Investment Opportunities in Exploration & Production

Strategic and Critical Minerals

State Geologic and Subsoil Survey of Ukraine

Ministry of Environmental Protection and Natural Resources of Ukraine

UkraineInvest
Your Investment Matters
Key messages

**Mineral resources base of Ukraine** is able to meet the needs of the national industry and to facilitate its export potential.

Domestic enterprises consume mainly local raw materials for metallurgy, machine building and construction. Energy resources, agrochemical raw materials, non-ferrous metals and coking coal are imported in significant amounts, thus referring them to the **critical minerals** category.

Meanwhile, deposits of the so-called metals of a low-carbon future used in innovation technology are hardly produced. It is important now to increase their production and create beneficiation and primary processing capacities, as demand for them is expected to grow rapidly in the world market.

Available resources and prospects for production of metals of the future will enable development of new modern industries in the country. This flags their **strategic importance** for establishment of Ukraine on the global stage in a new role.

The **Investment Atlas of Subsoil User** contains vacant subsoil fields with deposits of strategic and critical minerals for their purchase at e-auctions.
Strategic and Critical Minerals

- Li (Lithium)
- Ti (Titanium)
- Ni (Nickel)
- Co (Cobalt)
- Cr (Chrome)
- Ta (Tantalum)
- Nb (Niobium)
- Be (Beryllium)
- Zr (Zirconium)
- Sc (Scandium)
- Mo (Molybdenum)
- Au (Gold)
- C\(_{(x)}\)H\(_{(x)}\) (Hydrocarbons)
- U (Uranium)

The list is not limited to the above-mentioned.
Lithium

- Ukraine possesses one of the largest lithium deposits in Europe with proved reserves and contingent resources.
- It is an ultralight metal used for manufacturing of cell phone batteries, computers and electric cars, glass and ceramics.
- There are two lithium fields and two explored prospective areas, as well as a number of promising accumulations.
- Nowadays Lithium is not extracted in Ukraine. One lithium field is licensed.
<table>
<thead>
<tr>
<th>License Type</th>
<th>Lithium Ore Accompanying Minerals</th>
<th>Region</th>
<th>Area</th>
<th>Lithium Oxide Content</th>
<th>Contingent Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHEVCHENKIVSKE</td>
<td>lithium ore, tantalum, niobium, beryllium ores</td>
<td>Donetsk region</td>
<td>40 ha</td>
<td>up to 0.6%</td>
<td>'for official use only' Information</td>
</tr>
<tr>
<td>KRUTA BALKA</td>
<td>lithium ore, tantalum, niobium, rubidium, cesium-containing ores</td>
<td>Zaporizhzhia region</td>
<td>150 ha</td>
<td>up to 0.86%</td>
<td></td>
</tr>
<tr>
<td>DOBRA</td>
<td>lithium ore, tantalum, niobium, rubidium, cesium beryllium tin</td>
<td>Kirovohrad region</td>
<td>90 ha</td>
<td>1.34–1.43%</td>
<td></td>
</tr>
</tbody>
</table>

Open for nomination

Is being prepared for e-auction

Lithium ore spots

- Licensed blocks
- Prepared for e-auction
- Is being prepared for e-auction
Titanium

- Ukraine is among top ten countries in the world in terms of proven reserves of titanium ores and provides more than 6% of their global production.
- 27 discoveries and more than 30 prospective areas have been explored. The main titanium-containing mineral is ilmenite.
- Currently, only placer deposits are being developed, which are about 10% of all proven reserves. The rest is contained in indigenous deposits. Objects prepared for auction are placer deposits.
- Titanium and its alloys are used in aviation and missile technology, ship-building, machine building, food, medical industry and non-ferrous metallurgy.
### MALYSHIVSKE
(North-Western – 2) license
- titanium ores, zirconium; accompanying minerals – disten, sillimanite, staurolite
- exploration & development license
- Dnipropetrovsk region, Kirovohrad region
- 3310 ha
- contingent resources (thousand tons):
  - Disten + sillimanite – 1408, staurolite – 568; zircon-rutile-ilmenite sands – ‘for official use only’ Information

Open for nomination

### PIDLISNA license
- titanium ores, zircon
- production license
- Zhytomyr region
- 570 ha
- contingent resources (million tons):
  - $P_2$ – 17

Open for nomination

### SELYSHCHANSKA license
- titanium ore
- exploration & development license
- Zhytomyr region
- 1860 ha
- content of $\text{TiO}_2$ – 50–70 kg / m$^3$

