



Partnership without borders

## The Carpathian Euroregion Strategy 2020 & Beyond

### Annex I – Country profile Ukraine



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Note: Without English language proofreading

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# Content

- REGIONAL ANALYSIS – COUNTRY PROFILE UKRAINE ..... 3**
- GENERAL DESCRIPTION OF THE REGION..... 3
- DEMOGRAPHY..... 6
- ECONOMY, COMPETITIVENESS AND LABOUR MARKET ..... 9
- TOURISM, CULTURE AND LEISURE ..... 14
- ENVIRONMENT, CLIMATE CHANGE, ENERGY, RISK MANAGEMENT ..... 18
- TRANSPORT INFRASTRUCTURE, MOBILITY, ICT ..... 21
- MIGRATIONS, BORDER AND SECURITY ..... 25
- HEALTH AND SOCIAL AFFAIRS..... 28
- EDUCATION ..... 31

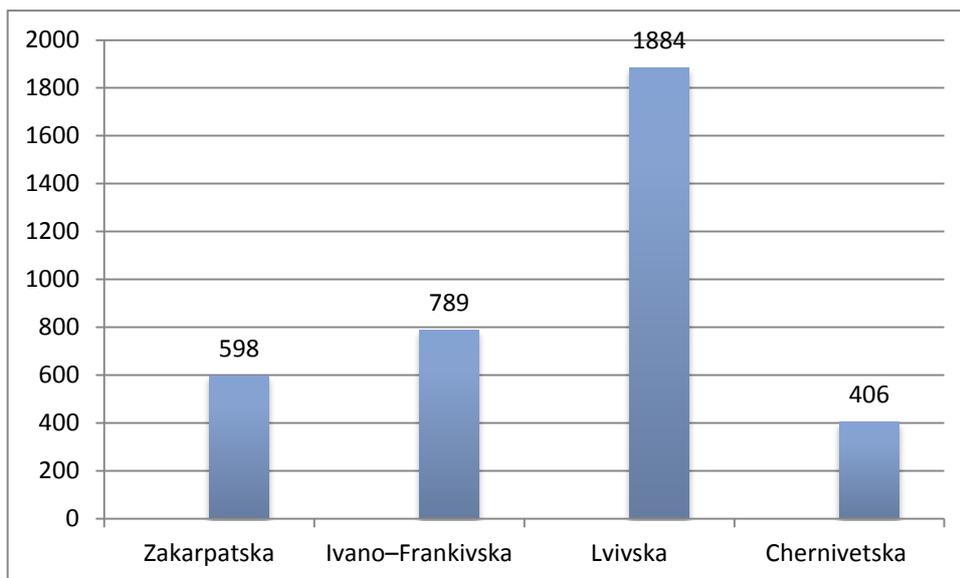
## Regional analysis – country profile Ukraine

