should be conducted to verify their ability to deliver pre-stacked firewood at scale.

Figure 3 – The firewood stacked in the crate (on a pallet)

2) For cash modality:

When assistance is provided via cash or voucher, the following recommendations should be communicated to beneficiaries:

- **Inform on estimation algorithms**: Beneficiaries should be referred to a reliable method for calculating firewood needs based on:
  - Required energy output for winter (14.37 Gcal per household).
  - Type of wood species.
  - Moisture content, and
  - Combustion efficiency.

  For the calculation of the solid fuel amount for firewood and briquettes/pellets/coal, see Annex 16.6.
- **Clarify firewood volume types**: Suppliers frequently advertise prices per 1 m^3 without specifying the unit (loose or stacked). Beneficiaries must be informed that **loose firewood** delivered in a truck's body or trailer can result in receiving less volume than **the calculated stacked m^3 volume, as determined** by the formula (see Annex 16.5).
- **Highlight volume differences**:
  Beneficiaries should be informed about:
  - The difference between **stacked vs. loose** firewood (common in private suppliers' settings).
  - The difference between **stacked vs. solid/dense volume** (common in state forestry enterprises).
  - Risks of under-delivery due to a lack of standard packaging (in crates / on pallets).
- Partners should also consider conducting randomized quality checks of fuel purchased by beneficiaries to ensure it meets minimum efficiency and safety standards.

A **free online course** providing practical guidance for households is available at:
👉 https://prometheus.org.ua/prometheus-free/winter-energy-saving/

9.2.7 Recommendations on storage

Proper storage of firewood is essential to ensure it remains dry and ready for use. Firewood should be stacked off the ground on pallets or a similar base to prevent moisture absorption from the soil. It's essential to cover the top of the stack with a tarp or roof, while leaving the sides exposed to ensure adequate air circulation. The firewood should be stored in a well-ventilated area, away from residential buildings, to minimize the risk of pest infestations and fire hazards.
Moreover:

- Firewood dries significantly faster when stored in sunny positions, especially if split and without bark. In such conditions, drying can be completed in less than six months.
- Firewood stored in shaded areas is prone to fungal infestation and retains high moisture content (over 35%) even after one year.
- Weather exposure, especially in uncovered piles, has a significant impact. During rainy seasons, the moisture content increased to over 40%.

Figure 4 – The most highly recommended method of storing and drying firewood

9.3 Winter Cash for Utilities (SN201A)

This activity provides financial support to help cover heating utility bills during the winter season for vulnerable households living in dwellings with utility-based heating systems. It is particularly relevant in urban areas in multi-apartment buildings, where centralized/district heating[13], individual gas boilers or electric systems are the primary heating sources[14].

In private (detached) houses, especially in peri-urban or semi-rural areas, natural gas remains a common primary heating source. However, some may retain solid fuel stoves as a reserve (backup) or secondary option.

To ensure eligibility for tax exemption and to demonstrate the purposeful use of funds, households are expected to provide utility payment receipts, utility company confirmation, digital payment trace, meter reading records or other relevant supporting documentation. In addition to verifying expenditure, partners should monitor whether assistance was sufficient to maintain adequate indoor warmth. This can be measured through indoor temperature checks, self-reported comfort levels, and tracking changes in utility consumption. This approach strengthens program accountability and ensures alignment with regulatory requirements.

In some cases, the households are dealing with utility debts from the previous year. In highly vulnerable situations, Shelter Cluster recommends covering the debts as part of this activity.

The indicative seasonal consumption volumes and average prices for different utility-based heating types are summarized in the table below.

Table 9 - Heating utility bills

Heating utility bills Quantities for one household for one season and indicative prices 2025-2026*				
Type	**Reference amount**		**Unit price** (USD)	**Notes**
	Unit	**Qty[15]**		
Centralized/ district heating	Gcal	8.27	42.86	UAH 1,800 per 1 Gcal[16]. For multi-apartment buildings.
Natural gas	m^3	1,960[17]	0.20	UAH 8.34 per 1 m^3 of natural gas
Electricity[18]	kWh	6,480	0.06	UAH 2.64 per 1 kWh (for consumption up to 2,000 kWh/month) for: 1) Electricity as a primary heating source (buildings with electric heating systems[19]).

[13] Law on Heat Supply
[14] A limited number of low-rise multi-apartment buildings (2–3 storeys) may still rely on solid fuel as a primary heating source. In such cases, this activity does not refer to centralized boiler-room heating, but rather to individual stoves or furnaces operated at the residential unit level.
[15] For electric and centralized heating, amounts are based on the social norms for heating in Resolution 409, dated August 2014, and humanitarian living area standards (36 m^2).
[16] https://index.minfin.com.ua/ua/tariff/heating/
[17] Based on the natural gas calorific value and the amount of heat needed for one winter season (14.37 Gcal).
[18] Prices based on the approach of Resolution No. 483 dated June 2019 (adjustment in Resolution 1479 dated December 2024) for the last winter season. Fixed prices by the end of October 2025.
[19] List of heating systems here:
https://www.ez.rv.ua/docs/public/Dodatok_do_Protokolu_Alhorytm_dii_dlia_pobutovykh_spozhyvachiv.pdf

Heating utility bills Quantities for one household for one season and indicative prices 2025-2026*				
Type	**Reference amount**		**Unit price** (USD)	**Notes**
	Unit	**Qty**[15]		
				2) Electricity as a reserve heating source (mobile electric heaters) when the primary source (e.g., centralized heating) is dysfunctional.

While the reference values in Table 9 reflect the estimated seasonal costs for each utility type, the final transfer value for this activity was recommended through a harmonization process conducted by the TWiG. The outcome of this process, summarized below, establishes a unified transfer amount to be applied across both Winter Cash for Utilities and Winter Energy activities.

Unified cash for utilities (heating) transfer value is UAH 19,400 for one winter (6 months)

The outcome of this harmonization reflects the collective decision of partners through the TWiG voting process – please refer to Annex 16.7 for the Summary Voting Report. A detailed overview of the pros and cons of the harmonization approach is provided in Section 9.4, "Interlinkage of Activities," to support evidence-based implementation.

9.4 Interlinkage of Activities

In response to the challenges faced by households during the winter months, the following interlinked activities have been established to provide targeted support for winterization needs:

- Cash modality of the Winter Energy: Provided to households to cover the cost of solid fuels required for heating during the winter months.
- Winter Cash for Utilities (heating): Provided to assist households with their winter utility expenses: natural gas, electricity, or centralized heating bills.

Important:

- The abovementioned initiatives are specifically developed to address winter heating requirements. Cash for winter energy and cash for utilities (heating) activities require an assessment of households' fuel/energy types, needs, and confirmation of the availability of solid fuels in the local market.
- These activities are designed as targeted interventions to address specific winter heating needs. While not intended to cover broader sector-specific or multi-sectoral needs, it can be complemented by other forms of assistance, including Multi-Purpose Cash Assistance (MPCA), which focuses on covering basic needs.
- While the purpose of activities remains the same, the TWiG recommended the harmonization of transfer values for the 2025-26 winter season – **UAH 19,400 for each activity.**
- Each household may receive only **one type of support** – either Cash for Winter Energy, Winter Cash for Utilities (heating), or in-kind solid fuel assistance. This is to ensure that **a single heating need is not covered more than once** through different modalities.

While most partners participating in the TWiG expressed support for the adoption of harmonized transfer values, the Shelter Cluster maintains a cautious position on this approach. From both a technical and strategic standpoint, the Cluster has identified several important risks and limitations associated with harmonization that warrant careful consideration.

In the interest of transparency and to support informed, evidence-based programming, the Cluster has prepared the following summary of potential advantages and challenges related to this transition. It is intended to assist partners, donors, and local authorities in assessing the implications of harmonization on targeting efficiency, household coverage, and overall accountability.

