

Ukraine Winterisation Recommendations 2023-2024



Shelter Cluster Ukraine
ShelterCluster.org
Coordinating Humanitarian Shelter

1 Table of Contents

2	CONTEXT AND OBJECTIVES	2
3	DEFINITION OF WINTERISATION	3
3.1	What is Winterization?.....	3
3.2	When is Winter?.....	3
3.3	Reporting on Winterization activities vs Regular activities?.....	3
4	GEOGRAPHICAL AND POPULATION GROUPS PRIORITIZATION.....	4
4.1	Prioritization Matrix 2023-24	4
4.2	Areas of Intervention	4
4.3	Target Groups	5
4.3.1	Displaced families in Collective Sites (CSs)	5
4.3.2	Non-displaced families in war-damaged areas.....	6
4.3.3	Non-displaced and returnee families in damaged houses	6
4.3.4	Displaced, non-displaced and returnee families in substandard houses	6
4.3.5	Displaced, hosting, non-displaced and returnee families not able to pay for utility bills.....	7
5	ACTIVITIES.....	8
5.1	Winterisation non-food items.....	8
5.1.1	Household winterisation items.....	8
5.1.2	Invincibility kits	8
5.1.3	Winter clothing	9
5.1.4	Home heating appliances.....	9
5.1.5	Provision of Solid fuel	11
5.1.6	Cash for utilities	12
5.2	Critical winterisation repairs	12
5.2.1	Repair in Collective Sites.....	12
5.2.2	Insulation of substandard houses.....	12
5.2.3	Rental Assistance.....	14
5.3	Note on Quality Control for In-Kind Assistance	15
5.4	Note Regarding the Recommended Prices in This Document	15
6	ENGAGEMENT WITH THE GOVERNMENT	16
7	BENEFICIARY SELECTION.....	18
8	WINTERISATION POST-DISTRIBUTION MONITORING	19
9	APPENDIX	20
9.1	Thermal Envelope	20
9.2	Draft of the content for the Invincibility Kit	21
9.3	Awareness about Carbon Monoxide Poisoning.....	22
9.4	Average monthly temperatures 2015 – 2023.....	23

2 Context and objectives

It is estimated¹ that since February 2022 more than 1.4 million housing units have been damaged over one-third of the damaged units are destroyed, while two-thirds are partially damaged. The upcoming winter 2023-2024 will have a special impact on various groups of people, including internally displaced persons (IDPs), those who are not displaced in conflict affected areas, returnees, and host communities. Collective sites are often ill-equipped and require regular maintenance. Additionally, IDPs are frequently housed in privately rented homes that, like most of the housing in Ukraine, may lack proper insulation. Returnees and non-displaced individuals also face similar insulation challenges in their homes, and the situation is worsened by conflict-related damages such as leaking roofs, broken windows, and damaged perimeter walls, which compromise the thermal integrity of the houses.

Furthermore, damages or a lack of maintenance have also affected the heating systems in collective sites, as well as individual houses and apartments. Every aspect of these systems, including water heaters, electricity grids, gas and hot water pipelines, internal pipes, radiators, and stoves, needs to be reactivated, repaired, or replaced. Portable heating appliances should be provided in cases where the heating system is non-existent or cannot be restored. Solid fuel and stoves should also be supplied, even in cases where access to coal or firewood markets is restricted or regular suppliers refuse to deliver. The damages to collective heating systems and electricity facilities and grid will promote the use of most solid fuels, whose cost have been increased. The destruction of the Nova Kakhovka hydroelectric plant and the restriction of use in the other hydroelectric plants upstream of the Dnipro River may have a considerable impact on energy coverage during winter months. Even with full access to functioning heating systems, many families will find it difficult to pay for heating, due to the rising cost of living, loss of income and depletion of savings during displacement.

In addition to addressing heating issues, there is a need for essential household items such as warm winter clothing, thermal underwear, blankets, and quilts to displaced individuals, returnees, and all those affected by the conflict who have lost their belongings, lack access to markets, or cannot afford to purchase essential winter items. These provisions can be made either in-kind or through cash assistance specifically for winter preparations.

The 2023-2024 Winterisation plan builds on last year's experiences, lessons learned and stakeholder feedback. These activities and the associated procurement chains will require considerable time and financial resources. The Government of Ukraine is taking the lead in preparing and implementing Winterisation initiatives, while humanitarian agencies will play a complementary role in this aspect as well.

¹ [Ukraine Rapid Damage and Needs Assessment February 2023 \(RDNA2\)](#)

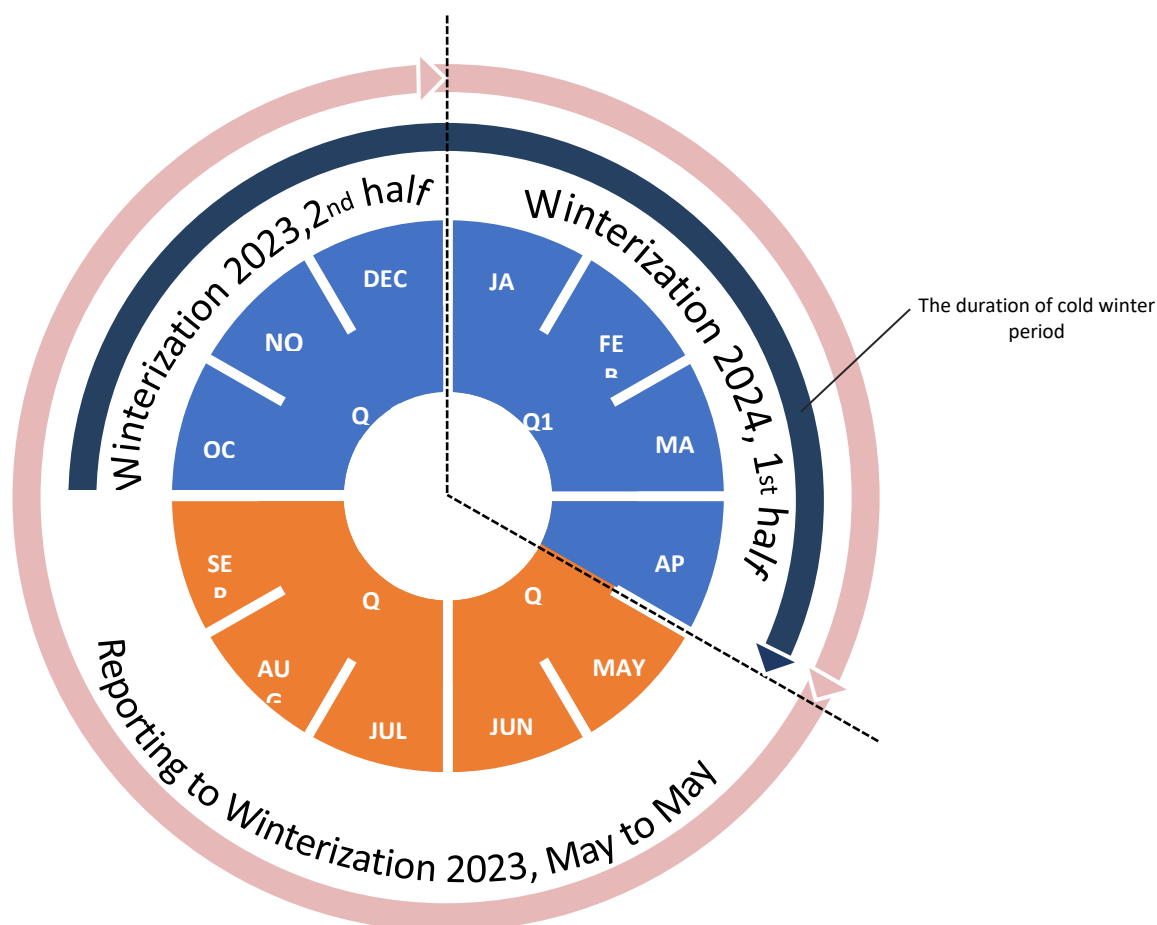
3 Definition of Winterisation

3.1 What is Winterization?

Winterization in Ukraine refers to the process of preparing and adapting humanitarian interventions or aid operations to effectively address the specific challenges posed by winter conditions in the whole Ukraine. It involves a set of guidance aimed at ensuring the well-being of affected populations during the cold winter months. Winterization for the shelter cluster is referring mainly to the life-saving activities to deliver essential relief to the vulnerable population, ensuring they receive necessary assistance and protection during harsh winter conditions.