### General description of the region

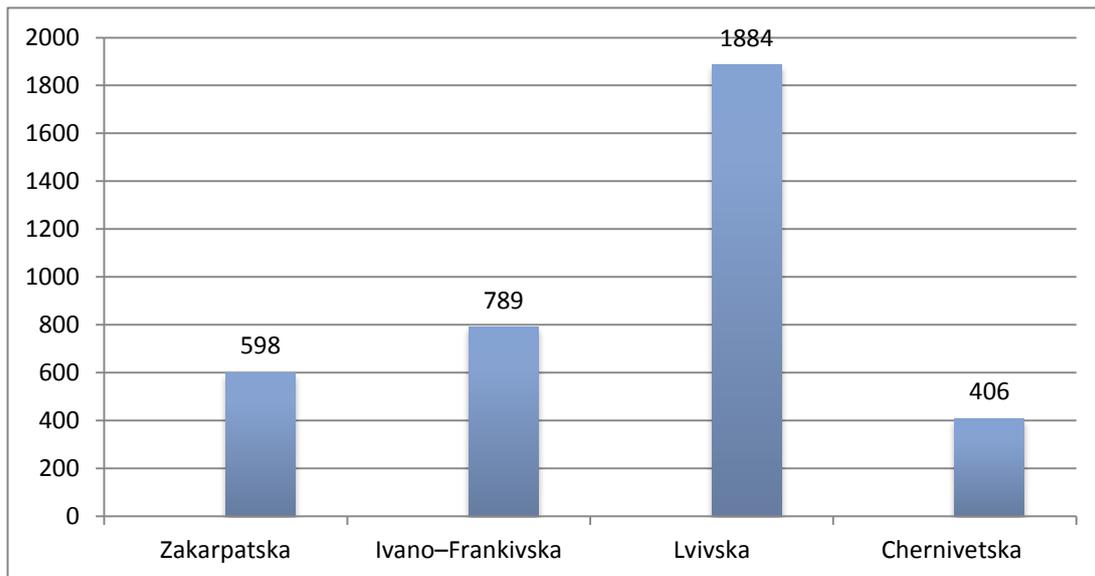
The Ukrainian part of the Carpathian Euroregion (CE) includes 4 regions: Zakarpattia region, Ivano-Frankivsk region, Lviv region, Chernivtsi region. The Ukrainian part of the CE is situated in the geographical centre of Europe in the West of Ukraine. It occupies an area of 56,600 km<sup>2</sup> (9.4% of the total area of Ukraine). In the west, the Lviv region has the state boarder (258 km) with Poland. The Zakarpattia region has the state boarder with Romania, Hungary, Slovakia and Poland (467,2 km). Chernivtsi region and Ivano-Frankivsk region have the state boarder with Romania. The length of state border of Chernivtsi region with Romania is 226,4 km (Ivano Frankivsk region - 50 km with Maramures County of the Republic of Romania ). The total length of state borders of Ukrainian part of CE is 1001,6 km.

The population of the CE region is 6079530 (Data retrieved on 2013). The average population density is 107 per km<sup>2</sup>. According to the administrative division, the region consists of 81 towns and 3677 settlements, namely (as shown on diagrams – figure 1, figure 2):

**Figure 1. The number of cities of Ukrainian part of CE**



**Figure 2. Number of settlements of Ukrainian part of CE**



The main cities (data on 2014) are: Chernivtsi(255084); Ivano-Frankivsk (223165); Lviv ( 757594 ) and Uzhgorod (115947).

The relief of the region is diverse and is divided into zones, which differ by geological structure, altitude above the sea level and (from 230 to 2061 m above the sea level), as a result, flora and fauna. The region due to its relief is one of the most picturesque ones in Ukraine. The Climate of CE region ranges from moderate warm damp west European to continental east European.

In Ivano-Frankivsk there are 340 deposits with 25 kinds of various minerals in the territory of the region, 161 of which are being developed. The raw material base of the region consists of fuel and energy resources (gas, oil, condensates, peat)- 34,6%, raw material for construction supplies production- 47,8%, fossil ground waters- 12,3%, mining and chemical minerals- 4,4% (rock, potassium and magnesium salt, carbonate raw material for acid soils liming, carbonate raw material for sugar refining industry, sulfur), mining materials – 0,88%.

The region has 42 hydrocarbon deposits, 31 of which are industrial. The oil and gas production is concentrated in Dolyna and Nadvirna oil industry areas. The biggest part of production takes place in such oil and gas producing companies as “Dolyna Naftogas” and “Nadvirna Naftogas”, which are the structural units of the public company “Ukrnafta”. The main oil fields included into the State Balance of mineral reserves are Dolyna, North-Dolyna, Strutyn and Bytkiv-Babchenske oil fields.

The region has a well-developed mining raw material base. There are 163 deposits with 11 kinds of minerals used in construction. 65 deposits are being developed. The region has salt resources, limes for sugar-refining industry, cement raw material, limestone for burning out into lime, gypsum, sand-and-gravel material, brick-tile and expanded clay raw material and mineral waters. It enables to increase the capacity of active pits and exploitation of reserve deposits.

