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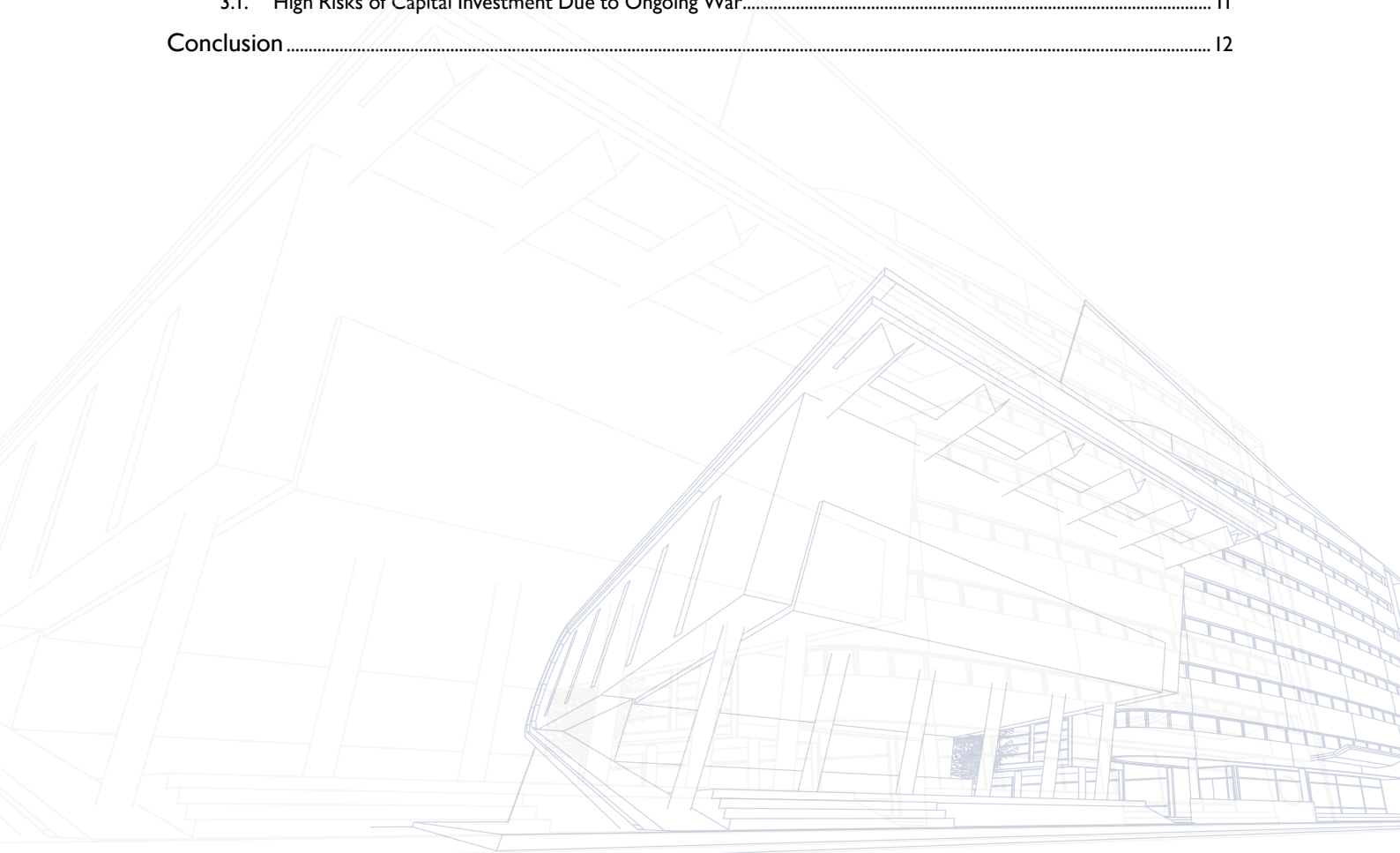
White Paper

Activating and Strengthening Ukraine's Reconstruction Capacity

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Contents

Executive Summary.....	2
I. Volume of Construction Materials and Equipment Required for Recovery: Their Importance for the Ukrainian Economy.....	3
I.1. Volume of Damage: Assessment of the Need for Construction Materials	3
I.2. The Importance of the Production of Construction Materials for the Ukrainian Economy	5
2. Assessment of the Readiness of the Ukrainian Construction Materials Sector to Meet Reconstruction Needs.....	6
2.1. The Current State of the Industrial Sector: Information from Manufacturers Regarding their State of Production.....	6
2.2. Missing Critical Construction Materials: Investment Needs.....	9
2.3. Measures to Support (Stimulate) the Production of Construction Materials and Equipment Necessary for Recovery	11
3. Improving Access to Finance for Key Construction Material Manufacturers in Ukraine	11
3.1. High Risks of Capital Investment Due to Ongoing War.....	11
Conclusion	12



Executive Summary

This white paper provides analysis and policy recommendations on maximizing the use of Ukrainian-made construction materials in the country's post-war reconstruction. This will greatly increase the impact of financial support from Ukraine's western partners since the funds will not only ensure restoration of damaged homes and infrastructure, but also provide much needed employment for war-affected Ukrainians and stimulate the revival of the country's industrial sector.