Pros of harmonized transfer value:

- **Ensures fairness:** A single value minimizes social tension and discrepancies among beneficiaries.
- **Supports flexibility:** Allows households to decide how to cover their heating needs. For example, a private house may utilize both gas heating and a wood-burning stove/furnace, allowing the family to select the most cost-effective or readily available option based on market prices, supply disruptions, or personal preferences.
- **Adapts to mobility and modality changes:** No need to adjust the program if a household moves, switches heating sources, or if the central heating or gas supply network becomes dysfunctional due to war-related damage during the planning or implementation of assistance.
- **Reduces administrative burden:** Simplifies planning, approval, and implementation across partners.

- **Streamlines communication:** Easier to explain to beneficiaries, donors, and authorities.

Cons of harmonized transfer value:

- **Reduced household coverage:** A higher transfer value means fewer households can be assisted within fixed funding envelopes.
- **Over-compensation risk:** Households with centralized heating will receive more than their actual costs, creating targeting inefficiencies.
- **Weakening of technical assessments:** Less emphasis on detailed household-level needs assessments.
- **Potential misuse of funds:** Cash could be spent on non-heating needs if not accompanied by adequate information and programmatic support.
- **Reduced targeting efficiency:** Loses flexibility to tailor assistance based on specific heating types (centralized heating, electricity, and natural gas).
- **Environmental and protection risks:** Harmonization may reduce focus on technical standards, safe usage, and sustainability.
- **Government alignment risks:** Misalignment with national subsidy schemes where utilities and solid fuel are treated separately.

Important:

In response to the harmonization decision, the Shelter Cluster will develop and disseminate concise, practical, technical recommendations to support partners in the safe, effective, and compliant implementation of harmonized winter assistance activities.

In addition, the Shelter Cluster has already developed **an online learning course** designed for beneficiaries on how to safely prepare for winter. While this tool provides accessible guidance on insulation, safe heating, and fuel management, we acknowledge its limited accessibility for certain population groups, including the elderly and persons with disabilities. Supplementary partner-led outreach will therefore be encouraged to ensure inclusive access to this information.

10 Winterization Objective Three:

Shelter Insulation – Repairs were done to secure the thermal envelope of residential units where people reside

10.1 Refurbishment of Collective Sites (SN302A)

Repairs in collective sites include "regular" works (not directly classified as "winterization"), such as fixing leaking roofs, replacing inefficient windows, and sealing gaps to ensure the building's "thermal envelope" is closed.

The activity aims to improve living conditions, safety, hygiene, and accessibility for internally displaced persons (IDPs) residing in collective sites (CSs). The intervention focuses on repairs to ensure dignified and habitable conditions in alignment with Resolution No. 930 on collective site functioning. Works include door and window repairs, roof repairs to ensure the sealing of the thermal envelope of the building, and accessibility improvements (e.g., ramps, handrails, door widening, and threshold adjustments) in key areas. Cosmetic repairs are not considered a priority under this type of activity. This includes, but is not limited to, interior wall finishes (such as plastering and wallpaper application), ceiling works, floor repairs, and repairs to internal electrical wiring.

The thermal insulation of collective sites currently constitutes a distinct CCCM Cluster activity, «Small winter repairs in collective sites" and must be addressed solely as part of winterization programming.

All works must be carried out in buildings listed on the official government list (compiled by oblast authorities and published by the Ministry of Development bi-monthly) and included in the CCCM Cluster Collective Sites Master List. The targeting of buildings should consider technical aspects, such as structural soundness and cost-effectiveness ratio. However, in exceptional cases, a people-centered approach may be applied, allowing for the provision of NFIs in unregistered collective sites, based on clear vulnerability criteria and subject to coordination with CCCM and Shelter Clusters.

Shelter, CCCM, and WASH Clusters strongly advise partners to use the joint Criteria for prioritizing collective sites for repairs and infrastructure upgrades. In line with guidelines, the targeting should consider the site's legal status, ownership type, building type, technical condition, number of residents and their vulnerabilities, access to essential services, markets and livelihood opportunities, safety considerations, and the site's potential for local integration.

Currently, the Shelter Cluster only accepts activities that aim to bring existing site conditions up to minimum standards, and not create new collective sites for IDPs, unless there is a referral from the CCCM Cluster.

Interventions may be considered in buildings with a clear separation between the part used as a collective site and other uses. In cases where no such separation is ensured, such as in student dormitories where IDPs and students live in mixed conditions, interventions are not generally recommended.

Only activities that directly impact the welfare of IDPs can be considered, excluding works in administrative or auxiliary buildings.

The refurbishment of transit centers, established to provide immediate assistance and short-term accommodation to IDPs, follows the same approach as the refurbishment of collective sites.

10.2 Insulation of Substandard Houses (SN203A)

Definition of "Substandard House"

For the purpose of this SOP, a "substandard" house refers to a dwelling that:

- is not damaged by war,
- has a functioning heating system, but
- exhibits **poor thermal performance** due to inadequate design, low-quality construction, and poor maintenance.

This results in insufficient insulation capacity of the thermal envelope (see Annex 16.8), making it impossible to retain adequate indoor temperatures during winter.

Works under this activity **do not** constitute "regular" emergency repairs but are instead energy-efficiency upgrades. These include the attic's floor thermal insulation and the replacement of old windows and entrance doors with energy-efficient ones. These interventions aim to enhance thermal performance and reduce heat loss, but must be reported as "insulation" only when implemented in **non-war-damaged** houses.

If thermal insulation is carried out in conjunction with repairs of war-related damage, the entire intervention (including insulation measures) must be reported under **Humanitarian Repairs (SN301) activity**, as per the Activities Handbook 2025. This ensures clarity in classification and prevents duplication in reporting.

In rare cases, limited roofing work may be carried out only for substandard houses when it is necessary to achieve insulation outcomes (i.e., to close the thermal envelope), and the house is not war-damaged. Leaking roofs compromise the sustainability of attic insulation.However, insulation of external and internal walls is not recommended under SN203A.

Whenever feasible, partners should integrate winter energy assistance (solid fuel, utilities) with basic thermal envelope measures such as sealing windows, insulating attics, or installing radiator reflectors. This combination can reduce heating costs, extend the duration of fuel supplies, and improve indoor comfort. Monitoring should assess these combined effects.

Target Population

This activity is intended for households residing in substandard, non-war-damaged houses and includes:

a) Houses newly allocated to displaced families, which were not included in any previous state or donor-supported thermal rehabilitation activities and therefore require complementary energy-efficiency interventions to ensure minimum habitable conditions during the winter season.

In such cases, occupancy should be secure for at least 6 months to avoid the risk of eviction or misuse of assistance.

b) Substandard houses where host families accommodate IDPs.

Shelter Cluster partners have observed that IDPs in such housing often lack formal tenure arrangements, exposing them to eviction risks, particularly when housing improvements increase the perceived value of the property. Moreover, programming is further complicated by property owners' reluctance to allow structural improvements to the houses they rent out. In several cases, homeowners have actively blocked insulation work to avoid creating conditions that would facilitate long-term occupancy by tenants or to maintain eligibility for state compensation mechanisms related to war-affected property. Partners are encouraged to coordinate closely with HLP and Protection actors to mitigate these risks and promote sustainability.

c) Substandard houses inhabited by vulnerable non-displaced owners.

Reference costs in Tables 10 and 11 are based on an assumed **36 m² heated (living) area**[20], intended to support the creation of a **"one warm room"** – a single living space where the residents can sleep, cook, and perform daily activities during the winter season.