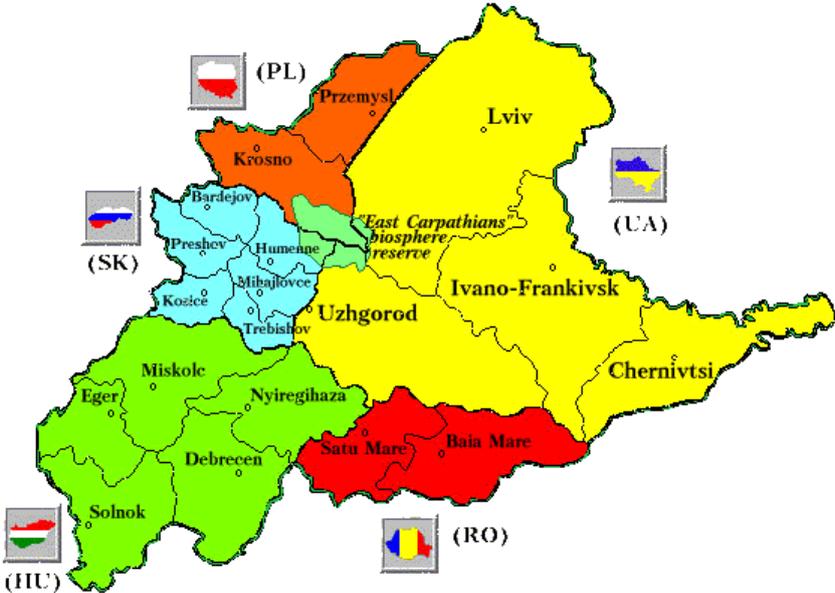
Recently discovered shale gases deposits on the so called “Oleska Square” provide economical and energetic perspectives both for the region and the whole Ukraine. Oleska area includes Tlumach, Halych, Tysmenytsia, Rohatyn districts and partially Horodenka, Kalush, Kolomyia and Sniatyn regions. The territory of Oleska area estimated by the State Service of Geology and Mineral Resources of Ukraine is about 2.9 trillion m<sup>3</sup>.

In Zakarpattia region there are 217 deposits with 30 kinds of various minerals. Among which are polymetals, alunite, perlite, liparites, zeolites, kaolin, rock salt. There are deposits of gold, silver, zinc, lead and germanium. Also there is barite ore; powerful raw material potential for decoration and construction materials (marble, marbled limestone, fine tufts, andesite and andesite-basalt, limestone, etc.).

The Chernivtsi region is rich in natural resources. The area has 147 deposits with 18 types of minerals. 47 developed fields. The mineral base of region is: 80% of raw materials for production of building materials, 14.5% - fresh and mineral water, 4.1% - with mineral fuel and energy direction (gas condensate), 1.4% - mining chemical minerals.

The mineral resources of Lviv region consist of 41.6% of fuel and energy resources (oil, free gas, condensate, coal and lignite, peat), second place belongs to deposits, which are necessary for the production of building materials (34.9% ), third - fresh and mineral groundwater (19.5%), the rest are minerals such as sulphur, salt (sodium, magnesium and potassium), germanium, ozokerite (total about 4%). Deposits of fuel and energy resources in the region are located uneven. The highest density of fuel and energy resources are in Chervonograd (coal) and Drohobych (oil and gas deposits) areas.

**Figure 3 – Territory of the region (map)**



Source: uastat database; wiki; development strategies of 4 regions for the period until 2020.

- Main needs and challenges**
- needs: decentralization of power, administrative reform, fiscal autonomy of communities, investment climate, development of civil society and human capital;
  - challenges: a low-rate diversification of industry, low-rate innovation, technological backwardness of the industry, including high energy consumption, insufficient development of road and engineering infrastructure along with corruption and instability of national legislation.