The full-scale Russian invasion of Ukraine led to widespread destruction of housing, production facilities, energy, social, and transport infrastructure. More than 3.5 million citizens have been left without homes and another 2.4 million have seen their homes damaged to varying degrees.

Ukraine's gross domestic product (GDP) is expected to decline by 30.2 percent in 2022. Accordingly, Ukraine will lag even farther behind neighboring European Union states in economic development. For example, Poland's nominal GDP is expected to exceed \$700 billion in 2022, while in Ukraine it will decrease to \$140 billion with almost the same population.

The decline of gross demand was the main factor in the economic contraction caused by the war. Domestic demand decreased sharply due to loss of jobs and income. Exports fell due to the shutdown of many industries, supply chain risks, and blocked maritime logistics. This compounded a pre-war tendency toward weakening of the manufacturing sector, which in 2021 had only a 10.4 percent share of the country's GDP. This is significantly less than in advanced economies, where it is 17–21 percent.

One of the main tasks for Ukraine's post-war recovery should be to increase the share of manufacturing in the economy. Maximum engagement of Ukrainian construction material manufacturers in reconstruction efforts would provide a strong start for this process, and this paper demonstrates that the sector has preserved its capacity and can play a leading role.

Assuming regular access to electricity, Ukrainian manufacturers could provide 90 percent of the construction materials needed for reconstruction as of November 2022, which the government has estimated at \$62.8 billion. Using Ukrainian-made construction materials could help preserve 100,000 jobs and facilitate \$5.6 billion in wages and \$4.4 billion in tax revenue. Ukraine will require less external macroeconomic aid from donors, and the total cost of reconstruction will be less due to lower prices for Ukrainian-made building materials.

There are exceptions for certain essential construction materials. For example, there are currently no production facilities for sheet glass, which is critical for producing the millions of windows that will need to be replaced. At the same time, Ukrainian businesses are currently investing in construction of factories to make missing products such as glass, aerated concrete, and dry building mixtures.

The authors surveyed construction material manufacturers and industry associations to identify constraints to their functioning that might limit their role in Ukraine's reconstruction. Almost all companies are negatively affected by weak demand during wartime, which, accordingly, leads them to utilize just 20–35 percent of their production capacity. Interruptions in electricity supply due to the destruction of energy facilities by Russian rocket attacks are a chronic issue.

Another major barrier is limited access to finance for operational activities and capital investments. Companies highlighted the absence of domestic credit options for investment projects larger than \$2 million, the current cap for projects under the "5-7-9" state-subsidized credit program.

These results suggest that Ukraine and its partners should adopt a model of activating and strengthening Ukraine's reconstruction capacity, which minimizes barriers to participation of domestic construction material manufacturers in international recovery projects, while addressing financing constraints to their recovery.

If donors and international financial institutions signal confidence that Ukraine's domestic construction materials sector can meet reconstruction needs, this could improve investor confidence and the bankability of enterprises in the sector.

Ukraine and its donor and financing partners should also implement direct interventions to stimulate growth of the domestic construction material sector, including insuring against military risks and adapting the "5-7-9" program to serve much larger potential investments, at the very least \$10 million.

Ukraine must not lose this chance to jump-start its war-ravaged industrial economy. It deserves the urgent attention of Ukrainian authorities and the understanding and support of the international community.

I. Volume of Construction Materials and Equipment Required for Recovery: Their Importance for the Ukrainian Economy

I.1. Volume of Damage: Assessment of the Need for Construction Materials

The total replacement cost to damaged Ukrainian residential and non-residential buildings and infrastructure as of November 1, 2022, is \$105.3 billion. This includes destroyed and partially damaged objects.¹ There has been significant additional damage since that date, but it has not yet been quantified by experts. It should be noted that this does not include losses calculated by the Ukrainian Government to industrial and energy equipment, vehicles, agricultural machinery, land resources, and the environment, which as of September 1, 2022, totaled an additional \$27.2 billion. Among buildings and infrastructure, the greatest damage is in the following:

- Apartment buildings and individual family homes.
- Educational institutions (kindergartens, schools, vocational schools, higher educational institutions).
- Healthcare facilities (hospitals, polyclinics, and regional centers for disease control and prevention, outpatient clinics).
- Logistics centers and warehouses.
- Highways, roads, and bridges.

The total area of destroyed buildings is 42.6 million square meters (m²) and damaged is 60.9 million m². The total length of damaged roads is 30,200 kilometers (km), of which 10,500 km are roads of national importance; 10,400 km are roads of local importance; and 9,300 km are municipal roads. A total of 380 bridges were damaged.