Table 10 - House attic floor insulation kit

House attic floor insulation kit Quantities for one household and indicative prices 2025-2026 (including labor cost)				
Item	**Qty**	**Unit cost**	**Subtotal**	**Specifications**
Basalt wool panels or rolls	40 m^2	7.25 USD	290 USD	Thickness: 100 mm. Density: 30 kg/m^3 or more. Dimensions: depends on the type (plates/rolls)
Vapor barrier film	40 m^2	0.46 USD	18.4 USD	Installation under the insulation panels. Material: polyethylene or others. Density: 100 g/m^2 or more. Water vapor diffusion resistance: 5 m or more. Operating temperature: from -30 °C to +70 °C. Roll 1.5 x 50 m.
Waterproof breathable membrane	40 m^2	0.29 USD	11.6 USD	Installation on top of the insulation panels. Material: polypropylene or others. Density: 96 g/m^2 or more Operating temperature: from -40 °C to +80 °C.
Insulation foam	1 pc	10.6 USD	10.6 USD	750 ml tube
Other complementary materials			58.1 USD	Screws, lath, staples, and other complementary material needed for the installation of the insulation.
		TOTAL	**388.7 USD**	

[20] For more details see p.16 of Cluster Guidelines on Structural Repairs and Reconstruction

Table 11 - Windows and entrance door replacement

Windows and entrance door replacement Quantities for one household and indicative prices 2025-2026 (including labor cost)				
Item	**Qty**	**Unit cost**	**Subtotal**	**Specifications**
Prefabricated metal-plastic (PVC) windows*	up to 5 pcs (**not 5 m²**)	290 USD	1,450 USD	Prefab window unit (**double-glazed with one chamber**)[21]. One unit contains the frame, glazing, and internal and external windowsills. Glass thickness: no less than 4 mm. Class of glazing[22] at least M1. Inter-pane spacing: no less than 16 mm. The chamber is filled with air or inert gas. The profile width of the PVC window frame: not less than 60 mm (4 chambers).
Extruded polystyrene foam panels	10 m²	2.2 USD		Thickness: 10 mm Density: 30 kg/m³ or more For internal and/or external use (greater thickness is required).
Plasterboard (drywall)	10 m²	14.5 USD		Type: moisture resistant. Thickness: 12.5 mm Size: 1200 x 2500 mm (1 sheet) For internal use.
Plastic slopes	20 Lm	37.5 USD	750 USD	Width up to 0.5 m Sandwich panels with F-shaped PVC profile. For internal use.
Plaster for slopes	250 kg	4.8 USD		Type: cement-limestone base Operating temperature: from -30 °C to +70 °C Crack resistance: certified for cracks with a total thickness of layers of 20 mm. For internal and/or external use.
Paint	2 L	5.1 USD	10.2 USD	Type: acrylic or water emulsion
Insulation foam	3 pcs	10.6 USD	31.8 USD	750 ml tube

[21] Based on DBN V.2.6-31:2021 "Thermal Insulation and Energy Efficiency of Buildings." The norms on minimum requirements for energy efficiency of buildings do not apply to construction works on the restoration of individual building structures in order to eliminate the consequences of emergencies (clause 1.4, section "Scope of use"). In this case, these are the requirements for the thermal resistance coefficient of translucent enclosing structures.

[22] DSTU 2.7-122:2009 Sheet glass - Technical specifications (link [UA]); DSTU 2.7-107:2008 Glass packages (link [UA]).

Windows and entrance door replacement Quantities for one household and indicative prices 2025-2026 (including labor cost)				
Item	**Qty**	**Unit cost**	**Subtotal**	**Specifications**
Windows acrylic sealant	1 pc	40.7 USD	40.7 USD	7 kg pack. Exterior window joint sealant. Operating temperature: from -10 °C to +40 °C
TOTAL for Windows**			**2,283 USD**	
Entrance door	1 pc	650 USD	650 USD	**Material – steel.** Standard size 2000×900*** mm, frame depth 90 mm, door leaf 52 mm. Leaf made of cold-rolled steel (≥1.3 mm), insulated with mineral wool. MDF panels inside and powder coating outside. Equipped with locks, hinges, and a handle.

*For the window size: width - 1,2 m; height - 1,4 m.

**The price varies depending on the type of materials used for slopes.

***To ensure accessibility for households including persons with disabilities, wider (non-standard) doors should be used, with a minimum clear opening width of 0.9 meters.

10.3 Rental Support (SN303A)

(Provision of grants to cover rental costs)

While the Rental Support (SN303A) activity was deprioritized in 2025 under the HNRP[23], partners may continue to implement rental assistance interventions under the broader Rental Market Initiative.

The winter component of the broader Rental Market Initiative (RMI) aims to support access to safe, adequate, and dignified private accommodation for displaced households, especially during periods of increased vulnerability such as the onset of winter or the start of the school year. This activity helps reduce overcrowding in collective sites and provides an alternative solution for those facing eviction, unaffordable rent, or unsafe living conditions.

RMI target groups include:

- Residents of collective sites are at risk of eviction, especially those living in dormitories or schools and kindergartens, due to the return to educational activities.
- Vulnerable IDPs renting privately, facing eviction, especially those who have socioeconomic vulnerabilities and have no alternative but to return to CSs.
- New arrivals and returnees are unable to access safe housing and unwilling to live in CSs.
- Non-displaced war-affected households need temporary shelter during repairs.

For full details, see the Rental Assistance Recommendations and Guidelines for Ukraine.

In January 2025, the Government of Ukraine introduced a new support tool for IDPs – a rental subsidy (Resolution No. 1225).

[23] Re-Prioritization of the Ukraine 2025 Humanitarian Needs and Response Plan (April 2025)

11 CCCM Cluster Winter-Related Activities

Small winter repairs in collective sites

This activity aims to enhance the warmth and thermal efficiency of collective site premises, ensuring they remain habitable, healthy, and dignified throughout the colder months. These interventions are crucial for improving energy efficiency and indoor comfort, and may include, but are not limited to, installing ceiling and wall insulation to minimize heat loss and maintain a warmer indoor environment, as well as making repairs and upgrades to heating systems and individual boiler rooms. Additionally, they may involve the safe installation of heating appliances.

For guidance on restoring the thermal envelope in war-affected collective sites through repairs to damaged roofs, windows, and doors, please refer to the activity "Refurbishment of Collective Sites (SN302A)" described in section 10.1 of the current Winterization Recommendations.

Winter heating, materials, and fuel in collective sites

This activity involves providing a wide range of items for shared (communal) and individual use to ensure warmth and safety during the cold season, addressing both immediate and long-term needs in collective sites. Support may include various types of solid fuel for individual boiler rooms and may also include generators to maintain heating systems.

To mitigate the impact of electricity disruptions, power stations are provided to ensure the continuous functioning of heating appliances during power outages. This is particularly critical in settings where grid reliability is low and alternative heating options are unavailable.

In parallel, additional support includes heaters, stoves, and other heating appliances to ensure reliable warmth in both residential and communal areas. These items play a key role in safeguarding health and well-being, particularly in poorly insulated or overcrowded facilities.

In year 4 of this humanitarian response to the full-scale invasion of the Russian Federation, support for energy co-generation and the provision of generators are not included in the Ukraine Winter Response Plan (October 2025 – March 2026). It will be coordinated through other forums with recovery and development actors.

The calculation of the solid fuel amount is presented in Annex 16.9. In addition to the standardized formula provided in the methodology, partners recommend incorporating site-specific technical assessments to determine solid fuel needs. These assessments should consider the technical specifications of the heating system (e.g., boiler efficiency), the level of building insulation, and the type of building. Since solid fuel quantities are often based on requests from collective site managers, the applicability of a single standard formula is limited.

Given these limitations, it is therefore recommended that the calculation be complemented with a flexible, context-sensitive approach. This should include a contingency buffer to accommodate potential underestimation or increased demand during the winter season, particularly in periods of prolonged low temperatures or heightened occupancy.