### Main potentials

- A rich combination of resources (including human) and geographic location (in comparison with other regions of Ukraine) creates investment attractiveness.
- The ukrainian part of CE region has significant tourist and recreational potential, preserved national, religious, cultural traditions and authentic crafts. The great part of the region is environmentally friendly. These strong points can be used for further development of eco-tourism, including the international sphere of it.

## Demography

The region is inhabited **by more than 6.0 million people** who represent 13.3% of the whole Ukraine's inhabitants. The population and population density of the Ukrainian regions in the period **from 2003 to 2013 have been reducing** as well as those of the whole Ukraine. According to the table showed below the population of the 4 regions have reduced by 1,7% in last 10 years. In comparison with the 5,1% on the country level the demography situation is better. This tells about the comparatively better living conditions in the western part of Ukraine. But the process of reducing of the population is still going on. One of the reasons for negative tendencies is economic migration (mainly to EU) which along with the natural decrease is caused mainly by difficult economic situation (unemployment, low level of salaries, pessimistic expectations for the future plans).

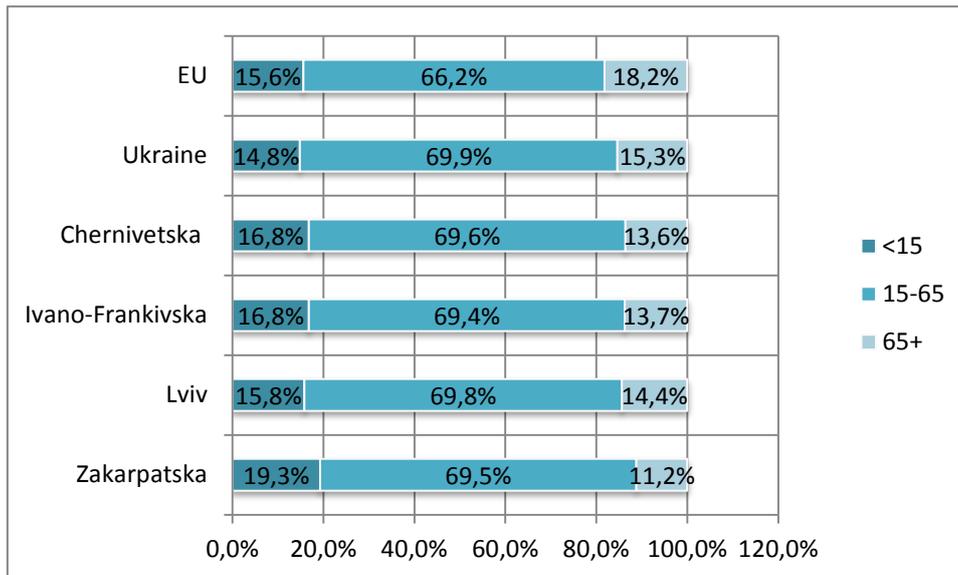
**Figure 4 – Change in population and population density (2003, 2013)**

	Population (person)		Population density(person/km <sup>2</sup> )		Change, %
	2003	2013	2003	2013	
Chernivetska	915029	905443	113,4	111,6	-1,6%
Ivano–Frankivska	1398608	1379370	101,0	99,0	-2,0%
Lviv	2611000	2520066	119,6	116,4	-2,7%
Zakarpattia	1251520	1254017	98,1	97,7	-0,4%
Ukrainian regions	6164955	6058896	108,9	107,0	-1,7%
Ukraine	48003500	45553000	79,5	75,5	-5,1%

Source: [www.ukrstat.gov.ua/](http://www.ukrstat.gov.ua/)

The population density of the Ukrainian part of the Carpathian Euroregion is higher than the one on the national level which tells about rural character of the country's territory.

**Figure 5 – Distribution of the population according to age groups (2013)**



Source: <http://lv.ukrstat.gov.ua/>

According to the age groups there are no significant differences among 4 ukrainian regions. The table data show that the youngest is Zakarpattia region. Apparently this is connected with multinational character of the region and presence of Roma people. The inhabitants of all 4 regions generally are younger than those on national level as well as in EU. The oldest is population of Lviv region. At present time the general tendency in Ukraine is that the population is getting older.