Open for nomination

<table>
<thead>
<tr>
<th>License Area</th>
<th>License Type</th>
<th>Region</th>
<th>Area (ha)</th>
<th>Contingent Resources of Titanium-Zirconium Ores (thousand tons):</th>
</tr>
</thead>
<tbody>
<tr>
<td>KORCHAKIV</td>
<td>Exploration &amp; Development License</td>
<td>Sumy</td>
<td>750</td>
<td>Zirconium – 115, Rutile – 137, Conditional Ilmenite – 925</td>
</tr>
<tr>
<td>KHRAPIVSCHYNA</td>
<td>Exploration &amp; Development License</td>
<td>Sumy</td>
<td>170</td>
<td>Zirconium – 59, Rutile – 75, Conditional Ilmenite – 480</td>
</tr>
</tbody>
</table>

Open for nomination
1. Balka Kruta technogenic field
2. Birzulivske field
3. Valky-Gatskvks field
4. Vovchanske field
5. Krasnorichenske field
6. Livoberezne field
7. Likarivske field
8. Malyshevske field (sections Motronivska-Annivska, North-West)
9. Malyshevske field (sections West, Central, East)
10. Mezhyrchne field (sections Isakivska, Pivdenna)
11. Mezhyrchne field (sections Bukinska, Emilivska, Osynova, Serednya, Yurska)
12. Nosachivske field
13. Paromivske field
14. Stremyhorod field
15. Tarasivske field
16. Trostyanets field
17. Yurivska block
18. Avramivska block
19. Pidlisna block
20. Selyshchanska block

Titanium ore spots

Licensed blocks
Prepared for e-auction
Is being prepared for e-auction
Nickel, cobalt, chromium, copper, molybdenum

- Ukraine possesses considerable deposits of non-ferrous metals and imports significant volumes of those for its own needs.
- Explored fields and prospective areas are complex and mainly concentrated within the Ukrainian Crystalline Belt.
- The production of these minerals is either not carried out or is very limited.
<table>
<thead>
<tr>
<th><strong>PROSPECTIVE FIELD</strong></th>
<th><strong>KARNAUKHIVSKA</strong></th>
<th><strong>LYPOVENKIVSKE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ZALISY-SHMEN’KY</strong></td>
<td><strong>license</strong></td>
<td><strong>license</strong></td>
</tr>
<tr>
<td>license</td>
<td>nickel, cobalt, iron ores</td>
<td>ores of chromium, nickel cobalt</td>
</tr>
<tr>
<td>ores of copper</td>
<td>exploration &amp; development license</td>
<td>production license</td>
</tr>
<tr>
<td>exploration &amp; development license</td>
<td>Dnipropetrovsk region</td>
<td>Kirovohrad region</td>
</tr>
<tr>
<td>Volyn region</td>
<td>250 ha</td>
<td>42 ha</td>
</tr>
<tr>
<td>2337 ha</td>
<td>content of Ni – up to 0.7%</td>
<td>the content of Co – up to 0.043%, Ni – up to 1.05%</td>
</tr>
<tr>
<td>content of Cu – up to 2.6%</td>
<td>Fe – up to 36.05%</td>
<td>chromium ore reserves (thousand tons) cat. C1 – 1.061</td>
</tr>
<tr>
<td>ore reserves (thousand tons): cat. P2 – 160</td>
<td>Co – up to 0.074%</td>
<td>ores of cobalt-nickel-silicate cat. A+B – 4694</td>
</tr>
<tr>
<td></td>
<td>Ni – 63, Co – 6, Fe – 3</td>
<td>contingent – 3225</td>
</tr>
<tr>
<td><strong>Auction</strong></td>
<td><strong>Auction</strong></td>
<td><strong>Open for nomination</strong></td>
</tr>
</tbody>
</table>
VERBYNSKA license
- molybdenum ore
- exploration & development license
- Zhytomyr region
- 290 ha
- content of Mo – up to 2%
- resources (thousand tons)

Open for nomination

ZHELEZNIAKY license
- ores of copper, nickel, cobalt accompanying minerals – platinum, palladium
- exploration & development license
- Zhytomyr region
- 290 ha
- content of Ni – 0.66%
  Cu – 0.063%, Co – 0.013%
- resources (thous. tons) cat. P₃:
  Ni – 151, Cu – 14, Co – 3

Open for nomination

SUKHOKHUTIRSKA license
- ores of talc-magnesite nickel, cobalt
- exploration & development license
- Dnipropetrovsk region
- 127 ha
- content of Ni – up to 0.5%
- ore reserves (thousand tons)
  cat. C₂: talc-magnesite – 75739, Ni – 73, Co – 4