Finally, advocacy with local authorities needs to be strengthened to ensure that adequate quantities of fuel are budgeted and delivered for collective sites that rely on individual boiler rooms as their primary source of heating. This is essential for sustaining safe and dignified living conditions for displaced populations throughout the cold season.

12 Legal aspects of providing cash assistance

In the context of winterization, where cash-based support for heating utilities and solid fuel is increasingly used as a dignified and flexible modality, humanitarian actors must remain vigilant in complying with Ukrainian legal requirements. Cash for Winter Energy (SN201B) and Winter Cash for Utilities (SN201A) fall under **charitable assistance** as defined in the Law of Ukraine "On Charitable Activities and Charitable Organizations," and must comply with the Tax Code of Ukraine, data protection regulations, and related legislation.

The Cash Working Group's Legal Task Force has issued practical resources to support legal compliance:

- Legal Guidance on Taxation for humanitarian cash assistance (ENG/UKR).
- Self-Assessment Tool for organizations.
- Animated video on taxation.

Key considerations for partners implementing cash modality:

- **Restricted *(purposeful)* charitable assistance**: Winter-related cash assistance should be categorized as restricted charitable assistance, with clear documentation of purpose (e.g., fiscal receipt/expenditure invoice for solid fuel and heating appliances). These documents are critical for tax exemption purposes.
- **Eligible channels for tax exemption**: To qualify for tax exemption, cash assistance must be delivered by a registered charitable organization, a humanitarian actor listed in the Unified Register of Recipients of Humanitarian Aid, or via official budgetary mechanisms. Beneficiary eligibility for exemption must be substantiated through documentation.
- **Beneficiary status verification:** During martial law, tax-exempt status applies to individuals affected by the armed conflict, including IDPs, residents of active hostilities areas, and other categories listed in the Tax Code. Providers are responsible for verifying status via internal procedures or supporting documentation (e.g., IDP certificates, local council letters, and damage assessments).

Important:

In the absence of a government-approved verification procedure, the tax authorities have issued a clarification confirming that, temporarily during martial law, **charitable organizations may independently determine the eligibility status of beneficiaries** for the purpose of tax exemption. This is established in paragraph 25 of Subsection 1 of Section XX 'Transitional Provisions' of the Tax Code.

- **Reporting obligations**: Organizations must report charitable cash transfers to individuals through the unified monthly Form 4DF ("Information on the amounts of accrued income, withheld and paid personal income tax and military levy"), in accordance with **Article 170.7.9** of the Tax Code of Ukraine.
  Disbursements must be designed and documented in a way that complies with the exemption criteria outlined in **subparagraphs 165.1.54, 170.7.2, and 170.7.4**, to ensure tax-free status for eligible beneficiaries.
  Errors or lack of reporting may result in revocation of non-profit status or financial penalties, including PIT reassessments.
- **Data protection**: Beneficiary information must be handled in full compliance with Ukraine's Law "On the Protection of Personal Data."

13 Engagement with the Government of Ukraine

Effective winterization programming requires continued strategic and operational coordination with relevant state institutions at national and subnational levels. During the 2024–2025 season, several key lessons emerged regarding collaboration with the Government of Ukraine (GoU), which should inform partner approaches moving forward:

National-level coordination

- The Shelter/NFI Cluster maintains regular engagement with ministries to share analysis, harmonize transfer values, and avoid duplication with government assistance programs (e.g., subsidies and benefits).
- The Cluster's coordination with the Ministry of Social Policy is instrumental in aligning approaches for cash for solid fuel and supporting clarity around eligibility overlaps.
- Continued advocacy is needed to ensure humanitarian support complements, but does not displace, state assistance mechanisms.

Local and oblast-level collaboration

- Coordination with oblast military administrations (OMAs), municipalities, and hromadas remains critical for accurate targeting, beneficiary verification, and facilitation of access for distribution.
- In several oblasts, the support and openness of local authorities enabled efficient identification of high-vulnerability households, particularly in frontline and hard-to-reach areas.
- Partners are encouraged to engage early with local authorities, especially where access constraints or overlapping mandates may delay implementation.
- Recognizing that partners operate under diverse data protection frameworks, organizational policies, and legal obligations, we encourage, where feasible and in line with existing partner MOUs and data protection principles, the sharing of assistance data with oblast authorities for onward transmission to the Pension Fund of Ukraine (PFU). This will help ensure coherent de-duplication between humanitarian assistance and government-administered subsidy and benefit schemes for winter-related support. Such data sharing should be governed in full accordance with each partner’s mandate, operational approach, and applicable data protection framework.

14 Accountability to Affected Populations

To ensure adequate support and respect for the impacted population, several key principles and practices are outlined below:

1. Providing consultations: conduct initial meetings, surveys, or focus groups before the intervention to gather input and understand the concerns, needs, and expectations of the affected populations.
2. Transparent communication and information sharing: providing clear and accessible information about the selection criteria, nature of the assistance, timelines, potential disruptions, and required documentation. This can be achieved through community meetings, flyer distribution, noticeboards, and other means.
3. Feedback mechanisms: establishing channels for beneficiaries to voice their concerns, such as suggestion boxes, hotline phone numbers, and email addresses, and dedicated meetings. Ensuring beneficiaries know how to access these channels.
4. Considering diverse needs: ensuring that communication and engagement methods are accessible to all beneficiaries, including those with disabilities and language barriers. This may involve providing materials in multiple languages or using visual aids.
5. Referrals: The partners should try to support or refer beneficiaries through the Services Advisor platform to other organizations that could help.

15 Winterization Post-Distribution Monitoring

It is strongly recommended that all agencies include a post-distribution monitoring (PDM) component in their winterization program implementation cycles.

Central to the winter response plan is consistent and coordinated consideration of such complex needs based on age, gender, and disability. Data disaggregated by gender, age, and disability will be collected, analysed, and reported on to inform evidence-based vulnerability targeting, tailored assistance, and monitoring.

We recommend that winter assistance monitoring move beyond satisfaction and coverage-based indicators to include measures that assess actual improvements in household thermal comfort and energy efficiency. This should encompass tracking indicators related to the building's thermal envelope, such as adequate indoor warmth during peak winter or self-reported improvements in comfort, as well as changes in fuel or utility consumption, alongside other relevant measures of heating effectiveness and energy performance. These indicators should be collected in conjunction with satisfaction metrics to provide a more comprehensive picture of the program's impact.

The Shelter Cluster promoted the compilation of a shared list of questions that all Cluster partners agreed to include in their PDM questionnaire. Please use the developed KOBO form[24] for Winter Energy activity. Adopting a shared list of core questions by all partners will harmonize the collection of data and feedback regarding the quality, effectiveness, and appreciation of the winterization response. This will ensure that consistent and standardized information is gathered and shared among all stakeholders.

Lastly, where feasible, partners should conduct follow-up monitoring after the winter season to assess the sustained benefits of assistance, particularly for households that have received thermal envelope improvements.

[24] Find additional materials on the Shelter Cluster website.