3.2 When is Winter?

The duration of cold winter has been set and agreed by cluster partners to be from beginning of October until the end of April each year for a period of seven months. (see the annex 9.4)



3.3 Reporting on Winterization activities vs Regular activities?

Please be informed that all winter activities mentioned in our activity chapter (Chapter 5) are reported under the winterization category within the shelter cluster. While these activities can be conducted throughout the whole year (May - May), their primary objective is to enhance the beneficiaries' thermal comfort during the winter season and can be reported to cluster any time of the year.

It is important to acknowledge that the regular shelter/NFI activities also contribute to improving thermal comfort, they will be included in our cluster achievement report for winter accomplishments. However, they are not being considered as part of the winterization activities in the winter HRP budget plan.

4 Geographical and Population Groups prioritization

4.1 Prioritization Matrix 2023-24

	Recommended winterization activities and implementation modalities by area	HH winterization items	Invincibility kits	NFIs	Winter clothing	Heating Appliances	Solid Fuel	Cash for Utilities	SHELTER	Repair in CSs	Insulation of houses	Cash for rent
WESTERN HUB	areas with high concentration of collective sites	Cash or In-kind	In-kind	Cash or In-kind	Cash or In-kind	Cash or In-kind			Cash or In-kind			Cash
	areas with high concentration of IDPs renting accommodation or being hosted	Cash or In-kind	In-kind	Cash or In-kind	Cash or In-kind	Cash or In-kind		Cash				Cash
CENTRAL & NORTHERN HUB	areas with high concentration of collective sites	Cash or In-kind	In-kind	Cash or In-kind	Cash or In-kind	Cash or In-kind			Cash or In-kind			Cash
	areas with high concentration of IDPs renting accommodation or being hosted	Cash or In-kind	In-kind	Cash or In-kind	Cash or In-kind	Cash or In-kind		Cash				Cash
	newly accessible area, areas with difficult access to services and markets	In-kind	In-kind	In-kind	In-kind	In-kind	In-kind			Cash Or In-kind		
	frontline and isolated areas	In-kind	In-kind	In-kind	In-kind	In-kind	In-kind			In-kind		
	areas with concentration of damaged houses and apartments	Cash or In-kind	In-kind	Cash or In-kind	Cash or In-kind	Cash or In-kind	Cash or In-kind	Cash				Cash
EASTERN HUB	newly accessible area, areas with difficult access to services and markets	In-kind	In-kind	In-kind	In-kind	In-kind	In-kind			Cash Or In-kind		
	areas with high concentration of collective sites	Cash or In-kind	In-kind	Cash or In-kind	Cash or In-kind	Cash or In-kind			Cash or In-kind			Cash
	frontline and isolated areas	In-kind	In-kind	In-kind	In-kind	In-kind	In-kind	Cash		In-kind		
	areas with concentration of damaged houses and apartments	Cash or In-kind	In-kind	Cash or In-kind	Cash or In-kind	Cash or In-kind	Cash or In-kind	Cash				Cash

4.2 Areas of Intervention

Note: the division in geographical areas matches the Shelter cluster hubs division.

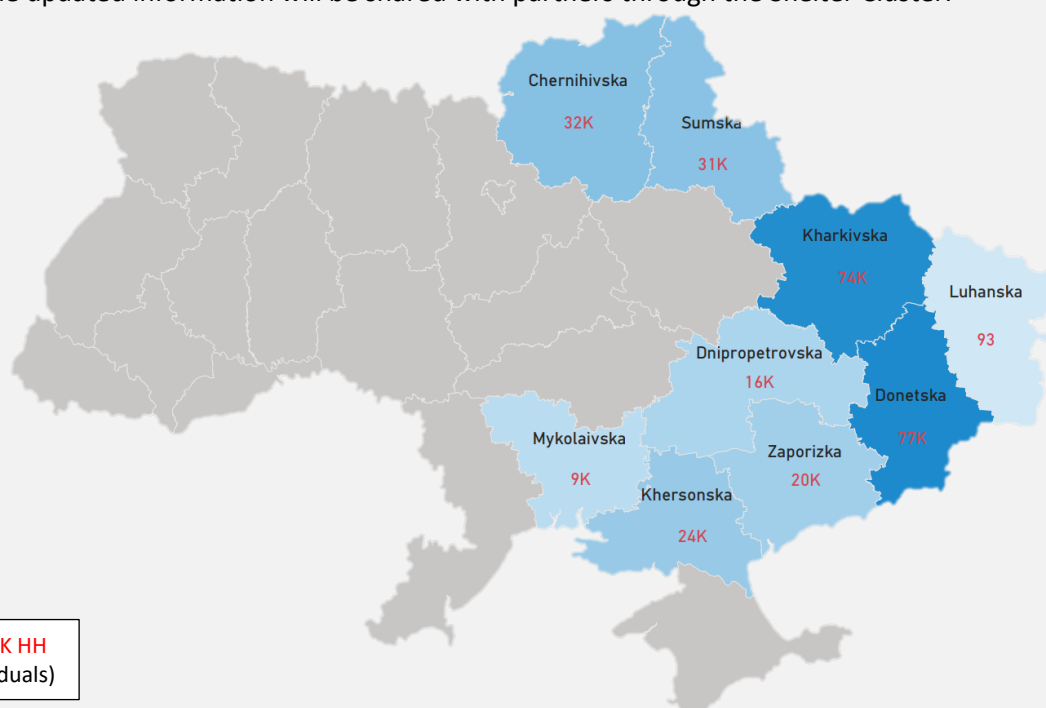
The division itself is to be intended as indicative and the purpose is purely to group together oblasts with similar needs and context, to make these recommendations easier to draft and consult.



The focus of the assistance will be different, depending on the geographical areas:

- **Western, Central and Northern hubs**
 - Areas with high concentrations of collective Sites
 - Areas with high concentration of IDPs renting accommodation or being hosted
- **Central, Northern, and Eastern hubs**
 - Areas with high concentrations of collective Sites
 - Newly accessible areas; areas with difficult access to services and markets
 - Frontline and isolated areas
 - Areas with concentration of damaged houses and apartments

Note: This map indicates the oblasts identified and shared by the Ministry of Reintegration as priorities for the provision of solid fuel (fire wood) and the number of households who will require assistance to meet their needs in the winter season 2023-2024. These highlighted oblasts match with shelter cluster's priority oblasts. We obtained this information from the ministry by June 15, 2023. The total number is expected to undergo changes. The government of Ukraine is planning another round of data collection to update these figures, covering not only for the highlighted oblasts but also for the entire country. Following the data collection, the updated information will be shared with partners through the Shelter Cluster.