Open for nomination

SHIDNOSERHIIVSKYI prospective field
- molybdenum ore
- exploration & development license
- Dnipropetrovsk region
- 96 ha
- content of Mo – 0.023–0.11%
- resources (thousand tons):
  cat. P₁ – 85.7
  cat. P₂ – 78.3

Is being prepared for e-auction

Non-ferrous metal spots

- Zhyrychi field
- South-Rafalivskyi prospective field
- Rivne region
- Zhytomyr region
- Prutivskyi prospective field
- Zhelezniaky block
- Kapitanivske field
- Lypovenkivske field
- West-Lashchivska block
- Mykolayiv region
- Skhidnoserhiivskyi prospective field
- Vybynska block
- Zalisy-Shmen'ky prospective field
- Volyn region
- Verbinska block
- Zhytonyr region
- Kirovohrad region
- Dnipropetrovsk region
- Kapitanivske field Central section
- Mykolayiv region
- Sukhokhutirska block
- Karnaukhivska block
- Karnaukhivska block
- West-Lashchivska block
- Mykolayiv region
- Skhidnoserhiivskyi prospective field

- Licensed blocks
- Prepared for e-auction
- Can be nominated for an auction
- Auction
Within the Ukrainian Shield there were discovered complex fields and prospective areas of rare and rare earth metals.

Zirconium and scandium are concentrated in placer and indigenous deposits in significant quantities, however, their extraction is not carried out.

Reserves of tantalum pentoxide, niobium, beryllium are registered within six deposits, production is carried out within Malyshevske and Vovchanske fields.

Lipnyazhske, Tashlytske and Novostankuvatske prospective areas belong to one structure, there are also prospective areas of beryllium, lithium (Dobra license). Both licences are offered for exploration and can be considered as one investment project.
Technogenic field MAZURIVSKE (Eastern section)

- niobium ores, zirconium, feldspar
- production license
- Donetsk region
- 9 ha
- content of $\text{ZrO}_2$ – 0.172%
  $\text{Nb}_2\text{O}_5$ – 0.095%
- feldspar reserves (thousand tons) cat. B+C – 826; niobium, zirconium – ‘for official use only’ Information

Open for nomination

ZOLOCHIVSKA license

- zirconium ores, titanium ores
- exploration & development license
- Kharkiv region
- 780 ha
- resources (thousand tons):
  Zr – 87, rutile – 124
  ilmenite (contingent) – 782

Is being prepared for e-auction

Rare earth minerals spots

1. Lypnyazkyy prospective field
2. Tashlytsky prospective field
3. Novostankuvatske prospective field
4. Anadolske field
5. Dianivske prospective field
6. Zhovtorichenske field
7. Gurivske prospective field
Gold

- Ukraine has a gold ore reserves of 3000 tons and may take one of the leading places in gold mining in Europe.
- Seven fields have been discovered, five concession licenses have been issued, and production is currently carried out at Muzhiyivske field.
- New licenses for exploration and development are open for e-auctions.
<table>
<thead>
<tr>
<th>ZHOVTOVODSKA License</th>
<th>BALKA SHYROKA License</th>
<th>KVITKIVSKA License</th>
<th>MAISKA License</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dnipropetrovsk region</td>
<td>Dnipropetrovsk region</td>
<td>Odesa region</td>
<td>Odesa region</td>
</tr>
<tr>
<td>1150 ha</td>
<td>206 ha</td>
<td>668 ha</td>
<td>252 ha</td>
</tr>
<tr>
<td>29 wells drilled, total depth 7.4 thousand m</td>
<td>285 wells drilled total depth 92.5 thousand m; the mine shaft’s depth – 168 m</td>
<td>25 wells drilled total depth – 8.9 thousand meters</td>
<td>177 wells drilled, total depth – 64.5 thousand m, mine shaft’s depth – 204 m</td>
</tr>
<tr>
<td>accompanying mineral – niobium</td>
<td>gold content – avg 1.22–2.78 g/t min 0.8 g / t; niobium – 20–50 g/t</td>
<td>gold content – avg 3.4 g/t</td>
<td>gold content – avg 3.4 g/t</td>
</tr>
</tbody>
</table>

Sold December, 2020

Open for nomination

Open for nomination

Open for nomination

Gold ore spots

Licensed blocks
Prepared for e-auction
Sold
Can be nominated for an auction
Hydrocarbons