The value of **ageing index** shows the ratio of population between 0-14 years to the population of over 65-year-old people. The **dependency rate** is the number of child and old-age population as a percentage of population aged 15-64. According to the table data there are significant **intra-regional dissimilarities** among regions: the best situation is in Zakarpattia region. The Lviv region has the worst ageing index.

**Figure 6 – Ageing index and dependency ratio (2013)**

	Aging index	Youth dependency rate	Old-age dependency rate	Total dependency rate
Chernivetska	80,9%	24,1%	19,5%	43,6%
Ivano-Frankivska	81,7%	24,2%	19,8%	44,0%
Lviv	90,8%	22,7%	20,6%	43,2%
Zakarpattia	57,9%	27,8%	16,1%	43,9%
Ukrainian regions	77,8%	24,7%	19,0%	43,7%
Ukraine	103,4%	21,2%	21,9%	43,1%

Regarding the **data of distribution of population aged 7 years and older by highest education completed** can be said, that the Ukrainian part of Carpathian Euroregion in common (except of Zakarpattia) has a quite high level of education in comparison with the whole Ukraine. The reason for low level value of data in Zakarpattia can be explained by rural character of its territory with insufficient demand (job opportunities) for well skilled and qualified workers. Another reason is the

significant Roma population (30% of Roma population in Ukraine - especially in border region) with low level of education as well as multi-ethnic character of population.

**Figure 7 – Population aged 6 years and older by highest education completed (2013)**

Education	Primary	Lower secondary	Upper secondary	Vocational	Short-cycle tertiary	Bachelor (university, college)	Master / Doctor (university, college)
Level according to ISCED 2011	1	2	3	4	5	6	7-8
Chernivetska	7,4%	12,4%	26,0%	13,0%	14,3%	1,5%	19,5%
Ivano–Frankivska	10,0%	10,0%	18,3%	21,0%	15,7%	1,9%	16,1%
Lviv	8,9%	8,2%	14,4%	24,6%	16,0%	2,1%	21,5%
Zakarpattia	7,6%	13,1%	39,3%	13,7%	8,4%	0,8%	10,8%
Ukrainian regions	8,5%	10,9%	24,5%	18,1%	13,6%	1,6%	17,0%
<b>Ukraine</b>	<b>6,8%</b>	<b>9,3%</b>	<b>19,3%</b>	<b>19,4%</b>	<b>18,2%</b>	<b>1,3%</b>	<b>20,7%</b>

Source: [http://lv.ukrstat.gov.ua/ukr/publ/2013/ZB152012Y13\\_4.pdf](http://lv.ukrstat.gov.ua/ukr/publ/2013/ZB152012Y13_4.pdf)

The ethnic composition (according to statistics from the 2001 census) of Ukrainian part of Carpathian Euroregion is shown in the table below.

**Figure 8 - Ethnic composition of the UA part of the CE**

Region/nationality	Chernivtsi	Ivano–Frankivska	Lviv	Zakarpattia
Ukrainian	75,0%	97,5%	94,8%	80,5%
Other	0,0%	0,0%	0,0%	0,0%
Romanian	<b>12,5%</b>	0,0%	0,0%	2,6%
Polish	0,4%	0,1%	0,7%	0,0%
Hungarian	0,0%	0,0%	0,0%	<b>12,8%</b>
Russian	4,1%	1,8%	3,6%	2,5%
Roma	0,0%	0,0%	0,0%	1,1%
Moldavian	7,3%	0,0%	0,0%	0,0%

According to the table data the territory of CE has an **uneven geographical distribution by ethnic composition** (especially in Zakarpattia and Chernivtsi regions ). The ethnic relationships in the context of the current situation in Ukraine is definitely the question of a great importance. Especially in the Zakarpattia region with its significant numbers of Hungarians. All ethnic groups should have equal opportunities to save their identity, to gain higher living standards, to prosper. The measures to protect stability (including information campaigns) in the Ukrainian part of the Carpathian Euroregion region should have been taken on a regular basis. The economic and social development of the region is the key to its stability and prosperity of all ethnic groups.