The authors of this white paper consulted with experts in the construction industry to determine the volume of materials needed to build or repair buildings to modern standards,² including current energy-efficiency requirements, regardless of what the state of the buildings were before their damage.

It is important to note that the range for construction materials and equipment includes more than 250 product types. The total volume of construction materials and equipment needed was calculated based on the norms of the consumption of building materials and equipment for each kind of building or infrastructure. Thirty-one types of main construction materials and equipment were identified, which account for ~80 percent of all costs for construction materials (see Table I.1).

1 According to the data of the *Report on Direct Damage to Infrastructure from Destruction as a Result of Russia's Military Aggression Against Ukraine as of September 1, 2022*. This report was prepared within the framework of the National Council for the Recovery of Ukraine from the Consequences of the War by the analytical team of the Kyiv School of Economics (KSE) together with the Ministry of Development of Communities and Territories of Ukraine, the Ministry of Infrastructure of Ukraine, the Ministry of Health of Ukraine, under the coordination of the Ministry of Reintegration of the Temporarily Occupied Territories of Ukraine and in cooperation with other relevant ministries and the National Bank. The loss assessment was carried out according to the methodology of the World Bank and in close collaboration with the specialized team of the World Bank, taking into account a significant amount of micro-data collected by specialized authorities, and local civil-military administrations since the beginning of the full-scale war. https://kse.ua/wp-content/uploads/2022/10/Sep22_FINAL_Sep1_Damages-Report.pdf.

2 DSTU-NBH.1-11:2009 National Standard of Ukraine *Determination of Average Indicators of Material Resource Costs Per Unit of Measurement of Functional Purpose*.

Table 1.1: Volume and Cost of Basic Construction Materials and Equipment for the Reconstruction of Destroyed and Damaged Buildings and Infrastructure (as of November 1, 2022)

Product Name	Unit	Volume (Physical Size)	Cost (in million U.S. dollars*)	Percentage of Value (in total weight)
Armature	Thousand metric tons (MT)	5,111	\$7,799	12.4%
Concrete	Thousand cubic meters (m ³)	51,315	\$6,039	9.6%
Bricks + aerated concrete	Million pieces	12,063	\$4,510	7.2%
Doors	Thousand pieces	10,381	\$3,913	6.2%
Windows	Thousand m ²	26,109	\$3,442	5.5%
Mineral wool insulation	Thousand m ²	117,715	\$2,621	4.2%
Paint and varnish products	MT	1,167	\$2,592	4.1%
Individual heating system unit	Pieces	8,686	\$2,227	3.5%
Elevators	Thousand pieces	22	\$2,072	3.3%
Cement	Thousand MT	35,042	\$1,927	3.1%
Pipes (cast iron/steel)	Thousand linear meters	59,247	\$1,668	2.7%
Adhesive mixture and plaster	Thousand MT	1,867	\$1,626	2.6%
Rolled metal	Thousand MT	763	\$1,349	2.1%
Ceramic tiles	Thousand m ²	51,513	\$1,070	1.7%
Asphalt concrete mix	Thousand MT	17,943	\$897	1.4%
Electrical panel (input distribution device, switchboard)	Pieces	6,364	\$828	1.3%
Sand	Thousand m ³	21,673	\$794	1.3%
Fire protection	MT	97,728	\$789	1.3%
Radiators	Thousand pieces	3,519	\$552	0.9%
Bitumen membranes	Thousand m ²	64,787	\$517	0.8%
Meters	Thousand pieces	2,682	\$501	0.8%
Pipes (plastic)	Thousand linear meters	125,882	\$452	0.7%
Electrical panels (power board, power equipment)	Thousand pieces	289	\$445	0.7%
Cable	Thousand linear meters	306,167	\$424	0.7%
PVC profile	Thousand linear meters	38,910	\$319	0.5%
Sanitary ware	Thousand pieces	3,137	\$262	0.4%
Sound insulation	Thousand m ²	123,915	\$220	0.4%
Glass	Thousand m ²	52,218	\$157	0.2%
Crushed stone	Thousand m ³	4,434	\$107	0.2%
Monolithic reinforced concrete	Thousand m ³	51	\$9	0.0%
Metal profile	MT	585	\$1	0.0%
Main Building Materials Total			\$50,130	79.8%
Other components (~220 items)			\$12,671	20.2%
Total			\$62,800	100%

*In 2022 consumer prices.

Source: Calculations as of November 1, 2022, based on information from construction industry experts.

The total cost of construction materials and equipment for the reconstruction of buildings and infrastructure (as of November 1, 2022) is estimated at \$62.8 billion. Purchase of armature, concrete, bricks, doors, windows, mineral wool, paint products, individual heating system units, and elevators will constitute the main expenses.

1.2. The Importance of the Production of Construction Materials for the Ukrainian Economy

It is crucial to assess the socioeconomic significance that production of \$62.8 billion worth of building materials by Ukrainian manufacturers could have on the country's war-weakened economy.