16 ANNEXES

16.1 NFI for Winter Composition (examples of items)

Mattress

Sleeping bag

High thermal blanket

Power bank

Rescue foil blanket

Thermos flask

Portable stove

Battery-powered flashlight

16.2 Awareness of Carbon Monoxide Poisoning

Carbon Monoxide is a gas produced whenever a material is burned. During winter, beneficiaries must recognize the risk that they and their households could become exposed to carbon monoxide poisoning. Houses with functioning chimneys are better able to mitigate this risk. In contrast, those who do not have chimneys should be encouraged to regulate and ventilate their homes (opening windows and other openings to allow fresh air. The risks of carbon monoxide poisoning are high without regular ventilation, as the gas is odorless and invisible. Symptoms are like the flu. Beneficiaries should also have proper information about the physical symptoms of carbon monoxide poisoning, including headaches, weakness, skin appearing 'cherry red', dizziness, nausea or vomiting, shortness of breath, blurred vision, or loss of consciousness. [25]

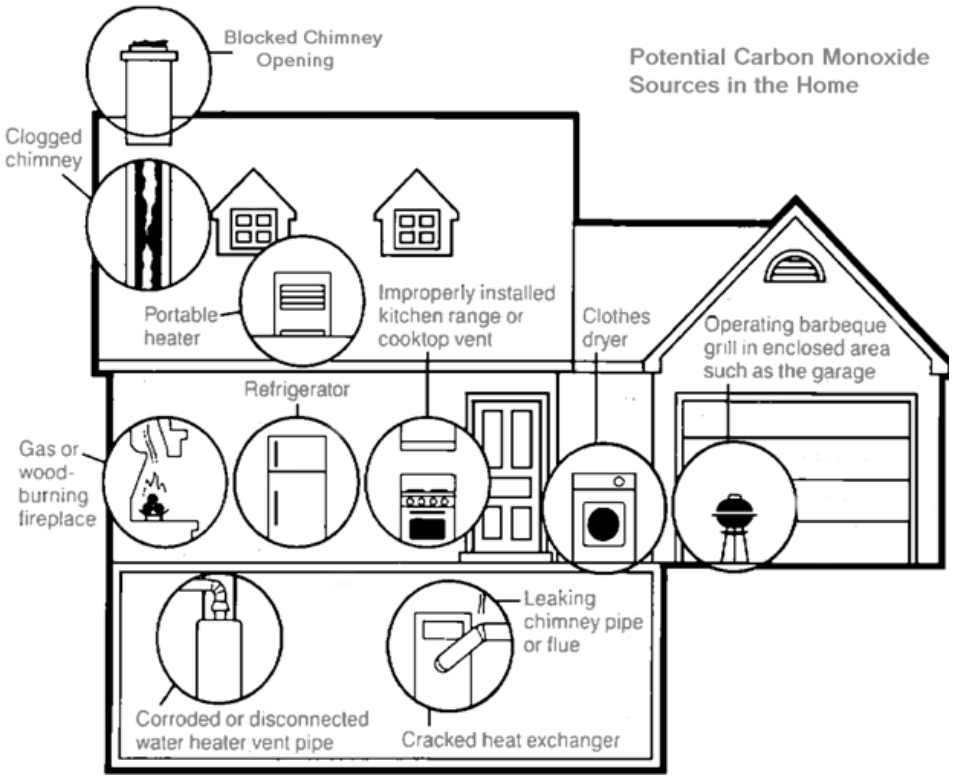


Figure A1 - "Potential Carbon Monoxide Hazards in Residential Settings"

[25] For more information regarding Carbon Monoxide poisoning, please visit: Link.

16.3 Typical Set of Chimney Components for Solid Fuel Stove (Example Configuration)

Table A1 – Chimney set

	Chimney item	Specifications	1 set	Picture
1	Double-walled chimney pipe made of stainless steel in a casing made of galvanized steel 120/180, 0.5 mm	Material: AISI 304 stainless steel / galvanized steel Length, m: 1 Diameter, mm: 120/180 Steel thickness, mm: 0.5 Thermal insulation: basalt fiber	5 pcs	
2	Double-walled stainless steel chimney tee in galvanized steel casing 120/180, 0.5 mm	Material: AISI 304 stainless steel / galvanized steel Angle, degrees: 85…90 Diameter, mm: 120/180 Steel thickness, mm: 0.5 Thermal insulation: basalt fiber	1 pc	
3	Stainless steel unloading platform for double-walled chimney diam. 120/180	Material: AISI 304 stainless steel / galvanized steel Diameter, mm: 120/180 Steel thickness, mm: 0.5	1 pc	
4	Stainless steel chimney condensation drain diam. 180 mm, 0.5 mm	Material: AISI 304 stainless steel / galvanized steel Diameter, mm: 120/180 Steel thickness, mm: 0.5	1 pc	
5	Stainless steel chimney bracket 400 mm thick 2 mm	Material: AISI 304 stainless steel Length, m: 0.4 Steel thickness, mm: 2	1 pc	
6	Stainless steel chimney cap for the insulated pipe 120/180, 0.5 mm	Material: AISI 304 stainless steel Diameter, mm: 120/180 Steel thickness, mm: 0.5	1 pc	
7	Wall clamp for stainless steel chimney diam. 180 mm offset 0 - 100 mm thickness 0.5 mm.	Material: AISI 304 stainless steel Diameter, mm: 180 Steel thickness, mm: 0.5	1 pc	
8	Stainless steel chimney bracket diam. 180 mm, thickness 0.5 mm	Material: AISI 304 stainless steel Diameter, mm: 180 Steel thickness, mm: 0.5	5 pcs	

16.4 Solid Fuel Calorific Values

Important note: First, please search for the solid fuel calorific value in the certificate (test report) from the supplier. Not applicable for firewood.

Firewood: Manufacturers of modern heating equipment recommend using air-dried wood with a moisture content of no more than 25% as a solid fuel for heating. The ideal option for wood heating is to use firewood in a room-dry state (moisture 7-18 %). Such firewood gives the maximum amount of heat. However, since drying wood to this state involves additional energy costs, the best option for heating is to use air-dry wood (moisture 20-30 %). It is relatively easy to make firewood air-dry. For this purpose, it is enough to prepare them in advance and store them outdoors.

Nadezhdin's formula determines the working (lower) mass calorific value Q and is dependent on the moisture content of firewood:

for room-dry wood, moisture 7...18%

Q = 4600 – 50 x W = 4600 – 50 x (7...18) = 4,250...3,700 kcal/kg

for air-dried wood, moisture 20...30%

Q = 4370 – 50 x W = 4370 – 50 x (20...30) = 3,370...2,870 kcal/kg

for freshly cut wood, moisture 50…70%

Q = 3870 – 45 x W = 3870 – 45 x (50…70) = 1,620…720 kcal/kg

where W – is the relative wood moisture content in percent.

4600, 4370, 3870 – values of absolute (higher) calorific value of wood, calculated individually for each sample, based on the percentage ratio of absolutely dry wood substance and moisture contained in it.

The working (lower) volumetric calorific value of wood is calculated as the product of the mass calorific value of wood and its density.

For example, for ash (moisture 12 %): 4000 kcal/kg x 0.750 kg/dm^3 = 3,000 kcal/dm^3 = **3.0 Gcal/m^3**

*Table A2[26] – Specific calorific value of different wood species (**12% and 20% - moisture content**)*

Wood species	Absolute (higher) calorific value, kcal/kg	Working (lower) mass calorific value Q, kcal/kg		Working (lower) volumetric calorific value, Gcal/m^3		Wood density, kg/dm^3	Wood density limit, kg/dm^3
		12%	20%	12%	20%		
Hardwood							
Oak	4,753	**4,000**	**3,370**	**3.240**	**2.730**	0.810	0.690-1.030
Ash	”	”	”	**3.000**	**2.528**	0.750	0.520-0.950
Beech	”	”	”	**2.720**	**2.292**	0.680	0.620-0.820
Birch	”	”	”	**2.600**	**2.191**	0.650	0.510-0.770
Alder	”	”	”	**2.000**	**1.685**	0.500	0.470-0.580

[26] http://www.biowatt.com.ua/informatsiya/harakteristika-ta-osoblivosti-drov-yak-paliva/