**Results**
- Two concession licenses were sold via e-auctions
- Signing of 8 PSAs
- Re-launch of Yusivska PSA
- Launch of offshore projects in the Black Sea

**Plans**
- Signing of new PSAs
- Re-launch of Oleska PSA
- New concession licenses prepared for e-auctions
YULIIVSKA field
(ZOLOCHIV block)

- natural gas, condensate; accompanying minerals – ethane, propane, butanes
- production license for 20 years
- Kharkiv region
- 14 km²
- developed & undeveloped reserves: natural gas – 1128 million m³ condensate – 251 thousand tons

SOUTH-RUSANIV license

- hydrocarbons
- exploration & production license, till 2063
- Lviv region, Ivano-Frankivsk region
- 6300 km²
- contingent resources of unconventional gas – 3 trillion m³
- «Nadra Oleska» LLC is a license holder

Open for nomination

OLESKA license

- hydrocarbons
- exploration & production license, till 2063
- Lviv region, Ivano-Frankivsk region
- 6300 km²
- inferred resources (class code 334): natural gas – 3.33 billion m³

Open for nomination


Auction
21.04.2021
Detailed geological information

Metallic minerals
Kirovgeology (uranium, gold)
Chief geologist Oleksiy Mychaylichenko
tel. 068 598 5095, amgeo2017@gmail.com

Ukrainian Geological Company (lithium, non-ferrous metal)
CEO Bohdan Slobodian
tel.: 095 444 2168, sbiv@ukr.net

SE «Geoinform» (lithium)
Chief geologist Natalia Kovalenko
tel.: 044 456 3027, natashakovalenko8@gmail.com

State Commission of Ukraine on Mineral Resources
Deputy Head Vadym Karly – tel.: 044 284 9357

Oil and gas deposits
SE «Ukrnaukageocentr» (Ukrainian Scientific Geological Center)
(reports, well geodata)
Deputy Chief geologist Sergiy Vynogradov
tel.: 050 289 6897, vynograd63@gmail.com

SE «Ukrgeophysics» (seismic data and processing)
Chief geologist Ivan Semchuk – tel.: 050 304 6448

NJSC «Nadra of Ukraine» (Oleska PSA)
First Deputy Chairman of the Board Sergiy Paiuk
tel.: 044 454 1502, S.paiuk@nadraukrayny.com.ua

Auctioning

State Geologic and Subsoil Survey of Ukraine
Head of Auction Department Valeria Olefir
tel.: 044 456 6056, valeriyaolefir@gmail.com

Head of international cooperation
Mykhaylo Kamasa
tel.: 044 456 2357, m.kamasa@geo.gov.ua

Assistance in selection of fields for investment

SE «Geoinform»
Director of the Geological and Economy Expertise Center
Maya Tkachenko – tel.: 097 431 2350, mvtk@ukr.net

Support on doing business in Ukraine

UkraineInvest
Investment Advisor Andrii Pavliv
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andrii.pavliv@ukraineinvest.gov.ua

Membership
Annexes
Obtaining a Special Permit (License) through E-auction

1. Signs the protocol of auction
2. Pays a fee to the exchange operator
3. Concludes a contract of purchase and sale of a special license
4. An agreement on compensation of state expenses for exploration works is concluded
5. Pays the fee to the state budget
6. Concludes an agreement on terms and conditions of subsoil use
7. Receives a license
Ukrainian Government announced the Open Door Policy for foreign investors

**Farm-in**
Partnerships with current license holders

**Concession**
Easy way to obtain E&P license for up to 20 years through e-auctions

**PSA**
Agreement with the Government for up to 50 years with fiscal stability and international arbitration clauses
The Government encourages new upstream investments

Incentives

- up to 30% compensation of investments
- tax relief: exemption of income tax for up to 5 years,
- VAT and customs duties for importing new equipment
- land plots allocation
- infrastructure settlement