According to the latest estimates of the Ministry of Economy, the Russian invasion has caused a decrease in GDP of 30.4 percent in 2022.

Two key sectors of the national economy, the steel industry and the agricultural sector, are the most affected. The volume of steelmaking decreased by 71 percent, to 6.3 million tons in 2022. Two Mariupol metallurgical plants (MMK and Azovstal) were destroyed. Other metallurgical plants work irregularly. The gross harvest of grain and oilseeds in 2022 is expected at 65 million tons, 40 percent less than in 2021 (107 million tons). About 20 percent of farmland is not cultivated due to occupation and contamination by unexploded ordinance.

This downturn has put severe stress on the Ukrainian budget. Nominal tax revenues for the first 11 months of 2022 decreased by 7 percent (to 1.2 trillion UAH), and its role in covering the costs of the Consolidated Budget amounted to only 47 percent. The budget deficit in those 11 months reached 39 percent of expenses and was covered mainly by external borrowing (550 billion UAH).

The authors used historical data regarding the added value created during production of construction materials to calculate the impact on the economy if the full potential of domestic production is used for reconstruction efforts. The analysis revealed that:

- Production of \$62.8 billion worth of construction materials and equipment will ensure \$16.1 billion of added value in the national economy.
- The salaries of employees of construction material manufacturers will amount to \$5.6 billion.
- Tax revenues and fees will amount to \$4.4 billion, including a \$1.5 billion contribution to the Pension Fund.
- About 100,000 jobs will be preserved at enterprises in the sector.

Therefore, if the construction materials needed for Ukraine's reconstruction are sourced domestically, it will significantly stimulate the country's weakened post-war economy via increased added value and tax revenues to the budget. This will in turn reduce the need to finance the country's Consolidated Budget with aid and loans.



2. Assessment of the Readiness of the Ukrainian Construction Materials Sector to Meet Reconstruction Needs

2.1. The Current State of the Industrial Sector: Information from Manufacturers Regarding their State of Production

Ukraine has a well-developed construction materials sector, with access to raw materials, that produces key products, including:

- Wall materials—bricks, aerated concrete, concrete, and reinforced concrete products.
- Binding materials—cement and dry construction mixes.
- Roofing materials—bitumen membranes, metal tile, and slate.
- Facing and finishing materials—ceramic tiles, plasterboard, plaster, and wallpaper.
- Paint and varnish materials.
- Insulating and fireproof materials.
- PVC profile, windows, and doors (exterior and interior).
- Armature, rolled metal, and metal profile.
- Plastic, cast iron, and steel pipes.
- Heating boilers and radiators.
- Meters of various types (heat, water, gas, electricity).
- Elevators, etc.

The total volume of production of construction materials in Ukraine increased annually in recent years and amounted to \$16 billion in 2021 (at producer prices). A strong construction market in and around Kyiv and other large cities stimulated active investment in modernizing older manufacturing facilities and building new ones.

Most of the produced construction materials are consumed in Ukraine (95 percent). The specific weight of domestic construction materials used in total Ukrainian consumption exceeds 90 percent. About 130,000 employees work in the sector, not including private entrepreneurs.

A survey of associations and key manufacturers of construction materials was conducted to characterize the current state of the sector and its readiness to participate in the post-war reconstruction of Ukraine.

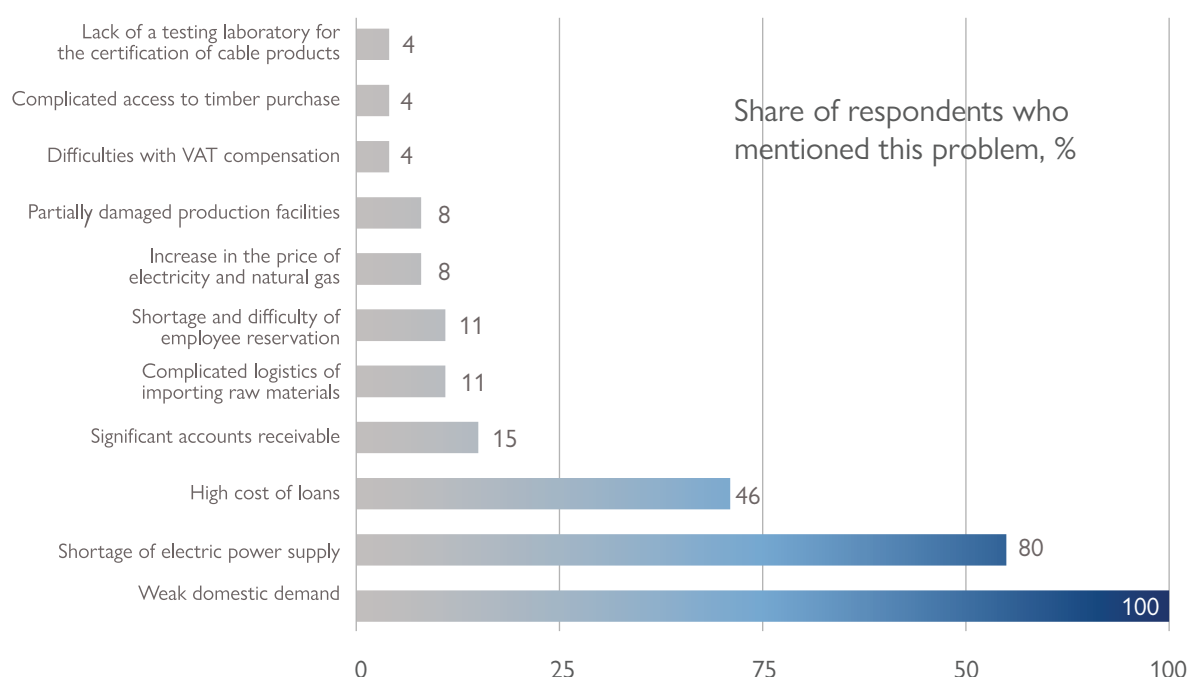
The Russian invasion has negatively impacted production of construction materials. Some enterprises are under occupation and as of November 2022, about 15 percent of manufacturers suffered damage. Upon de-occupation, enterprises have tried to resume production, but this is complicated by the lack of funds and the absence of government recovery programs.