4.3 Target Groups

The prioritised target groups are as following:

4.3.1 Displaced families in Collective Sites (CSs) ²

According to CCCM cluster, there is around 112,000³ people living in collective Site. Assessments⁴ indicate that a significant number of these CSs will require interventions to make them ready for the winter season (14 % of assessed CSs reported lack of insulation, 32% need windows repairs, 13% reported leaking roofs, 14% electricity problems...) while over one

² Please be informed that at times, the terms "Collective Sites" (CSs) and "Collective Centers" (CCs) are used interchangeably. However, for the context of this document, it is understood that they refer to the same concept.

³ Information taken from CCCM Cluster's master list.

⁴ Ukraine: Collective Site Monitoring: Round 7 (march 2023) ([link](#))

quarter (27%) of the CSs reported the need of an additional heating source, including generators (63%), electric heaters (47%) and solid fuel boilers (17%).

4.3.2 Non-displaced families in war-damaged areas

This target group includes particularly vulnerable people living in isolated villages or neighbourhoods not connected to main energy and heating distribution grids and where the delivery of solid fuel may result problematic or simply expensive due to the security situation. There are areas in Kharkivska, Sumska, Chernihivska, Zhytomyrska, Odeska, Mykolaivska, Khersonska and Kyivska oblasts were identified as 'at-risk' areas by the Government due to extensive damages to the infrastructure. Especially during 2023 and aftermath of explosion of the Nova Kakhovka dam, USC considers Zaporizhka and Dnipropetrovska oblasts also as 'at-risk' areas. Mykolaiv Oblast and Khersonska Oblast are regions that lack significant resources in terms of firewood due to their steppe terrain, devoid of forests or similar natural sources. While they do have formal forestry establishments, all the firewood required in these regions is imported from the Northern branches of the state forestry.

This situation adds an additional layer of risk and vulnerability for the beneficiaries residing in these areas, as the prices of firewood could potentially soar due to the high delivery costs involved.

By 2022, the war has caused a significant damage to public utilities and infrastructure in many areas, which left over 650,000 people across Ukraine without access to electricity and gas and an additional population at risk of losing access to heating due to potential war-related damage to centralised heating systems the actual numbers could be much higher during 2023-24. The specific focus of the strikes throughout 2022-23 suggests that Russian attacks have predominantly targeted energy infrastructure. It is probable that this trend will continue in 2023-24. In buildings where heating systems exist, hostilities of the war and inability to repair damage have left them functioning sub-optimal. With a risk of further damage during the winter months, contingency solutions are critical.

Many affected communities face significant limitations in accessing functioning markets for solid fuel, stoves, winter clothes, and other winter essentials. Availability of safe/ affordable transportation to and from markets is varied. Areas particularly impacted by market access constraints include regions of Mykolaivska, Sumska, Khersonska and Kharkivska oblasts near the front line, with large areas of the occupied Donbas region remaining inaccessible.

Possible liberation of any new territories will lead to additional case load of non-displaced families in de-occupied areas.

4.3.3 Non-displaced and returnee families in damaged houses

In half of the assessed locations where 40 percent or more of the residential structures have been damaged or destroyed by war had a rate of return of 60-100 percent, indicating that some returnees are likely to be living in damaged shelters in these locations.⁵

4.3.4 Displaced, non-displaced and returnee families in substandard houses

Reference is to:

- (a) displaced families, with limited budget, who found a basic accommodation often in rural or small urban areas where living costs are lower than in bigger towns. Although local authorities have provided basic refurbishment to some of the dwellings they have allocated to IDPs, many are expected to be still in need of maintenance and repairs or at least of further interventions to improve insulation. Even some partners have observed that in areas close to the frontline (E.G. Zaporizhka oblast), there are people living in impoverished conditions, some reportedly are residing in sheds.
- (b) non-displaced and returnee families who live in or returned to their own houses, in isolated or newly accessible areas in central and eastern oblasts.

Their houses may not be damaged by war, but still need maintenance and repairs or at least of improved insulation. This is because they have been left vacant for an extended period without any upkeep.

Important: substandard houses exist in all oblasts, all over the country and independently from the conflict; as far as the insulation of substandard houses is concerned, the focus of shelter agencies in this winterisation response will be on the three target groups mentioned above (displaced, non-displaced and returnees), and limited to isolated or newly accessible areas in central and eastern oblasts.

4.3.5 Displaced, hosting, non-displaced and returnee families not able to pay for utility bills

Particularly vulnerable IDPs renting apartments or families hosting IDPs with increased consumption of electrifies & heating, as well as non-displaced people or families returning to their houses in war-damaged areas may not have the financial resources to cover utility bills during winter months. MPC (multi-purpose cash) grants may not be sufficient to cover the increased costs and a dedicated additional timely grant support may be needed.

5 Activities

Note: As a general consideration, although humanitarian agencies, coordination bodies, donors and even governmental counterparts tend to treat winterisation as a specific, separated, time-bound action, the Ukraine Shelter/NFI Cluster necessarily operates from a different perspective.

In fact, practically all NFI-related activities, independently from the time of the year they are implemented, can be considered as - and directly contribute to - the winterisation response.

This applies even better to shelter activities: all “regular” house repairs, as well as all “regular” refurbishments of collective Sites, by their nature restore or improve the “thermal envelope” which protects the inhabitants from whether elements and can all therefore by their nature be considered “insulation” and “winterisation” interventions. During this period, all activities will be categorized and reported as winter achievement activities. However, only those activities specifically related to winterization will be budgeted in HRP.

In order to harmonize responses, partners of the Shelter/NFI Cluster agreed to adopt the following activities as recommended and prioritized for their winterisation response plans:

5.1 Winterisation non-food items

Financial constraints limit the purchasing capacity of displaced non-displaced and returnee families. This includes winterisation items used for personal insulation or for the heating of living spaces.

In the past years, winterisation programmes that helped people purchase basic winter items had in general a particularly relevant impact and are, now more than before, to be considered as a priority for the winterisation response.

It is crucial that the provision of winterisation NFIs should always be informed by an assessment of local markets, to help the decision on the implementation modality (in-kind vs cash).

Items listed in Activities 5.1.1 and 5.1.2 are not to be considered (procured, distributed and reported) as a kit. Some items, though - in particular those under List A, in Activity 5.1.1 - are already included in one or more of the other Cluster’s standard kits (namely: Displaced and non-displaced HHs; Non-displaced HHs in bomb-shelters; CC equipping). Agencies are recommended to consider - whenever possible - the distribution of the entire kit instead of the distribution of single items. For more information on reporting, please seek guidance by contacting shelter cluster.

5.1.1 Household winterisation items

(distribution of NFIs to increase individual thermal comfort)

This activity covers the distribution of winterisation items that are not already included in other sections of Activity Group 1 (see 5.1.2, 5.1.3, 5.1.4 here below).

List A		List B	
▪ mattresses	40-50 USD	▪ quilts	15-18 USD
▪ sleeping bags	35-45 USD	▪ rescue blanket foils ⁶	3-5 USD
▪ high thermal blankets	18-22 USD	▪ thermos flasks	10-20 USD
		▪ portable stove + dry fuel (or candles)	13-17 USD

5.1.2 Invincibility kits

(distribution of NFIs to increase collective thermal comfort)

An “invincibility kit” is a new modality of response introduced by the Shelter Cluster in Ukraine to prepare and equip invincibility points and bomb shelters, which are spaces designed to protect the

⁶ Items like rescue blankets should be accompanied by a user manual to provide clear instructions for their use to the intended beneficiaries.

civilian population during acts of aggression from Russian federation. These points have been identified as potentially under-equipped and in need of humanitarian assistance, as reported by the government. For 2023, the Shelter Cluster replaced its previous "bomb shelter kit," which was a family kit system, with the more comprehensive and efficient "invincibility kit."