Wood species	Absolute (higher) calorific value, kcal/kg	Working (lower) mass calorific value Q, kcal/kg		Working (lower) volumetric calorific value, Gcal/m³		Wood density, kg/dm³	Wood density limit, kg/dm³
		12%	20%	12%	20%		
Softwood/Coniferous							
Pine	4,753	**4,000**	**3,370**	**2.080**	**1.752**	0.520	0.310-0.760
Aspen	”	”	”	**1.880**	**1.583**	0.470	0.460-0.550
Spruce	”	”	”	**1.800**	**1.517**	0.450	0.370-0.750
Fir	”	”	”	**1.640**	**1.382**	0.410	0.350-0.600
Poplar	”	”	”	**1.600**	**1.348**	0.400	0.390-0.590

The formula for determining the amount of firewood in m³ for one winter season is:

$$Amount\ of\ firewood\ (m^3) = \frac{Amount\ of\ heat\ for\ the\ season\ (Gcal)}{Working\ (lower)\ volumetric\ calorific\ value\ (\frac{Gcal}{m^3})}$$

Briquettes and pellets:

For the lower calorific value of the working mass, please use values for quality groups in DSTU 8358:2015 “Fuel briquettes and pellets from wood raw materials. Technical specifications.”
Conversion from MJ/kg to Gcal/ton is needed: 1 MJ/kg = 0.239 Gcal/ton

Coal:

For the lower calorific value of the working mass, please use values in Table 1 of DSTU 7146:2010 “Bituminous coal and anthracite for domestic use. Technical conditions.”
Conversion from kcal/kg to Gcal/ton is needed: 1 kcal/kg = 0.001 Gcal/ton

16.5 Conversion Factors

The **stacked cubic meter** is an intermediate auxiliary unit of measurement, which is elevated to the category of the central unit of measurement when accounting for the volume of firewood.

Firewood is usually not accounted for by the piece, but in stacks made during the harvesting period, and is accounted for in m^3 with bark. A stacked m^3 is determined by multiplying the length (L) of the stack by its height (H) and width (W). The width of the stack is the length of the logs. The density of the stack depends on the wood species (hardwood or softwood/coniferous), the type and shape of the logs (round or chopped), as well as their length and thickness (thick, medium, or thin). Since a stack always has voids, the stacked m^3 is multiplied by the full-wood conversion factor **to convert the stacked wood to a solid content** (**dense**) measure.

According to the current recommendations, the average conversion factor is assumed to be 0.7.
For example: 1 stacked m^3 x 0.7 = 0.7 (solid) m^3

Firewood
stack 1 m x 1 m x 1 m
(1 stacked m^3)

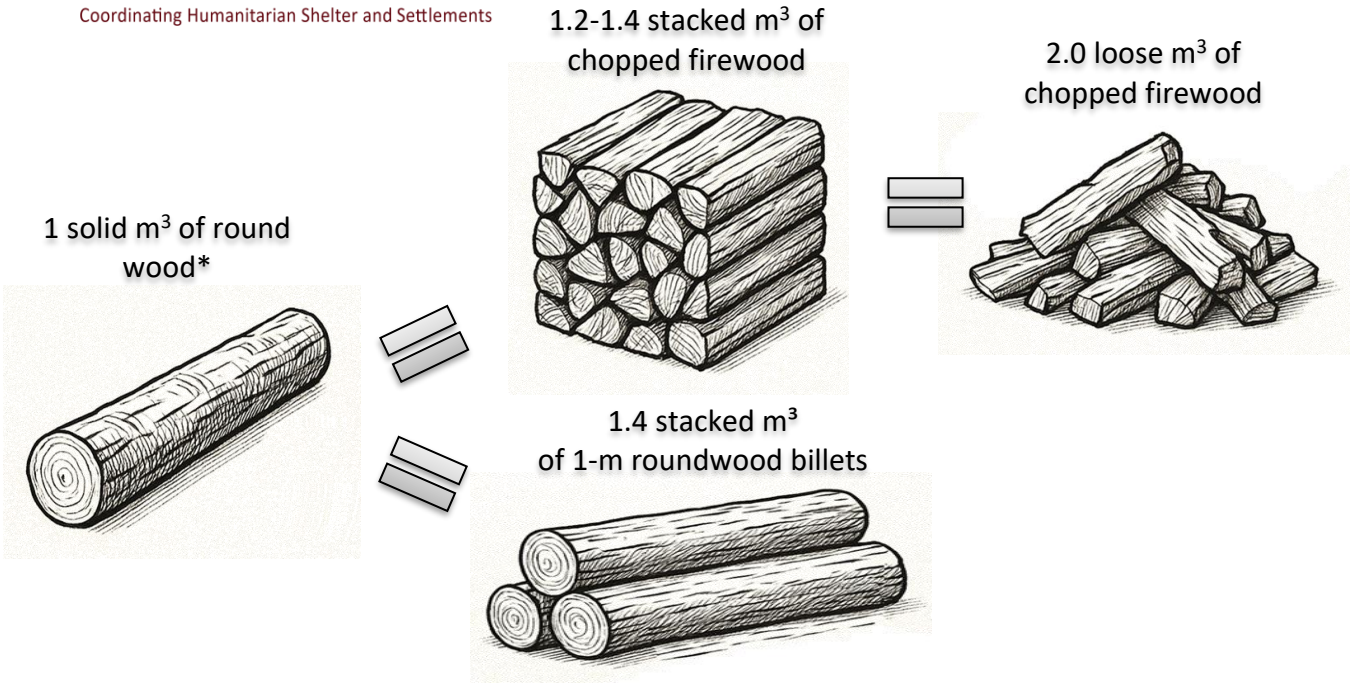
Solid measure

Please watch the video made by the State Agency "Forest Resources of Ukraine" on measuring and converting a stack of wood: LINK.

For comprehensive instructions on conversion factors from stacked to solid volume for logged (roundwood) firewood and chopped (split) firewood, please refer to drovae.gov.ua.

It is important to distinguish between stacked and loose firewood. This distinction is easily visible in the truck body. Stacked firewood is neatly arranged (including delivery in crates – on pallets), while loose firewood is randomly piled, resulting in noticeable gaps and an uneven surface.

Note:
When drafting a contract with a vendor/supplier, partners must clearly define the conversion factor from stacked or loose m^3 to solid m^3. This ensures uniformity and clarity in measurement standards, thereby preventing potential disputes and misunderstandings related to quantity and volume throughout the contract's execution.



**as a reference standard – single log with length and diameter forming exactly 1 m³ of solid volume*

Table A3 – Volume conversion factors for firewood assortments[27]: solid m³ ↔ stacked m³ ↔ loose m³

Assortments	Round wood (solid), solid m³	Stacked logs (length 1 m, billets), stacked m³	Chopped (split) firewood	
			stacked m³	loose m³
1 solid m³ of round wood	**1**	1.4	1.2-1.4	2.0
1 stacked m³ of 1-m roundwood billets	0.7	**1**	0.85	1.25
1 stacked m³ of chopped firewood	0.7-0.8	1.2	**1**	1.43
1 loose m³ of chopped firewood	0.5	0.8	0.7	**1**

Figure A2 – Types of delivery in the truck body: loose chopped firewood (on the left) and neatly stacked chopped firewood (on the right)

[27] Wood Fuels Handbook, FAO, 2015

16.6 Example of Calculation of Solid Fuel Amount for Heating the Household

3 steps for firewood

I.