The most significant capacity losses are observed in production of dry gypsum mixes (destroyed Knauf and Siniat plants in Soledar and Bakhmut, Donetsk region) and sheet metal (MMK and Azovstal in Mariupol). Half of the PVC window profile production facilities were also damaged (Mayado and Viknaland factories in the Kyiv region). In other segments, the loss of capacity is at most 5–10 percent.

Before the war, a significant part of raw materials and important consumables was supplied from Russia and Belarus. At present, such import has almost stopped. Critical needs are sheet glass, which is not currently produced in Ukraine after the Proletarii glassworks in Lysychansk ceased production several years ago, and primary polymers (ethylene, propylene, PVC). The blockade of seaports complicates logistics of importing raw materials from other countries in terms of delivery time and cost.

Despite the damages accrued in the sector, most facilities are intact and in good working condition and preserve the overall high capacity of the sector. These enterprises managed to restore the supply chains of raw materials within the country and reconfigure their supplies from abroad. Core staff members have been preserved as well. However, this sector faces a variety of common operational and investment challenges.

Figure 2.1: Key challenges for the construction materials production sector based on the results of a survey of market participants.



A significant drop in demand for building materials (only 25–40 percent of pre-invasion demand), is the main challenge for all manufacturers: 100 percent of the surveyed respondents mentioned this. In 2022, construction companies mainly finished projects that were almost completed before the start of the invasion, and there are almost no new construction projects in Ukraine at present. The export of construction materials is also significantly complicated due to problems with logistics (blockade of seaports). As a result of the drop in domestic demand and exports, at most 35 percent of the sector's production capacity is currently being used. In some segments, it is 20 percent (armature, bricks, concrete).

Power supply is a serious issue, especially in central, eastern, and southern regions: 80 percent of the surveyed respondents mentioned this. Power outages make full-fledged operation of enterprises impossible. There are enterprises that have had to entirely stop production because the manufacturing process cannot be stopped for a power outage without causing damage to the equipment. It is important to understand that this shortage of electricity is felt even now when factories are using only 20–35 percent of their production capacity. Thus, once market demand begins growing, this factor could become a severe barrier to increasing production: most respondents mentioned this.

Another common challenge is access to credit for capital investments and working capital: 46 percent of the surveyed respondents mentioned this. Many manufacturers need to replenish operating capital due to non-payment by builders when the invasion began. Enterprises are forced to take high-cost loans from domestic banks to support their production. Many enterprises suspended implementation of investment projects due to their own shortage of funds and the lack of affordable credit.