The "invincibility kit" is specifically designed to cater to larger groups, accommodating up to 20 individuals, to ensure the protection and resilience of a greater number of people during Russian attacks and maintain the preparedness for the shelters for longer period of time.

We include winterisation items to equip invincibility points and bomb shelters for individuals and collective use such as sleeping items, kettle, emergency generator, etc. (See annex 9.2)

5.1.3 Winter clothing

(distribution of warm clothes to increase individual thermal comfort)

Items in the list are not to be considered (procured, distributed and reported) as a kit. At the same time, the Shelter/NFI Cluster does not encourage partners to provide partial assistance to families' in needs.

Table 3 - Winter clothing set

Winter Clothing set			
Composition and indicative prices 2023-2024			
Item	Cost		Item
Winter jacket	85-105	USD	Winter hat
Winter boots	40-60	USD	Winter scarf
Thick socks	5-8	USD	Thermal underwear
			40-50 USD

5.1.4 Home heating appliances

(distribution of heaters to increase living spaces thermal comfort)

Home heating appliances include electric and solid fuel heaters, stoves and other heating appliances to heat rooms in homes and in reception, transit and collective Sites.

Electric heaters are safe and easy to use, and therefore preferable to solid fuel heaters, especially for elderly and people with limited mobility. Moreover, they often represent the only option in multi-apartment buildings. Please note that the downside of this modality is of course the power outages during the winter.

Table 4 -Electric heating - Home kit

Electric heating - Home kit				
Recommended quantities (per HH) and indicative prices 2023-2024				
Item	Q.ty	Unit cost	SubTotal	
Electric heater convector or Oil-filled	1 pc	150 USD	150	USD
Fuse	1 pc	3 USD	3	USD
Cable	15 m	0.9 USD	13	USD
Foil polyethylene foam canvas	10 m2	3 USD	30	USD
Mounting foam	1 pc	7.3 USD	7	USD
Windows acrylic sealant	3 pc	3 USD	9	USD
TOTAL			212	USD

However - as already pointed out by local administrations in several coordination meetings - humanitarian agencies planning large distributions of electric heaters in the same apartment building or in a collective Sites, should also make sure that the wiring is adequate to support the increased load, and

replace it whenever needed. This may prove expensive and time consuming; and also, for this reason the recommendation is to stick to the Shelter Cluster principle of a targeted winterisation assistance. In cases of distribution of heaters in CSs, it is advised to discuss with the CC's designated electrician.

Solid fuel heaters Even though this modality is energy sufficient/economical and can be used during disruption of electricity and gas, it requires loading, cleaning and a place to store coal, firewood, pellets, etc; moreover, they are less safe than other options (Risk for fire, carbon monoxide intoxication⁷, child safety). For these reasons, they are moderately not recommended in urban settings (especially in apartment buildings) and for elderly and people with limited mobility. However the need assessment can still show the data that justifies this modality. There has been reports from the field that some rural and peri-urban areas and even occasionally urban areas that rely on solid fuel heaters.

Table 5 - Solid fuel heating - Home kit

Solid fuel heating - Home kit					
Recommended quantities (per HH) and indicative prices 2023-2024					
Item	Q.ty	Unit cost		SubTotal	
					Specifications
Solid fuel heater stove*	1 pc	200-400 **	USD	200-400 USD	Indicative price for locally manufactured Burzhuika stoves (cast iron or steel; heating area = 35 m2) example product: Buleryan (classic, steel; heating area = 40 m2)
Exhaust pipe	1 pc	250	USD	250 USD	5 m + wall cross + Insulated
Galvanized iron sheet	1 pc	20	USD	20 USD	1 x 2 x 0.0005m
Foiled polyethylene foam canvas	10 m2	55	USD	55 USD	8mm thickness (+screws+ batons)
Windows acrylic sealant	3 pc	3	USD	9 USD	300 ml tube operating temperature range: -20 °C...+75 °C
TOTAL:				634	USD
Solid fuel supply Example: Fire wood	6 m3	85	USD	510 USD	
TOTAL with fuel:				1144	USD
OR					
Solid fuel supply Example: Coal	2.25 MT	450	USD	1015 USD	Example: Coal is referenced here particularly for NGCA. But other parts of country could still be in need of coal as well.
TOTAL with Coal:				1649	USD

*There is a certain type of Burzhuika that are suitable for enclosed spaces and can be used for cooking. For smaller enclosed housing units we recommend these. The latest reported price is around 200 \$.

**The 400 \$ Burzhuika may not have the cooking option, and it is more suitable for larger areas and open spaces.

However, as per the past years' experience with winterisation support, the provision of solid fuel stoves - like the locally manufactured **Burzhuika**⁸ or the popular product **Buleryan**(which is a type of **Burzhuika**)- proves to be an effective response in case of disruption of gas and electricity supplies, as it is often the case in the aftermath of damages to civilian infrastructure.

The distribution of solid fuel heaters should be limited to areas where purchase and delivery of coal, wood, pellets, etc. are feasible; and should always be complemented by the provision of the recommended amount of solid fuel (see 5.1.4). These areas could even include non-governmental controlled areas (NGCA).

Agencies distributing heaters and stoves should also make sure that beneficiaries receive adequate information on how to operate them safely and are aware of potential risks, including that represented by the use of materials containing asbestos; agencies distributing heating appliances - repairing or connecting

7 Please see annex 9.3

8 For instruction and safety manual, please refer to the safety manual prepared by PiN via this [LINK](#).

to existing heating and hot water systems - must be aware that in Ukraine asbestos was only outlawed in September 2021. As such, asbestos has been extensively used both as insulation inside boilers and heaters, and as lagging to insulate pipes, as well as reinforcing in cement piping.⁹

5.1.5 Provision of Solid fuel

(in-kind distribution of coal, firewood, briquettes, pellets for solid fuel heaters)

Priority areas for the distribution of solid fuel will be newly accessible areas and isolated locations where solid fuel heaters are used but access to market is difficult, dangerous, or expensive as a consequence of the conflict. In these areas, cash approaches do not meet local needs, and the only available implementation modality is in-kind distribution.

More than in the past, Cluster partners are highly recommended, in the coming winterisation, to consider working in close cooperation with state actors, as opposed to the usual procurement through commercial companies. Preference for this approach comes as a clear and frequent request from local authorities but also ministries and applies in particular to the procurement of firewood: The State Forest Resources Agency acts also as a producer and supplier and has offered to provide the entire quantities needed by humanitarian agencies for their winterisation programs of in the country at state-regulated price (generally lower than market prices). Please be informed that prices can vary greatly based on region, for example coal in some areas of Donetsk can have lower value compare to Sumy or Chernihiv.