Firewood species

Moisture content

Table[22] - Specific calorific value of different wood species (**12% and 20% - moisture content**)

Wood species	Absolute (higher) calorific value, kcal/kg	Working (lower) mass calorific value Q, kcal/kg		Working (lower) volumetric calorific value, Gcal/m³		Wood density, kg/dm³	Wood density limit, kg/dm³
		12%	20%	12%	20%		
Hardwood							
Oak	4,753	**4,000**	**3,370**	**3.240**	**2.730**	0.810	0.690-1.030
Ash	"	"	"	**3.000**	**2.528**	0.750	0.520-0.950
Beech	"	"	"	**2.720**	**2.292**	0.680	0.620-0.820
Birch	"	"	"	**2.600**	**2.191**	0.650	0.510-0.770
Alder	"	"	"	**2.000**	**1.685**	0.500	0.470-0.580
Softwood							
Pine	4,753	**4,000**	**3,370**	**2.080**	**1.752**	0.520	0.310-0.760
Aspen	"	"	"	**1.880**	**1.583**	0.470	0.460-0.550
Spruce	"	"	"	**1.800**	**1.517**	0.450	0.370-0.750
Fir	"	"	"	**1.640**	**1.382**	0.410	0.350-0.600
Poplar	"	"	"	**1.600**	**1.348**	0.400	0.390-0.590

II. **The formula for determining the amount of firewood in m³ for one winter season:**

$$Amount\ of\ firewood\ (m^3) = \frac{Amount\ of\ heat\ for\ the\ season\ (Gcal)}{Working\ (lower)\ volumetric\ calorific\ value\ \left(\frac{Gcal}{m^3}\right)}$$

$$\frac{14.37\ Gcal}{3.0\ Gcal/m^3} = 4.79\ solid\ m^3$$

14,37 Gcal – minimum recommended amount of heat for one winter season for one household

III.

Firewood stack 1 m x 1 m x 1 m (1 stacked m³)

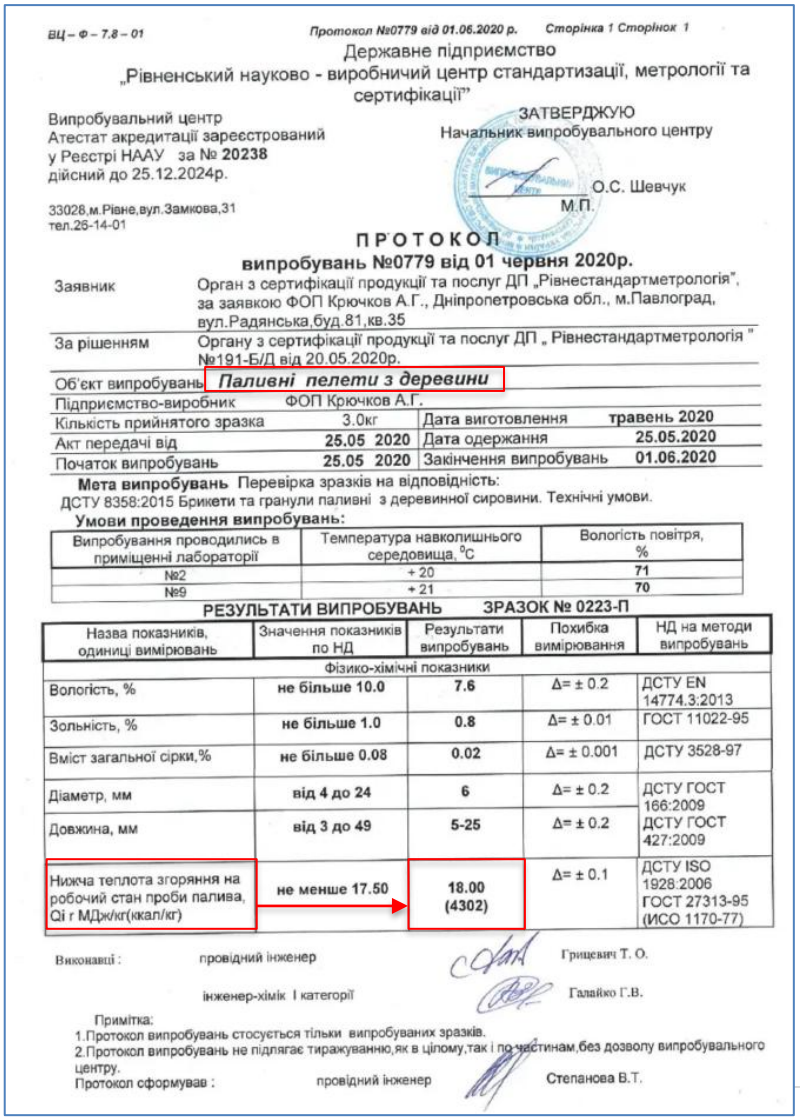
=

Solid measure

4,79 solid m³/ 0.7 = 6.84 stacked m³

3 steps for briquettes/pellets/coal

I. Find the calorific value in quality test protocol (example from DSTU 8358-2015):



ВЦ – Ф – 7.8 – 01 Протокол №0779 від 01.06.2020 р. Сторінка 1 Сторінок 1

Державне підприємство
„Рівненський науково - виробничий центр стандартизації, метрології та сертифікації"

Випробувальний центр
Атестат акредитації зареєстрований у Реєстрі НААУ за № 20238 дійсний до 25.12.2024р.

ЗАТВЕРДЖУЮ
Начальник випробувального центру
О.С. Шевчук
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тел.26-14-01

ПРОТОКОЛ
випробувань №0779 від 01 червня 2020р.

Заявник	Орган з сертифікації продукції та послуг ДП „Рівнестандартметрологія", за заявкою ФОП Крючков А.Г., Дніпропетровська обл., м.Павлоград, вул.Радянська,буд.81,кв.35
За рішенням	Органу з сертифікації продукції та послуг ДП „ Рівнестандартметрологія " №191-Б/Д від 20.05.2020р.
Об'єкт випробувань	***Паливні пелети з деревини***
Підприємство-виробник	ФОП Крючков А.Г.

Кількість прийнятого зразка	3.0кг	Дата виготовлення	травень 2020
Акт передачі від	25.05 2020	Дата одержання	25.05.2020
Початок випробувань	25.05 2020	Закінчення випробувань	01.06.2020

Мета випробувань Перевірка зразків на відповідність:
ДСТУ 8358:2015 Брикети та гранули паливні з деревинної сировини. Технічні умови.

Умови проведення випробувань:

Випробування проводились в приміщенні лабораторії	Температура навколишнього середовища, °С	Вологість повітря, %
№2	+ 20	71
№9	+ 21	70

РЕЗУЛЬТАТИ ВИПРОБУВАНЬ ЗРАЗОК № 0223-П

Назва показників, одиниці вимірювань	Значення показників по НД	Результати випробувань	Похибка вимірювання	НД на методи випробувань
Фізико-хімічні показники				
Вологість, %	не більше 10.0	7.6	Δ= ± 0.2	ДСТУ EN 14774.3:2013
Зольність, %	не більше 1.0	0.8	Δ= ± 0.01	ГОСТ 11022-95
Вміст загальної сірки,%	не більше 0.08	0.02	Δ= ± 0.001	ДСТУ 3528-97
Діаметр, мм	від 4 до 24	6	Δ= ± 0.2	ДСТУ ГОСТ 166:2009 ДСТУ ГОСТ 427:2009
Довжина, мм	від 3 до 49	5-25	Δ= ± 0.2	
Нижча теплота згоряння на робочий стан проби палива, Qi r МДж/кг(ккал/кг)	не менше 17.50	18.00 (4302)	Δ= ± 0.1	ДСТУ ISO 1928:2006 ГОСТ 27313-95 (ИСО 1170-77)

Виконавці: провідний інженер Грицевич Т. О.
інженер-хімік І категорії Галайко Г.В.

Примітка:
1.Протокол випробувань стосується тільки випробуваних зразків.
2.Протокол випробувань не підлягає тиражуванню,як в цілому,так і по частинам,без дозволу випробувального центру.
Протокол сформував: провідний інженер Степанова В.Т.