Project requirements

- processing and enrichment
- > €20 millions of investment
- > 80 jobs created
- > 30% CAPEX
- < 5-year project implementation period
<table>
<thead>
<tr>
<th>Activity</th>
<th>Owner</th>
<th>Type of activity</th>
<th>Terms</th>
<th>Activity</th>
<th>Region</th>
<th>Type of activity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lithium ores</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Polokhivske field</td>
<td>Ukrlitvyvydobuvannya</td>
<td>production</td>
<td>2017–2037</td>
<td>Shevchenkivske field</td>
<td>Donetsk</td>
<td>production</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Balka Kruta field</td>
<td>Zaporizhzhia</td>
<td>exploration</td>
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<td></td>
<td>Stankuvats’ka field</td>
<td>Kirovohrad</td>
<td>exploration</td>
</tr>
<tr>
<td><strong>Nickel, cobalt, copper chromium</strong></td>
<td></td>
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</tr>
<tr>
<td>West Lashchiv block</td>
<td>VIP-Trade</td>
<td>production</td>
<td>2016–2026</td>
<td>Zheleznaky block</td>
<td>Zhytomyr</td>
<td>production</td>
</tr>
<tr>
<td>Zhyrchi field</td>
<td>Volynpryrodresurs</td>
<td>production</td>
<td>2017–2037</td>
<td>Lypovenkivske field</td>
<td>Kirovohrad</td>
<td>exploration</td>
</tr>
<tr>
<td>South Rafałówski prospective field</td>
<td>NorthWest Mining</td>
<td>exploration</td>
<td>2016–2021</td>
<td>Karnaukhivska block</td>
<td>Donetsk</td>
<td>exploration</td>
</tr>
<tr>
<td>Prutivskyi prospective field</td>
<td>Colormet of Ukraine</td>
<td>exploration</td>
<td>2019–2024</td>
<td>Sukhohutirska block</td>
<td>Donetsk</td>
<td>exploration</td>
</tr>
<tr>
<td>Kapitanivske field (Central section)</td>
<td>Ferrexpo</td>
<td>production</td>
<td>2014–2024</td>
<td>Zalisy-Shmen’ky prospective field</td>
<td>Donetsk</td>
<td>exploration</td>
</tr>
<tr>
<td><strong>Tantalum, niobium, apatite-rare metal ores</strong></td>
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<tr>
<td>Vovchanske field</td>
<td>Demurinsky Mining and Processing Plant</td>
<td>exploration</td>
<td>2002–2031</td>
<td>Mazurivske field (North section)</td>
<td>Donetsk</td>
<td>exploration</td>
</tr>
<tr>
<td>Malyshevske field</td>
<td>JSC UMCC</td>
<td>production*</td>
<td>2007–2027</td>
<td>Mazurivske tecnogenic field (East s.)</td>
<td>Donetsk</td>
<td>exploration</td>
</tr>
<tr>
<td>Novopoltavske field</td>
<td>Volyn Mining and Chemical Company</td>
<td>exploration*</td>
<td>2009–2029</td>
<td>Lypnyazkyi prospective field</td>
<td>Donetsk</td>
<td>exploration</td>
</tr>
<tr>
<td>Mostove block</td>
<td>Taurus Infinity</td>
<td>production</td>
<td>2019–2029</td>
<td>Tashlytskyi prospective field</td>
<td>Kirovohrad</td>
<td>exploration</td>
</tr>
<tr>
<td><strong>Beryllium, zinc</strong></td>
<td></td>
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</tr>
<tr>
<td>Perzhanska field</td>
<td>Perzhanska Ore Company</td>
<td>production</td>
<td>2019–2039</td>
<td>Lypnyazkyi prospective field</td>
<td>Kirovohrad</td>
<td>exploration</td>
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<td></td>
<td>Tashlytskyi prospective field</td>
<td>Kirovohrad</td>
<td>exploration</td>
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<td>Novostankuvats’ka prospective field</td>
<td>Kirovohrad</td>
<td>exploration</td>
</tr>
<tr>
<td><strong>Zirconium, scandium, rare earth elements</strong></td>
<td></td>
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<tr>
<td>Yastrebetska block</td>
<td>CFR Group LLC</td>
<td>exploration</td>
<td>2009–2024</td>
<td>Azovske field</td>
<td>Donetsk</td>
<td>exploration</td>
</tr>
<tr>
<td>Anadolske field</td>
<td>RM Minings LLC</td>
<td>production</td>
<td>2019–2034</td>
<td>Zhovtorichynske field</td>
<td>Dnipropetrovsk</td>
<td>exploration</td>
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<td>Hurivskyi prospective field</td>
<td>Donetsk</td>
<td>exploration</td>
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<td></td>
<td>Starodubivskyi prospective field</td>
<td>Donetsk</td>
<td>exploration</td>
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<td></td>
<td>Dianivskyi prospective field</td>
<td>Donetsk</td>
<td>exploration</td>
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<td></td>
<td></td>
<td>Zolochivska block</td>
<td>Donetsk</td>
<td>exploration</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Zolochivska block</td>
<td>Kharkiv</td>
<td>exploration</td>
</tr>
<tr>
<td><strong>Molybdenum</strong></td>
<td></td>
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<tr>
<td>Chervona block</td>
<td>Rud Investium</td>
<td>exploration</td>
<td>2020–2025</td>
<td>Verbynska block</td>
<td>Zhytomyr</td>
<td>exploration</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skhidnoserhiivskyi prospective field</td>
<td>Dnipropetrovsk</td>
<td>exploration</td>
</tr>
<tr>
<td>Field/Block</td>
<td>Company/Group</td>
<td>Production/Exploration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>---------------</td>
<td>------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Tarasivske field | Rutile-ilmenite company | production *
| | Koltonovyi metaly | 2012–2032
| | Demurinsky Mining and Processing Plant | production *
| | Vilk Aliment | 2002–2031
| | Zhytomyrmyburzovidka | exploration
| | Zhytomyrmyburzovidka | production *
| | Joint Mining and Chemical Company | 2004–2032
| | Mezhyrichensk MCC | production *
| | Motronivsk MCC | production *
| | Valik Ilmenite | production *
| | Velta | 2019–2024
| | Zhytomyrmyburzovidka | production *
| | Zhytomyrmyburzovidka | production *
| | Motronivsk MCC | production *
| | TsentrUkrGeologiya | production *
| | Vovchanske field | production *
| | Yurivska block | exploration
| | Stremyhorodske field | production *
| | Livoberezhne field | production *
| | Trostyanetske field | production *
| | Mezhirychna field (Isakivska, South s.) | production *
| | Mezhirychna field (B., E., O., N. s.) | production
| | Malyshevsky field (C., E., W. sections) | production *
| | Malyshevsky field (M.-A., N.-W sections) | production *
| | Valky-Gatskivske field | production *
| | Byrzulivske field | production *
| | Nosachivske field | production *
| | Krasnorichynske field | production *
| | Avramivska block | production *
| | Rutile-ilmenite company | production *
| | Koltonovyi metaly | 2003–2033
| | Demurinsky Mining and Processing Plant | production *
| | Vilk Aliment | 2002–2031
| | Zhytomyrmyburzovidka | exploration
| | Zhytomyrmyburzovidka | production
| | Joint Mining and Chemical Company | 2004–2032
| | Mezhyrichensk MCC | production *
| | Motronivsk MCC | production *
| | Valik Ilmenite | production *
| | Velta | 2019–2024
| | Zhytomyrmyburzovidka | production *
| | Zhytomyrmyburzovidka | production *
| | Motronivsk MCC | production *
| | TsentrUkrGeologiya | production *
| | Malyshevsky field (North West sections) | production
| | Kropyvnian field | production
| | Vydyborz'ka prospective field | exploration
| | Fedorivske field | production
| | Korchakiv prospective field | exploration
| | Bilovodskyi prospective field | production
| | Haidarivskyi prospective field | exploration
| | Khrapivshchyna prospective field | production
| | Pidlisna block | production
| | Selyshchanska block | exploration
| | Zhytomyrmyburzovidka | production *