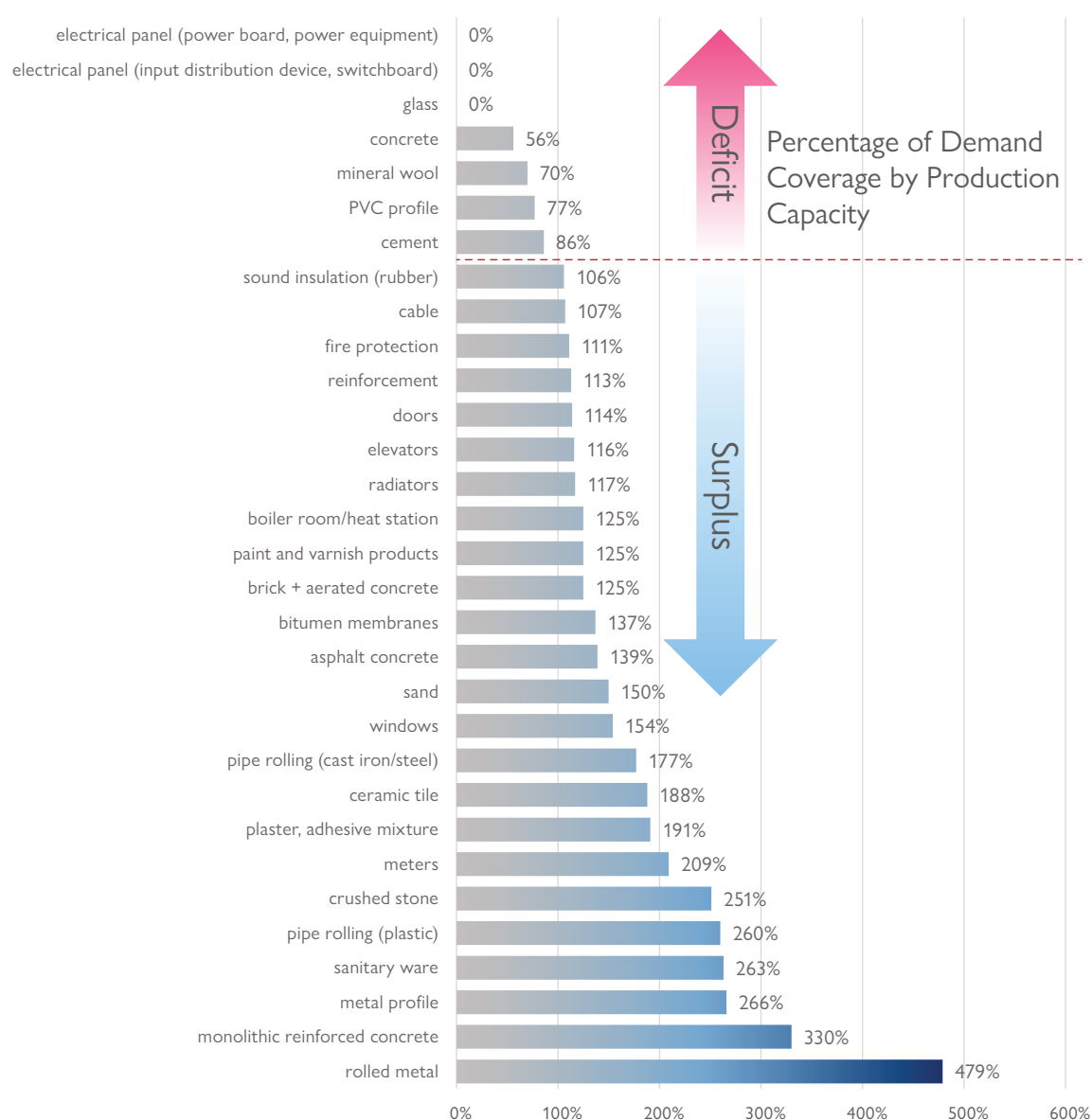
Some subsectors face specific challenges. Ukraine's only accredited laboratory for certification of cable products in Ukraine is in occupied territory. Because of this, testing and certification of domestic cables must be carried out abroad. This requires additional expense and time for logistics.

Manufacturers of wooden doors are forced to purchase timber from intermediaries at higher prices rather than directly from forest management units, because recent reforms require that timber is sold only in large lots and not in the small volumes suitable for such manufacturers.

Brick and cement manufacturers note a significant increase in electricity and natural gas prices, which increases the cost of their products and necessitates a refocus on alternative energy sources (solid fuel).

In summary, Ukraine has a developed construction materials sector which continues to operate in wartime, albeit at reduced levels. The degree of destruction and loss of capacity is not critical, except for specific subsectors such as gypsum plaster and PVC profile production. At the same time, the sector urgently needs an increase in demand, such as could be provided by large-scale reconstruction that uses domestic materials; a stable electricity supply; and access to affordable financing for operational costs and investment activities.

Figure 2.2: Assessment of capacity of domestic production of basic construction materials to cover demand of reconstruction stage.



2.2. Missing Critical Construction Materials: Investment Needs

At present the critical construction material of sheet glass is not produced at all in Ukraine. The available production capacities of four more products (concrete, cement, mineral wool, and PVC profile) are insufficient to cover the expected demand during the reconstruction phase.

Sheet Glass

The demand for sheet glass in Ukraine during the reconstruction stage is expected to be at least 27 million m² per year, with a value of approximately \$165 million (in 2022 prices).

The only factory in Ukraine that produced sheet glass, Proletariy (Lysychansk, Luhansk Oblast), with a capacity of 15 million m² per year, was damaged by fighting in 2014 and shut down, and is now in the temporarily occupied territories. After 2014, the demand for sheet glass was covered entirely by imports, primarily from Russia. Multinational corporations (Pilkington, Glaverbel, Guardian Industries, Asahi Glass, Saint-Gobain) built glass plants in Russia in the 2000s, from which they supplied the Ukrainian market. This arrangement did not motivate them to build glass plants in Ukraine.

After the war began, supplies of glass from Russia stopped. Imports from European countries currently cover Ukrainian demand. However, prices have increased by at least 10–15 percent due to the higher cost of logistics.