Table 6 - Heating sources

Heating sources - Equivalence table						
Quantities for one HH for one season* and indicative prices 2023-2024						
kind	quantity		unit	unit price (USD)	tot cost (USD/ season)	notes
Coal	recommended	4	MT	450	1800	Unit price does not include transportation.
	minimum	2	MT		900	
Firewood	recommended	8	m ³	85	680	Unit price does not include transportation. Cheaper than coal, but requires tending. In very specific cases is not recommended for elderly or disabled persons.
	minimum	4	m ³		340	
Briquettes	recommended	4.5	MT	320	1440	Unit price does not include transportation. Easier to handle than coal. Recommended in case of unavailability of coal.
	minimum	2.25	MT		720	
Pellets	recommended	6.0	MT	300	1800	Unit price does not include transportation. Easier to handle than coal (recommended for elderly); requires special stoves.
	minimum	3.0	MT		900	
Gas	recommended	2,400	m ³	0.22	528	
	minimum	1,200	m ³		264	
Electricity	recommended	13,500	kW	0.07	945	
	minimum	7,000	kW		490	
Centralised heating	recommended	15	Gcal	46	690	Recommended amount of assistance refers to the whole season (6 months). The minimal amount means coverage of 3 winter months.
	minimum	7.5	Gcal		345	

***Note:** the table above compares the costs of different sources of heating; its purpose is to provide guidance when choosing the type of intervention. The suggested “quantity for one family for one season” refers to the indicative rough average quantity necessary for each type of source to produce 20 gigacalories, which is here assumed to be roughly equal to 80% of the heating needs of an average family (which is set to be 3 according to the HRP) for one winter (for “Centralised Heating”, though, the recommended quantity is set at 10 Gcal in consideration of the smaller volume of apartments, compared to individual houses). “One season” refers to the winter period from 15 October until 15 April.

9 For Information regarding asbestos and associated guidelines, please refer to [Shelter Cluster Ukraine website](https://sheltercluster.org/).

5.1.6 Cash for utilities

(provision of grants to cover increased utility bills)

This activity aims at providing timely and adequate financial support to the groups listed above; the grant will cover additional utilities costs that families (including host families) are going to face in winter months, and for which - at least for most vulnerable families within those groups - MPC (multi-purpose cash) grants may be insufficient or not timely.

Please note that in some cases the HHs are still dealing with debts for the utilities from the previous year. And in cases of extremely vulnerable cases we recommend to cover the debts as part of this activity.

For calculation of the amount, Reference is Table 6 (heating sources), which indicates a system to calculate, for different heating sources or systems (coal, electricity, gas, etc.), a comparable “per family per season consumption” and - based on that - provides indications on the expectable cost associated to each source or system.

This activity is meant to assist:

- a. IDPs renting houses or hosted by host families
- b. non-displaced and returnees
- c. families hosting IDPs (Prykhyvstok program)¹⁰

The Government of Ukraine Prykhyvstok program provides cash assistance to help vulnerable host families cover the additional costs related to hosting a displaced family in their house for free; and aims at encouraging hosting as an alternative option to cover temporary shelter gaps. This activity is implemented by Ukrainian Red Cross Society (URCS) as a partner of choice of the Ministry of Reintegration; and is regulated by a Government decree. The cash transfer value is defined by the Government decree and doubled during winter months to cover additional winter expenditure. Providing around 900 UAH per IDP hosted per month during winter months. This humanitarian assistance complements other government's aid efforts and applicants are deduplicated via government systems; verification, payments and monitoring are done via the integrated URCS Cash Platform with added accountability measures. The Prykhystok programme has been implemented since April 2022, originally under the Ministry of Communities and Territorial Development, transitioning to the Ministry of Reintegration in May 2023.

5.2 Critical winterisation repairs

5.2.1 Repair in Collective Sites

(critical shelter interventions to guarantee minimum heat retention and winter efficiency)

Repairs in CSs include “regular” works (not classifiable as “winterisation”) like fixing leaking roofs, replacing inefficient windows and sealing gaps, with the aim at assuring minimum insulation standards (restoration of the “thermal envelope”, in all similar to the scope of light and medium repairs of houses and apartments, please see the annex 9.1).

Winterisation interventions in CSs may include the repair of the existing or the installation of a new heating system, where necessary.

5.2.2 Insulation of substandard houses

(shelter interventions to improve heat retention and winter efficiency)

Works recommended under this activity are not part of “regular” emergency house repairs; they include instead works - like the replacement of old windows with new more energy-efficient windows and the installation of ceiling insulation panels - that can be considered as a “top-up” to regular light, medium and heavy repairs. Please be aware that it is of utmost importance to consider asbestos

¹⁰ For Information regarding Prykhyvstok program, please refer to [link \[UA\]](#).

guidelines when selecting insulation materials in the market, as some products may potentially contain asbestos.¹¹

Unlike regular home repairs, though, target of this activity will not be limited to houses damaged by military activities, but will include:

- (a) houses recently allocated to displaced families that were not part of the government programme of thermal upgrades or that require complementary interventions;
- (b) substandard houses where IDPs are hosted by a hosting family;
- (c) substandard houses inhabited by their non-displaced owners.

Similarly, to the distribution of solid fuel, priority areas for this activity will be isolated or newly accessible areas. For the purpose of this document, we consider “substandard” a house which - despite a functioning heating system and no damages to the “thermal envelope” - has an extremely limited energy-efficiency. This limited energy-efficiency - consequence of poor design, low quality construction material and lack of maintenance - results in the thermal envelope’s insufficient capacity to maintain the indoor temperature to an acceptable minimum¹².

Table 7 - Home ceiling insulation kit

Home ceiling insulation kit					
Item	Q.ty	Unit cost	SubTotal		Specifications
OPTION 1 Extruded polystyrene foam panels	40 m2	9.2 USD	368	USD	Thickness: 100 mm Density: 25 kg/m3 or more Dimensions: 1000 x 500mm (1 sheet)
OPTION 2 Basalt wool panels or rolls	40 m2	5 USD	200	USD	Thickness: 100 mm Density: 30 kg/m3 or more Dimensions: depends on the type (plates/rolls)
Tarpaulin	3 pcs	15 USD	45	USD	Dimensions: 4000 x 5000mm (effective area: 20 m2) Weight: minimum 190 gr/m2 +/-20g/m2 Gross weight per piece: approx. 4.27 kg
Other complementary materials			40	USD	Screws, lath, staples, and other complementary material needed for the installation of the insulation
Insulation foam	1 pc	7.3 USD	7	USD	850 ml bottle
TOTAL option 1			460	USD	!!! Please be aware that Polystyrene is flammable and can catch fire easily.
TOTAL option 2			292	USD	

Table 8 - Windows replacement

Windows replacement					
Item	Q.ty	Unit cost	SubTotal		Specifications
Prefabricated windows (pvc)	up to 5 pcs	150 USD	750	USD	Prefab PVC window package (frame + glazing) Triple-glazing (two insulating cells in between panes) Class of glazing ¹³ : M1 or M2 $R_{q\ min}$ (Thermal Insulation) ¹⁴ : 0.7 or 0.9 m2*K/W Depending on the zone (see the footnote)
Polystyrene foam panels	15 m2	5.1 USD	76.5	USD	Thickness: 100 mm Density: 30 kg/m3 or more Dimensions: depending on type (plates/rolls)
Plasterboard (drywall)	15 m2	4.7 USD	70.5	USD	Type: moisture resistant Thickness: 12.5 mm

11 For Information regarding asbestos and associated guidelines, please refer to [Shelter Cluster Ukraine website](#).

12 +18 °C (but +20 °C for corner rooms). Reference is the Resolution of the Cabinet of Ministers 21.07.2005 # 630 ([link](#)).

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

14 DBN B.2.6-31:2021 page 13 ([link \[UA\]](#)).

Plaster for slopes	100 Kg	3.2 USD	32 USD	Type: cement-limestone base Operating temperature: from -50 0° to +70 0° Crack resistance: certified for cracks with total thickness of layers of 20 mm.
Paint	2 L	3.5 USD	7 USD	Type: acrylic, water emulsion
Insulation foam	3 pcs	7.3 USD	22 USD	850 ml bottle
TOTAL			958 USD	

5.2.3 Rental Assistance (provision of grants to cover rental costs)

The winterisation component of the broader Cash for Rent initiative is specifically designed to mitigate the impact of and facilitate the decongestion of Collective Sites. This effort is particularly targeted to address the challenges that arise during the peak period in September, coinciding with the start of the new school year.