**Gold ore**

<table>
<thead>
<tr>
<th>Field/Block</th>
<th>Company/Group</th>
<th>Production/Exploration</th>
</tr>
</thead>
</table>
| Muzhiivske field | Karpatsa Rudna Company | production *
| | Sauliak | production *
| | Stone processing company of Ukraine | production
| | Donetskyi Kryazh | production
| | Lyra Mine Minerals | production *
| | Karpatsa Rudna Company | production
| | Western Geological Explorational Company | production *
| | Zolota Balka field | production
| | Zhovtovodsa block | production
| | Balka Shyroka block | production
| | Kvitkivska block | exploration
| | Maika block | production
| | Dnipropetrovsk | production
| | Dnipropetrovsk | production
| | Odesa | exploration
| | Odesa | exploration
| | Aprelske field | production
| | Dokuchaveskyi field | production
| | Lisne field | production
| | Partyzanska field | exploration
| | Severyska field | production
| | Sadova block | production
| | Khrystamohirsa block | exploration
| | Dnipropetrovsk | production
| | Kirovohrad | production
| | Kirovohrad | production
| | Kirovohrad | production
| | Mykolaiv | exploration
| | Kirovohrad, Dnipropetrovsk | production

**Uranium**

<table>
<thead>
<tr>
<th>Field/Block</th>
<th>Company/Group</th>
<th>Production/Exploration</th>
</tr>
</thead>
</table>
| Central field | SkhidGZK | production *
| | SkhidGZK | 1997–2037
| | SkhidGZK | 1997–2032
| | Nuclear Energy Systems Of Ukraine | production *
| | Nuclear Energy Systems Of Ukraine | 2019–2034
| | Nuclear Energy Systems Of Ukraine | production
| | Nuclear Energy Systems Of Ukraine | 2018–2021
| | Zavallyska field | production
| | Zavally Graft Kombinat | production *
| | Ukrainian supply group | production
| | Aprelske field | production
| | Dokuchaveskyi field | production
| | Lisne field | production
| | Partyzanska field | exploration
| | Severyska field | production
| | Sadova block | production
| | Khrystamohirsa block | exploration
| | Kirovohrad | production
| | Kirovohrad | production
| | Kirovohrad | production
| | Mykolaiv | exploration
| | Kirovohrad, Dnipropetrovsk | production

**Graphite**

<table>
<thead>
<tr>
<th>Field/Block</th>
<th>Company/Group</th>
<th>Production/Exploration</th>
</tr>
</thead>
</table>
| Zavallyska field (Zarichna section) | Pobuzhzhya's Development LCC | production *
| | Zavally Graft Kombinat | production *
| | Ukrainian supply group | production
| | Aprles field | production *
| | Dokuchaveskyi field | production
| | Lisne field | production
| | Partyzanska field | exploration
| | Severyska field | production
| | Sadova block | production
| | Khrystamohirsa block | exploration
| | Khmelnytskyi | production
| | Khmelnytskyi | production
| | Kirovohrad | production
| | Kirovohrad | production
| | Kirovohrad | production
| | Mykolaiv | exploration
| | Kirovohrad, Dnipropetrovsk | production

* In production
### Mineral resource base of Ukraine

**Key minerals used by domestic industry**

<table>
<thead>
<tr>
<th>Metallurgy</th>
<th>Proved reserves, mln tons</th>
<th>Annual production mln tons</th>
<th>Export/import USD mln</th>
</tr>
</thead>
<tbody>
<tr>
<td>iron ore</td>
<td>18836.5</td>
<td>157.4</td>
<td>+3400</td>
</tr>
<tr>
<td>manganese ore</td>
<td>2167</td>
<td>3.9</td>
<td>-210</td>
</tr>
<tr>
<td>coking coal</td>
<td>12096.3</td>
<td>8.5</td>
<td>-260</td>
</tr>
<tr>
<td>flux limestone</td>
<td>2253.4</td>
<td>4.9</td>
<td>-47</td>
</tr>
<tr>
<td>dolomite</td>
<td>365.8</td>
<td>0.98</td>
<td>-7</td>
</tr>
<tr>
<td>bentonite clays</td>
<td>60.3</td>
<td>0.1</td>
<td>–</td>
</tr>