At the same time, Ukraine annually exports 300,000–350,000 MT of high-quality sand to produce 25–30 million m²/year of sheet glass. Several deposits of high-quality sand are not developed due to the lack of domestic manufacturing demand.

In mid-2022, the Ukrainian development company City One Development started the construction of a glass plant with a production capacity of 15-16 million m² in Berezan city (Kyiv region). Berezan-Sklo LLC is implementing the project on the territory of the Misto Skla (City of Glass) industrial park. The total declared cost of the project is 100 million EUR. The plant should be operational by 2024.

The City One Development company declared its intention to build another similar glass plant in one of the regions of Central Ukraine (with a capacity of 15-16 million m²) in 2023-2025. Thus, the total capacity of the two plants will be ~30 million m², which would cover the majority of Ukraine's needs. The company plans to export part of the produced glass to Europe and plans to build a factory for the production of double-glazed windows in Romania.

The significant demand for sheet glass in Ukraine and the loss of the supplies from their Russian plants could motivate global glass manufacturers (Pilkington, Glaverbel, Guardian Industries, Asahi Glass, Saint-Gobain) to build plants in Ukraine, potentially in its western regions. This would allow for exporting part of production to the European market as well as meeting domestic needs.

Cement

There are 10 cement factories in Ukraine, with a total production capacity of 13 million MT per year. Another plant with a 4 million MT per year capacity is located in the temporarily occupied territories (Amvrosiivka, Donetsk region).

The expected demand for cement during the recovery period is 15–16 million tons per year. Thus, there is a need for additional production capacity of 2–3 million MT per year.

Two investment projects for expanding the capacity of existing cement plants were prepared during the pre-war period. Dickerhof Company plans to modernize the existing capacity at the Pivdencement plant (Olshanske, Mykolayiv region), increasing it by 0.6–0.7 million MT per year (project cost is \$10 million; implementation period is 6–8 months). Another project envisages the construction of a new furnace at the Pivdencement plant, with a capacity of 1.2 million MT per year (project cost is \$15–20 million; implementation period is 2–3 years).

Kryvyi Rih Cement PJSC plant has two similar projects. The first one envisages the modernization of existing capacities (+0.7 million MT per year, up to \$10 million, up to 8 months). The second project involves the construction of a new furnace, with a capacity of 1.2 million MT per year (\$15–20 million; up to 3 years).

Concrete

There are more than 300 concrete producers in Ukraine, with a total capacity of about 12 million m³ per year. Six Kyiv producers, with a total capacity of 7 million m³ per year, are the basis of this industry. Other companies are small local manufacturers operating in local markets.

The expected demand for concrete for reconstruction is 21–22 million m³ per year. Therefore, there is a need for additional production of 9–10 million m³ per year.

Concrete production must be close to the place of consumption, within a radius of up to 100 km, due to high logistics costs. The northern regions of Ukraine (Kyiv, Chernihiv, and Sumy regions) can be rebuilt using the existing capacity in the Kyiv region (PBG Kovalska, Beton Kompleks, Avtobudkompleks-K, Astor and Co., Beton Service, Specbeton).

It is necessary to build new concrete production facilities for reconstruction in the southern and eastern regions. These should be plants with a capacity of ~1 million MT per year each, located near sand deposits and within a radius of up to 100 km from the main places of consumption (cost of construction of each plant is \$5 million; construction period is 6–8 months).

Mineral Wool

In Ukraine there are nine mineral wool producers, with a total capacity of about 35 million m² per year. The largest producers are Techno Thermal Insulation Materials Plant, LLC (Cherkasy, owned by the Czech holding Sweetondale) and Obio, LLC (Zhytomyr). They account for more than 90 percent of mineral wool production.

The expected demand for mineral wool during reconstruction is 49–50 million m² per year. Therefore, additional production of ~15 million m² per year is needed.

Obio Company planned during the pre-war period to construct new plants with the capacity for 12 million m². This project would almost completely cover the needs of the domestic market (project cost is €25 million; implementation term is 1.5 years). The company planned to attract a loan from an international financial institution (IFI), but implementation of the project was paused due to the war.

PVC Profile

There are 14 manufacturers of PVC profile in Ukraine, with a total capacity of 100,000 MT per year, or 30 million linear meters per year. Miroplast LLC (Dnipro), Mayado LLC (Velyka Demyrka, Kyiv region), and Viknaland LLC (Dymer, Kyiv region) are the largest producers. They account for about 80 percent of PVC profile production.

The production facilities of two manufacturers (Mayado and Viknaland, Kyiv region) were damaged in the early fighting of 2022. They are not working at present. Without these factories, the available PVC profile production capacity is 50,000 tons per year (or 15 million linear meters per year).

The expected demand for PVC profile during the recovery period is 19.5 million linear meters per year. With the two damaged plants, the capacity deficit is 4.5 million linear meters per year. This deficit can be covered by reviving production at the two enterprises mentioned above. Reconstruction measures are currently ongoing at both factories (the expected resumption of work period of the two factories is six months). After their relaunch, there will be sufficient capacity to cover the demand for PVC profile.