This activity is meant to assist IDPs renting houses: Reference for this activity is the document Recommendations on Cash for Rent assistance in Ukraine 2022, produced by the Shelter Cluster Technical Working Group on Shelter/NFI Monetisation, led by NRC.¹⁵ A new SOP for this activity is a under development by the Shelter Cluster Technical Working Group on Rental market assessment, currently led by UNHCR. (Tentative publish date is October 2023.)

Note: The Shelter Cluster’s approach to winterisation non-food items (NFI) remains the same as for all other Shelter Cluster NFI kits:

- on one side, the Cluster acknowledges the different capacity, approach and strategy that different partners have in this response and that will necessarily result in differences in the composition of the winterisation NFI they will choose to distribute;
- on the other side, the Cluster promotes the harmonisation of the response as a way to make sure that (a) winterisation assistance received by anyone in need is complete, sufficient and up to the agreed standards; and (b) minimise 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.

The aim of the recommendations in the NFI section is not at compiling an exhaustive list of “all items that could be useful” in a winterisation response, but rather at providing guidance on the selected items which have been indicated by the Cluster’s Winterisation TWiG as “essential”.

Partners are expected to retain a degree of flexibility in designing their response, including the possibility to add winterisation items to the list recommended in this document, based on their own strategy, assessment and capacity and with a needs-driven, context-tailored approach; they will be at the same time requested to comply with the principles of harmonised assistance mentioned above.

It’s worth reminding that at the beginning of the current humanitarian response, and without explicitly referring it to “winterisation”, the Ukraine Shelter Cluster had defined three standard NFI kits (please see USC’s activity matrix). All three kits already included one or more items that are a direct response to the lifesaving need to keep the body warm and dry (beds, mattresses, sleeping bags, ground mats, blankets) and already represented a winterisation activity. Utilizing the Cluster standard NFI kits — beside the non-food items recommended in this document — should also speed up the process of procurement, pre-positioning, stockpiling and delivery to the people in need.

15 Technical Working Group (TWiG) on Shelter/NFI Monetization led by NRC, August 2022 ([link \[EN\]](#)).

5.3 Note on Quality Control for In-Kind Assistance

This is an essential facet of ensuring the efficacy and integrity of in-kind assistance within the shelter cluster. 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 fortify this commitment, the cluster's technical coordinator stands as a resource for partners requiring 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.

5.4 Note Regarding the Recommended Prices in This Document

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 meant solely to provide partners with a general idea of the price range for the calculation of their winter planning. It is important to note that larger organizations often engage in bulk purchases from international suppliers under pre-negotiated contracts, which can result in more favourable pricing. For the purpose of calculating the Humanitarian Response Plan (HRP) budget, updated price information will be utilized, which might deviate from the prices presented in this document. Should further clarifications be required, we encourage you to reach out to the Shelter Cluster for consultation and additional information.

6 Engagement with the Government

Since 2014, Shelter and NFI agencies have supported central Government and local authorities' efforts in the provision of winterisation assistance. The humanitarian winterisation assistance reached the most vulnerable people who resided in hard-to-reach areas and non-government-controlled territories. Humanitarian agencies' role became - in the course of the response - more and more attentive and complementary to authorities' programmes. Coordination with authorities was critical in developing and delivering feasible and effective winterisation support.

In the new phase of the humanitarian response, started in February 2020, the impact of the war and the scale of the subsequent displacement are unprecedented and affect locations and population groups not targeted in past winterisation campaigns. An effective contextualised approach requires new thorough analyses that take into consideration the differences in the context (geography, type of damage to houses and infrastructure, economic conditions of affected people).

Mapping, capacity assessment and, when the case, repair of critical infrastructure - including central fuel and energy supply services - will be essential in the humanitarian agencies' effort **to complement the response by government and private sector providers** and make it effective: humanitarian agencies' programmes will aim at filling more immediate gaps based on direct and in-kind approaches targeted toward vulnerable families and individuals.

In designing their programmes and implementing their winterisation activities, humanitarian actors will:

- make sure that information on their winterisation programmes is timely shared with central and local authorities, and support provided for targeted and effective activities
- make sure that also procurement plans for winterisation non-food items — for immediate distribution or emergency stockpiling — are shared with central and local authorities. Strategic locations selected in partnership with government will improve responsiveness. With the unpredictable, dynamic nature of the conflict, affected populations are being subjected to multiple rounds of displacement, and humanitarian preparedness plans need to take the dynamics of conflict sensitivity into account, in terms of contingency quantities and partnership arrangements.
- gather information on any central or local authorities' winterisation initiatives, and will make sure that their organisations' activities complement and don't overlap with existing similar government programmes (for example, winterisation subsidies and social benefits).

Note: State winterisation assistance for vulnerable families is covered through subsidies (a reduction on the amount of certain fees). The subsidy program was initiated in 1995 by a decision of the Government of Ukraine as the main mechanism of social protection to help low-income families during times of rising rents and tariffs. There are two types of winterisation-related subsidies:

for administration services and utilities, meant to respond to the needs of low-income families living in publicly-owned apartment buildings;

for the purchase of liquid and solid fuel for heating¹⁶, meant to respond to the needs of low-income families living in privately-owned detached houses.

These subsidies cover only part of the bills; the remaining part still needs to be paid by the family who receives the subsidy. The calculation of the amount covered by the subsidy is based on the cumulative income of family members.

¹⁶ The minimum annual subsidy for a family is calculated

- for solid fuel: on the cost of 2 metric tons (of unspecified fuel)
- for liquid gas: on the cost of 2 gas cylinders (households with 1-2 members), 3 gas cylinders (3-4 members) or 4 gas cylinders (5+ members). A gas cylinder is 21 kg.

More information regarding the calculation of the amount of the subsidy can be found on the website of the Ministry of Social Policy¹⁷.

More information regarding utilities prices, subsidies and wages can be found on the websites of the State Commission for the regulation of energy and communal services¹⁸ and of the State Statistics Service¹⁹.

IMPORTANT: when identifying beneficiaries for winterisation programmes, agencies should always first verify whether these potential beneficiaries are receiving state subsidies. This can be done through the link <https://subsidiy.ioc.gov.ua> or through direct verification with Admin-4 level local authorities. (Admin-4 refers to the data in settlements level)

In general - as recommended in table 2 (Beneficiary Selection, next page) - agencies should not prioritise beneficiaries receiving state subsidies, as subsidies are expected to cover a family's basic winterisation needs.

In case a family, eligible for state subsidies, is actually not receiving them or facing delays, the first action by humanitarian agencies should be to refer their case to HLP (housing, land and property) agencies with the aim at making sure that they are re-included in state programmes. When this due step is not feasible, humanitarian agencies should consider this family eligible for winterisation assistance.

Beside subsidies and social benefits for utilities for vulnerable families, the Government of Ukraine has a major impact in the winterisation response especially through the provisions that guarantee the volume of the supply of gas for heating and control its price²⁰. At the moment of drafting this document, it is expected that provisions are extended for next winter season; in the absence of alternatives (gas is the major source for the public centralised heating grid), the return to a market price regime is expected to significantly impact the country's heating plans and budget.