<tr>
<td>kaolin (secondary)</td>
<td>78.4</td>
<td>0.45</td>
<td>+54</td>
</tr>
<tr>
<td>molding sands</td>
<td>672.5</td>
<td>8.0</td>
<td>0</td>
</tr>
<tr>
<td>chrome</td>
<td>0.453</td>
<td>–</td>
<td>-6</td>
</tr>
<tr>
<td>molybdenum</td>
<td>–</td>
<td>–</td>
<td>-7</td>
</tr>
<tr>
<td>vanadium oxide</td>
<td>0.0155</td>
<td>–</td>
<td>-10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mechanical engineering, electrical industry</th>
<th>Proved reserves, thous. tons</th>
<th>Annual production thous. tons</th>
<th>Export/import USD mln</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminum</td>
<td>6403</td>
<td>–</td>
<td>-220</td>
</tr>
<tr>
<td>lead</td>
<td>301.5</td>
<td>–</td>
<td>-0.1</td>
</tr>
<tr>
<td>zinc</td>
<td>723.8</td>
<td>–</td>
<td>-0.1</td>
</tr>
<tr>
<td>copper</td>
<td>–</td>
<td>–</td>
<td>-0.1</td>
</tr>
<tr>
<td>nickel</td>
<td>215.6</td>
<td>–</td>
<td>-68</td>
</tr>
<tr>
<td>cobalt</td>
<td>8.83</td>
<td>–</td>
<td>+0.4</td>
</tr>
<tr>
<td>titanium (ore)</td>
<td>classified</td>
<td>550</td>
<td>+154</td>
</tr>
<tr>
<td>lithium</td>
<td>classified</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>tantalum oxide</td>
<td>classified</td>
<td>0.42</td>
<td>–</td>
</tr>
<tr>
<td>niobium oxide</td>
<td>classified</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>beryllium</td>
<td>11.4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>zirconium oxide</td>
<td>classified</td>
<td>15.6</td>
<td>+22</td>
</tr>
<tr>
<td>scandium oxide</td>
<td>classified</td>
<td>0.032</td>
<td>–</td>
</tr>
<tr>
<td>hafnium</td>
<td>4.9</td>
<td>0.28</td>
<td>none data</td>
</tr>
<tr>
<td>graphite</td>
<td>13760.7</td>
<td>1.5</td>
<td>+1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Construction industry</th>
<th>Proved reserves, mln m$^3$</th>
<th>Annual production mln t</th>
<th>Export/import USD mln</th>
</tr>
</thead>
<tbody>
<tr>
<td>construction sands</td>
<td>298</td>
<td>12.5 mln t</td>
<td>+4</td>
</tr>
<tr>
<td>primary kaolin</td>
<td>365.5 mln t</td>
<td>1.2 mln t</td>
<td>none data</td>
</tr>
<tr>
<td>building stone</td>
<td>7898 mln m$^3$</td>
<td>27.2 mln m$^3$</td>
<td>none data</td>
</tr>
<tr>
<td>facing stone</td>
<td>333.4 mln m$^3$</td>
<td>0.577 mln t</td>
<td>+7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fuel and energy complex</th>
<th>Proved reserves, bln m$^3$</th>
<th>Annual production mln t</th>
<th>Export/import USD mln</th>
</tr>
</thead>
<tbody>
<tr>
<td>natural gas</td>
<td>680</td>
<td>–</td>
<td>-2900</td>
</tr>
<tr>
<td>gas of compacted rocks</td>
<td>98</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>oil</td>
<td>94</td>
<td>1.7</td>
<td>-6580</td>
</tr>
<tr>
<td>condensate</td>
<td>37</td>
<td>0.8</td>
<td>–</td>
</tr>
<tr>
<td>anthracite coal</td>
<td>6089.2</td>
<td>25.5</td>
<td>-2800</td>
</tr>
<tr>
<td>uranium (ore)</td>
<td>classified</td>
<td>classified</td>
<td>-520</td>
</tr>
<tr>
<td>peat</td>
<td>644.38</td>
<td>0.6</td>
<td>-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Agrochemical industry</th>
<th>Proved reserves, mln tons</th>
<th>Annual production mln tons</th>
<th>Export/import USD mln</th>
</tr>
</thead>
<tbody>
<tr>
<td>apatite</td>
<td>71.9</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>phosphorite</td>
<td>11.1</td>
<td>–</td>
<td>-13</td>
</tr>
<tr>
<td>magnesite</td>
<td>105</td>
<td>–</td>
<td>-50</td>
</tr>
<tr>
<td>potassium salts</td>
<td>250</td>
<td>–</td>
<td>-50</td>
</tr>
<tr>
<td>native sulphur</td>
<td>100</td>
<td>–</td>
<td>-27</td>
</tr>
</tbody>
</table>