Producers of other construction materials also have investment projects aimed at modernizing existing facilities and constructing new ones. Most of these investment projects were designed in the pre-war period, in the context of a lively construction industry and growing demand for building materials. These projects cover: dry concrete mixtures, armature, bricks, aerated concrete, bitumen membranes, heating radiators, fireproofing materials, paint and varnish products, metal profiles, cable products, ceramic tiles, sanitary ware, and insulating materials.

2.3. Measures to Support (Stimulate) the Production of Construction Materials and Equipment Necessary for Recovery

Despite the optimistic assessment of Ukraine's capacity to produce the materials needed for its reconstruction, there are still significant challenges that the sector must overcome to produce at full potential. In wartime conditions, these challenges cannot be met by the enterprises alone. The Ukrainian Government, donor countries, and IFIs can play an important supporting role.

3. Improving Access to Finance for Key Construction Material Manufacturers in Ukraine

3.1. High Risks of Capital Investment Due to Ongoing War

At present, there are no military risk insurance mechanisms for industrial enterprises in Ukraine. However, the Ministry of Economy has initiated, together with the Multilateral Investment Guarantee Agency of the World Bank group, a pilot project on wartime investment insurance in Ukraine of \$30 million.³ Coverage is provided for at least 90 percent of the amount of investments. In the future, it is planned to increase the amount of financing to \$1 billion. Such an expanded mechanism could play a role in realizing investment projects for construction of new production facilities for sheet glass, electrical switchboards, dry construction mixes, and other needed products, or for expanding production at existing plants.

The high cost and complexity of attracting loans for capital construction of industrial facilities necessitates development of new mechanisms to ensure access to affordable credit. For this purpose, it is suggested to do the following:

- Increase the size of projects eligible for the “5-7-9” Percent Affordable Loans program up to \$10 million.
- It is unlikely that the “5-7-9” program can accommodate projects greater than \$10 million, so a new lending mechanism is needed for long-term lending at a low rate and/or compensation of the lending rate for commercial banks.

It is important to note that donors and IFIs can create a “virtuous circle” of bankability for construction material producers. Public recognition of the sector's capacity and positive signals that it can provide needed materials for internationally funded reconstruction projects would improve the perception of loan viability among Ukrainian lenders. As construction material manufacturers increase production, this will enhance Ukraine's ability to provide the needed materials, further strengthening optimism among donors and IFIs that domestic sourcing is possible.

There is a high cost to connect to utility infrastructure, in particular electricity and gas supply networks. There is already a solution mechanism through compensation for connection costs to energy networks in industrial parks.⁴ However, there are still very few well-equipped parks in the country. Ukraine should both intensify industrial park development by engaging the State Fund for

³ The Ministry of Economy of Ukraine agreed with MIGA to launch a mechanism for insurance of investments during the war: <https://www.kmu.gov.ua/news/minekonomiky-ukrainy-domovylos-z-miga-pro-zapusk-mekhanizmu-strakhuvannia-investytsii-pid-chas-viiny>.

⁴ On Approval of the Procedure for Providing Compensation for Expenses to the Initiators of the Creation of Industrial Parks to Business Entities, Management Companies and Participants of Industrial Parks for Connection and Joining to Engineering and Transport Networks. <https://www.kmu.gov.ua/npas/pro-zatverdzhennia-poriadku-nadannia-kompensatsii-vytrat-initsiatoram-stvorennia-industrialnykh-promyslovykh-parkiv-subiek-tam-hospodariuvannia-keruiuchym-i030123-10> Resolution of the Cabinet of Ministers of Ukraine as of January 3, 2023, No. 10.

Regional Development and Territorial Communities for their construction, and consider expanding this mechanism beyond industrial parks to any new manufacturing facilities.

Complicated access to raw materials can be solved by: 1) streamlining bureaucratic procedures for obtaining mineral extraction licenses and other permit documents; 2) applying a simplified procedure for critical import of raw materials for the construction industry (reduction of import duty to 0 percent in case it is further processed in Ukraine; 3) improving and simplifying timber procurement procedures for its further processing.

Conclusion

Ukraine and its partners can be confident in the capacity of the domestic construction materials sector to cover the majority of needs of the country's post-war reconstruction. Despite damages to around 15 percent of the enterprises in the sector, it remains viable and is even seeing significant domestic investment to increase production.

This information is crucial for donors and IFIs for two reasons. First, a paradigm of Activating and Strengthening Ukraine's Reconstruction Capacity can be adopted without an assumption that large-scale transfers of construction materials from abroad will be necessary.

Second, it highlights opportunities for technical assistance and improved access to finance to address specific constraints to the sector's further recovery and growth. The international community can look to Ukraine's construction materials sector as a bright spot in its war-affected economy and an early target for assistance.