17 <https://www.msp.gov.ua/timeline/subsidiy.html>

18 For gas: [https://www.nerc.gov.ua/sferi-diyalnosti/prirodniy-gaz/spozhivachi-yaki-ne-ye-pobutovimi/cini-na-prirodniy-gaz-spozhivacham-yaki-ne-ye-pobutovimi](https://www.nerc.gov.ua/sferi-diyalnosti/prirodniy-gaz/spozhivachi-yaki-ne-ye-pobutovimi/cini-na-prirodniy-gaz-spozhivacham-yaki-ne-ye-pobutovimi/cini-na-prirodniy-gaz-spozhivacham-yaki-ne-ye-pobutovimi)

For electricity: <https://www.nerc.gov.ua/sferi-diyalnosti/elektroenergiya/naseleannya/cini-ta-tarifi-na-elektroenergiyu-dlya-pobutovih-spozhivachiv-naseleannya-v-ukrayini/fiksovani-cini-na-elektrichnu-energiyu-dlya-pobutovih-spozhivachiv-z-1-zhovtnya-2021-roku>

For hot and heating water: <https://www.nerc.gov.ua/sferi-diyalnosti/teplo/naseleannya/poslugi-z-postachannya-teplovoyi-energiyi-ta-postachannya-garyachoyi-vodi>

19 Average wage: https://ukrstat.gov.ua/operativ/operativ2005/gdn/reg_zp_m/reg_zpm_e/arh_zpm_e.htm

20 Resolution of the Cabinet of Ministers of 19 July 2022, no. 812 ([link\[UA\]](#), [link\[ENG\]](#)).

7 Beneficiary selection

2023-2024 Winterisation assistance will be based on a targeting approach; recommendation comes also from the Government. To make sure that the most in need will be assisted first, humanitarian agencies should adopt a system of successive “filters” to choose in a responsible way the final recipients of the assistance. The proposed filters - and the sequence with which they should be applied - are outlined here below. Moreover, the targeting approach varies depending on the type of intervention. For instance, although providing solid fuel remains essential every winter, the distribution of heating appliances should be cross-referenced with the list of recipients from the previous year.

Table 2 - Beneficiary selection

Consistently with the role of complementarity with State’s initiatives, focus of shelter and NFI humanitarian agencies’ winterisation programmes should be all families who:

1. in general, will have their winterisation needs unmet because:

- unable to access basic winterisation means
- not receiving winterisation-related state support (state subsidies or other winterisation programmes; see chapter 6)
- have not received any assistance last year.



and, at the same time,
and more specifically

2. live in the areas identified as priority areas for winterisation assistance:

- in western, northern and central oblasts:
 - areas with high concentrations of collective sites
 - areas with high concentration of IDPs renting accommodation or being hosted
- in central and eastern oblasts:
 - areas with high concentrations of collective sites
 - newly accessible areas; areas with difficult access to services and markets
 - frontline and isolated areas
 - areas with concentration of damaged houses and apartments



and, at the same time,

3. belong to one of the prioritised target groups:

- displaced families in collective sites
- non-displaced families in war-damaged areas
- non-displaced and returnee families in damaged houses
- displaced, non-displaced and returnee families in substandard houses
- displaced, hosting, non-displaced and returnee families not able to pay for utility bills



and, at the same time,

4. belong to one or more of the vulnerability groups:

- people with disability or injury
- people with chronic illness or serious medical conditions
- older people (60+)
- women and children at risk:
 - single heads of households, and/or women who are the main caregivers for the family
 - adolescent boys and girls, unaccompanied children
 - pregnant and lactating women
 - women and children with an additional vulnerability with no support system

8 Winterisation post-distribution monitoring

All agencies are strongly recommended to include a post-distribution monitoring (PDM) component to the implementation cycle of their winterisation programs.

As in the past, the Shelter Cluster continues to promote the compilation of a shared list of questions that all Cluster partners agree to include in their PDM questionnaire.

The adoption of 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 winterisation response. This will ensure that consistent and standardized information is gathered and shared among all stakeholders.

The Shelter Cluster aims to consolidate the findings of various agencies into a single document. This document will be of utmost importance as it will allow the Shelter Cluster to incorporate the lessons learned, recommendations, and good practices from its partners.

9 Appendix

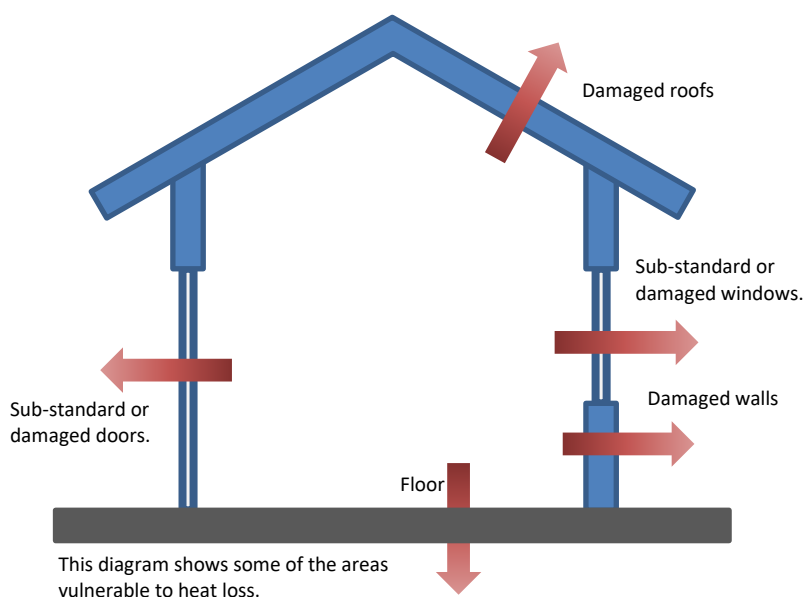
9.1 Thermal Envelope

The term "thermal envelope" refers to the minimum boundary or enclosure within a shelter that helps regulate the transfer of heat between the interior and exterior environments. It is a critical aspect of shelter cluster's response, particularly in emergency response during the winter when people are in need protection from the extreme cold.

The thermal envelope is designed to minimize heat exchange and maintain a comfortable and safe living environment inside the shelter, considering factors such as temperature, humidity, and wind conditions. It is essential to ensure that the shelter provides adequate insulation and protection against extreme temperatures.

The components that form the thermal envelope are: ²¹

- **Insulation:** The material used to prevent the transfer of heat through the walls, roof, and floor of the shelter. Insulation helps keep the interior temperature stable and reduces the need for additional heating.
- **Walls and Roofs:** The materials and repair of the walls and roof contribute significantly to the thermal performance of the shelter.
- **Doors and Windows:** These elements must be properly sealed and insulated to prevent the heat loss from the gaps between the edges and the wall.



A properly designed thermal envelopes contribute to improved health, well-being, and overall resilience of the affected population during times of crisis.

²¹ For Information regarding asbestos and associated guidelines, please refer to [Shelter Cluster Ukraine website](https://sheltercluster.org/).