Notes:
1. Categories A+B+C1 (according to the Ukrainian national classification)
2. Category C2 (according to the Ukrainian national classification)
3. Petroleum products and LPG account for 5.5 and 0.780 million dollars.
4. 70% of nuclear fuel is made of foreign uranium

Source: State research and production enterprise «State Information Geological Fund of Ukraine», State Statistics
Procedure for Granting Access to Geological Information Designated as «For Official Use Only»

Step 1
- A letter of request shall be sent to the head of SGSSU with a request to be made aware of the geological information.

Step 2
- SGSSU shall make a decision on granting access for making aware of the geological information designated as «For Official Use Only».

Step 3
- A subsoil user gets access to the information for making aware in the information repository premises.
- A requesting company enters into a non-disclosure agreement with SGSSU.

Additionally for foreign investors
A letter of request shall be accompanied with copies of identity documents confirming affiliation to a company operating in the field of subsoil use, indicating the purpose of being made aware of information.

Forbidden!
- To transfer data to third parties
- To copy information
- To remove documents from the information repository
Procedure for Granting Access to Geological Information Designated as «Secret»
(balance reserves in the country and uranium)

Step 1
a letter of request shall be sent to the head of SGSSU with a request to be made aware of the geological information

Step 2
SGSSU provides access to information on the basis of an agreed list with the Security Service of Ukraine

Step 3
the requesting company shall enter into a non-disclosure agreement with SGSSU

Important: the subsoil user's representative shall obtain the respective level of access – «For Official Use Only», «secret» – provided by the Department of Protection of National Security Information of the State Security Service upon request of a company

Forbidden!
- To transfer data to third parties
- To copy information
- To remove documents from the information repository