III. The formula for determining the amount of solid fuel in metric tons for one winter season:

$$\frac{14.37\ Gcal}{4.3\ Gcal/ton} = 3.34\ tons$$

14,37 Gcal – minimum recommended amount of heat for one winter season for one household

II. Measurement units need to be converted:

1 MJ/kg = 0.239 Gcal/ton

1 kcal/kg = 0.001 Gcal/ton

For this case: 18.00 MJ/kg x 0.239 = 4.3 Gcal/ton

16.7 Voting Summary Report

Table A4 – Participating Organizations and Results

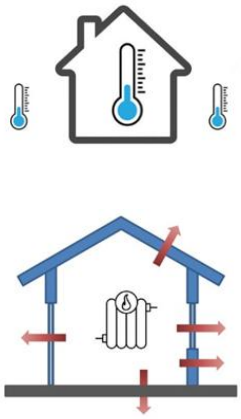
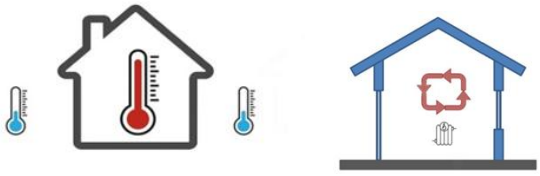
No.	Organization Name	Selected Option*
1	ACTED	Option 1
2	Angels of Salvation	Option 2
3	Caritas Ukraine	Option 2
4	Cash Working Group	Option 1
5	Danish Refugee Council	Option 1
6	Estonian Refugee Council	Option 1
7	FAO	Option 2
8	Norwegian Refugee Council	Option 1
9	People in Need	Option 1
10	R2P	Option 1
11	Save the Children	Option 1
12	SNFI Cluster	Option 2
13	Solidarités International	Option 1
14	UNHCR	Option 1

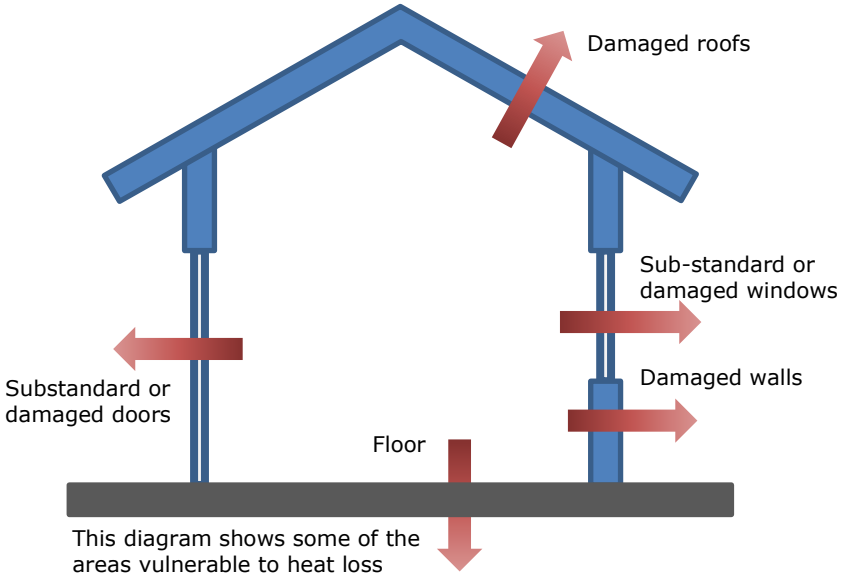
*Option 1 – Harmonized transfer value
A unified transfer value of UAH 19,400 is proposed as an option for both activities: Winter Cash for Utilities and Winter Energy.
Option 2 – Differentiated Transfer Values.
Separate values for:
• Winter Cash for Utilities: UAH 14,900 – based on the cost of centralized heating, as the most commonly used utility-based heating method in frontline areas.
• Winter Energy: UAH 19,400 – based on the cost of firewood (including transportation) as the most commonly used solid fuel.

Note:

1) 14 of the 20 organizations eligible to vote in the TWiG submitted their votes, representing 70%. This is considered to have met the quorum requirement (a majority of 50% plus one vote). The stakeholders that didn't vote: CCCM Cluster, ICRC, Medair, Protection Cluster, TGH, and Unity for the Future.
2) The TWiG also included observer organizations, UNICEF and ZOA, whose valuable support was gratefully acknowledged; as observers, they were not eligible to vote.

16.8 The Thermal Envelope

What is the building envelope?	What is the thermal envelope?
Includes all building components that separate the inside from the outside. The building envelope comprises the external walls, foundations, roof, windows, and doors. The building envelope should keep out the following: • moisture, in vapour or liquid • dust • wind • heat 	Refers to the minimum boundary or enclosure within a shelter that helps regulate heat transfer between the interior and exterior environments. It is a critical aspect of the shelter cluster's response, particularly during emergency responses in winter when people need protection from extreme cold. The thermal envelope is designed to minimize heat exchange and maintain a comfortable and safe living environment inside the shelter. The components that form the thermal envelope are: • walls and roofs and their insulation: • doors and windows 



This diagram shows some of the areas vulnerable to heat loss

16.9 Example of Calculation of Solid Fuel Amount for Heating Collective Site

The approach below provides a standard method to estimate the amount of solid fuel required to heat collective sites during the winter season.

Core formula:

$$M = \frac{S \times Q \times t \times D \times C}{q_{fw} \times \eta}$$

Symbol	Description	Value
M	Solid fuel mass, kg	–
Q	Specific heat loss of the building, W/m²	**40-120***
t	Boiler operating time per day, hours	**24**
S	Heated floor area, m²	**Actual number of IDPs' sleeping places x 6 m²**
D	Duration of heating season, days	**180** (from mid-Oct to mid-April)
q_{fw}	Solid fuel calorific value, kcal/kg (firewood and coal) and kWh/kg (briquettes and pellets)	**Depends on the solid fuel type (tree species if firewood), and moisture content**
η	Boiler efficiency	**0.70-0.90** (70-90%)
C	Conversion factor for firewood and coal: W → kcal/h for briquettes and pellets: W → kWh	 **0.859845** (firewood, coal) **0.001** (briquettes, pellets)

* Building with good thermal insulation: 40-50 W/m².
Building with energy-efficient windows and doors: 60-70 W/m².
Substandard building: 100-120 W/m².

Calculation example:

Collective site with 510 m² heated area (85 IDPs sleeping places x 6 m² = 510 m², solid fuel boiler with η = 0.80.

Solid fuel type – hardwood species (dry oak with 20% moisture content).

Solid fuel mass calculation:

$$M = \frac{510 \times 70 \times 24 \times 180 \times 0.859845}{3{,}370 \times 0.8} = 49{,}187\ kg$$

Solid fuel volume calculation: $V = \frac{M}{\rho}$

Symbol	Description
V	Volume of firewood in solid m³

Symbol	Description
M	Solid fuel mass, kg
ρ	Wood density, kg/m³ (1 kg/m³ = 1,000 kg/dm³)

$$V = \frac{49{,}187}{810} = 60.7\ solid\ m^3$$

For calorific values and wood density values, see Annex 16.4.

For conversion factors from solid m³ to stacked m³ or loose m³, please see Annex 16.5.

17 Revision History

Version	Status	Date	Description	Comments
1.0	Published	05.08.2025		
1.1	Published	14.09.2025		- The conversion factor from stacked m^3 and loose m^3 to solid m^3 and vice versa was clarified throughout the SOP (Annex 16.5 has been adjusted, section 9.2.2, etc.). - The instructions for calculating the amount of briquettes, pellets, and coal needed to heat a collective site were added to Annex 16.9. - Annex 16.1 was adjusted. - other minor edits.
1.2	Published	10.12.2025		- The link to the PDM questionnaire has been replaced with a link to the updated version.