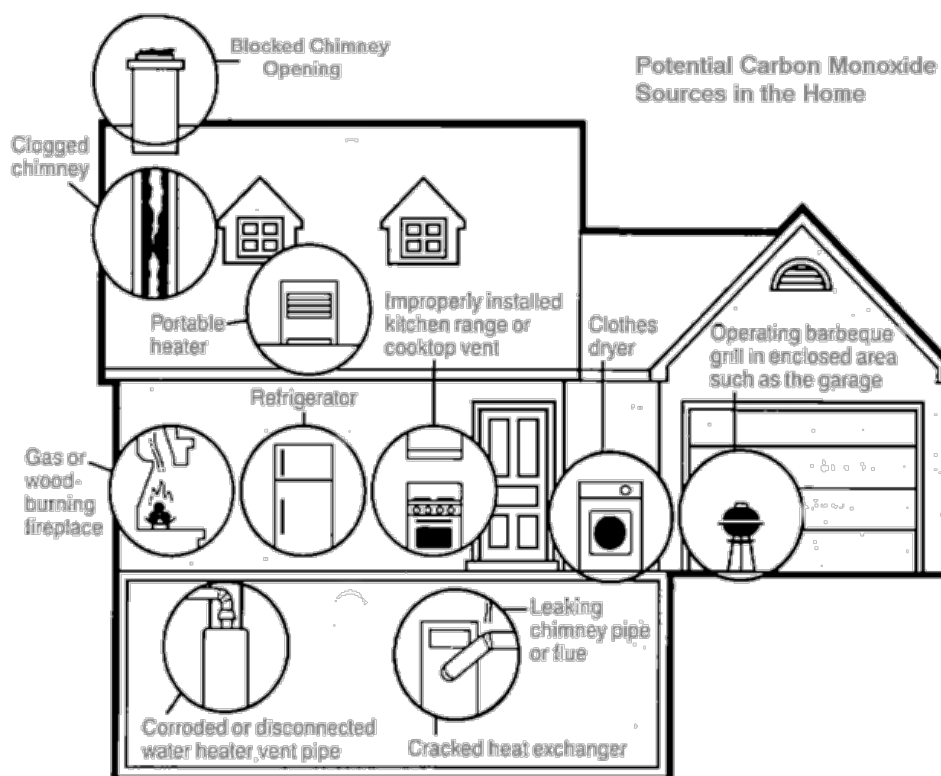
9.2 Draft of the content for the Invincibility Kit

Invincibility Kit (displaced, non-displaced) (for 20 individuals)							
No	Item	Qty	Size	Technical Specifications	Comments	Unit cost	Subtotal cost
1	Insulating floor mat	20	1.8m x 0.9m	Three layers:1- on the ground-side, a plastic mat, double weave. 2- an aluminized canvas, aluminum face upward.3- on upper-side, a fleece blanket.	Bedding	30 USD	600 USD
2	Mattress	4	0.9m x 1.9m 0.15m	High density polyurethane foam, in one piece, no glue assembled piece. 35kg/m ³ +/- 5%.	Bedding	46-60 USD	184-240 USD
3	Sleeping bags	20	0.7 x 1.9m	Thick layer of non-woven synthetic material covered on both sides with a synthetic/cotton sheet. 100% synthetic filling is recommended to avoid being rotted by moisture. Inner and outer lining: cotton/polyester mix, 100g/m ² minimum. Filling:100% polyester fibers	Bedding	35-50 USD	700-1000 USD
4	Folding chairs/benches	20				18 USD	360 USD
5	Jerrycan (optional)	2	10 L	Type: Complete with screw cap and molded carry handle of minimum 9 cm long. The inner diameter of cap minimum 30 mm. Drop test: can withstand drop of 2,5 m when at full capacity. Material: Non-collapsible Polyethylene plastic. Though flexible, food grade, low density polyethylene (LDPE), UV stabilized. With no sharp edges. Size: 10 L Weight: 455 grams minimum Color: Light color (yellow, white)	Water storage	5 USD	10 USD
6	Bucket	4	10 L	Metal bucket Outer diameter (up) 298 mm Outer diameter (down) 275 mm Inner diameter (up) 286 mm Inner diameter (down) 263 mm Height 371 mm Empty weight 1,5 kg	Water storage	4 USD	16 USD
7	Power bank lamps	4		Lamps do not need to be necessarily "solar lamps". The importance of the "power bank" function is instead confirmed as essential	A source of light and charging the phone	24 USD	96 USD
8	Electric Heater	3	1500W	1500W, 230V, Infrared, with thermostat (consider 100W/m ² to cover poorly insulated locals)		100 USD	300 USD
9	Emergency generator *	1	4-5kW	4 KW is preferable (typical socket can take up to 16 amps, which translates to 4,000 W)		600 USD	600 USD
10	Fuel Storage	2		Steel 2x20 liters jerrycan	Gener. Fuel storage	20 USD	40 USD
11	Kettle	2	1.2l			15 USD	30 USD
12	Water Storage			2x100 liter drums + 2x10 liters Jerrycans	Water storage	70 +5 USD	150 USD
13	Kitchen set	5	20 people			20 USD	100 USD
14	Fire extinguisher	1	9 L	Foam		35 USD	35 USD
						Total cost	3221-3577 USD

* Incorporating generators into this kit serves as a strategic approach to maintaining the functionality of invincibility points and bomb shelters, ensuring they remain heated even during power outages. The size and power specifications of these generators depends on the dimensions of the spaces they intend to warm, optimizing their effectiveness. However, it's important to note that these generators often have distinct wiring requirements in contrast to the existing infrastructure of the shelters. They aren't plug-and-play devices. Consequently, it is strongly advised that partner organizations coordinating the delivery of generators engage in dialogue with the designated electrician for the shelter space or other relevant experts. This kit has been introduced this year and it's still under development. Regarding any clarifications please contact shelter cluster.

9.3 Awareness about Carbon Monoxide Poisoning

Carbon Monoxide is a gas produced whenever a material is burnt. During the winter months, it is important that beneficiaries recognize the risk that they and their households could become exposed to the risk of carbon monoxide poisoning. Houses with functioning chimneys are better able to mitigate against this risk, while those that do not have chimneys should be encouraged to regulate ventilate their homes (opening windows and other openings to allow in fresh air. The risks of carbon monoxide poisoning are high without regular ventilation, because the gas is odourless and non-visible. Symptoms are similar to the flu. Beneficiaries should also have proper information about the physical symptoms of carbon monoxide poisoning including headaches, weakness, dizziness, nausea or vomiting, shortness of breath, blurred vision, or loss of consciousness.²²



²² For more information regarding Carbon Monoxide poisoning please visit: [Link](#).

9.4 Average monthly temperatures 2015 – 2023

The table presented below represents the maximum and minimum temperatures for each of the specified locations. It tries to illustrate the temperature decrease observed during the month designated as the shelter cluster Cold winter period.



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Kyiv	-1	2	7	17	21	25	27	28	23	12	6	3
	-8	-5	-1	5	9	14	15	15	11	3	0	-2
Odesa	2	5	10	15	21	27	31	31	26	15	11	7
	-5	-2	1	6	12	17	18	19	14	7	3	-1
Lviv	0	4	8	15	20	24	26	28	22	12	7	4
	-7	-3	-1	4	9	13	13	13	10	4	0	-2
Vinnytsia	-1	3	8	16	21	24	26	27	23	12	7	3
	-10	-6	-2	4	8	13	15	14	11	3	-1	-4
Sevastopol	6	8	10	13	17	23	26	28	25	16	12	8
	2	4	6	8	13	19	21	23	19	13	9	5
Dnipro	-1	3	8	17	22	26	30	31	27	13	8	4
	-8	-5	-1	5	10	15	16	17	11	3	0	-3
Kryvyi Rih	-1	4	9	17	22	27	30	31	27	14	9	5
	-9	-5	-2	5	10	15	15	17	11	3	1	-3
Makiivka	-1	3	9	18	23	28	30	32	25	13	7	3
	-8	-5	-1	5	10	15	17	18	12	2	-1	-4
Horlivka	-2	2	8	17	23	28	30	32	25	12	7	2
	-8	-5	-2	5	10	15	17	18	11	1	-1	-4
Kharkiv	-2	0	6	16	21	25	29	30	24	12	6	2
	-9	-6	-2	5	10	14	16	16	10	2	-1	-3

Courtesy of hikersbay.com