### Main needs and challenges

- The decline in population (e.g. selective migration) reduces the labour market in the region, that in turn causes competitive disadvantages.
- The rural character of the region (in common) with a low-rate diversification of its industry causes insufficient demand (job opportunities) for well skilled and qualified workers that, in turn, reduces motivation for gaining the better level of education.

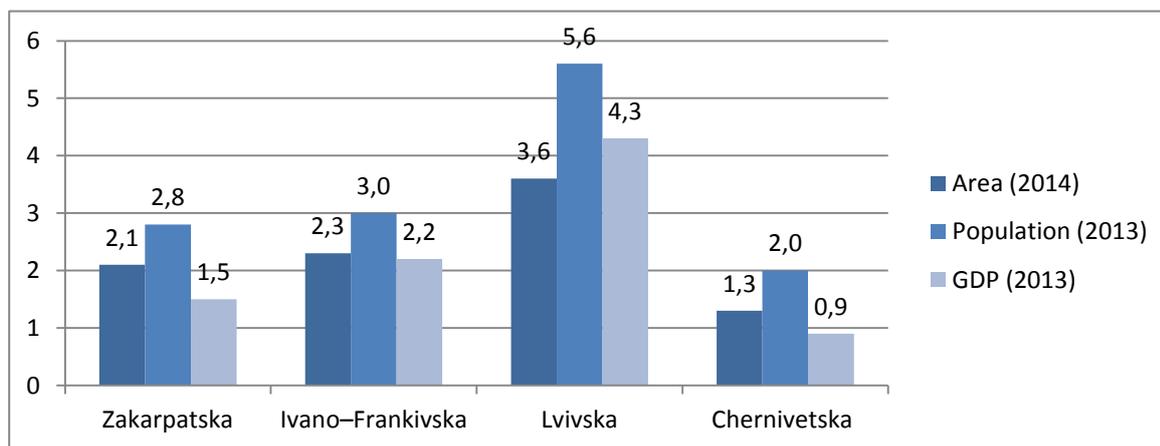
### Main potentials

- The comparatively higher level of education in Lviv and Ivano-Frankivsk region means higher level of qualification of labor market. It make this part of region more competitive.
- Some areas (as Zakarpattia and Chernivtsi regions) have comparatively high proportion of young people. This is a future potential labour market.

## Economy, competitiveness and labour market

Regional GDP indicates a very high economic activity in the territory. The proportion of the total population in Ukraine (13.4%) about twice exceeds the proportion of regional GDP as to the total GDP (8.6%). Especially there is a big difference between Lviv and Zakarpattia regions.

**Figure 9 – County share of national indicators (%)**



Source: [www.ukrstat.gov.ua](http://www.ukrstat.gov.ua)

The structure of GDP in the region has a different distribution. Namely, its largest share is observed in Lviv region (48.1%) and in Ivano-Frankivsk region (25.2%). This tendency is caused by the concentration of production in Lviv that is the largest city in the region and intensive development of tourism in Ivano-Frankivsk region. In these areas there is intense GDP growth. Also in Lviv region GDP growth rate exceeds the growth rate in Ukraine. The change in GDP over time is positive, but it does not provide the intensive growth of economic activity in the area.

Regarding GDP per capita, the highest rate is also observed in Lviv and Ivano-Frankivsk regions, moreover, in these areas it exceeds the average value of this indicator in the region. In Zakarpattia and Chernivtsi regions GDP per capita is respectively 32.5% and 49% lower than the average rate in the region. Compared with the average rate in Ukraine, regional GDP per capita is 54.5% lower. A positive tendency of this indicator over time and its comparison to the average indicator in the region and in Ukraine demonstrate low economic growth and low competitiveness of the territory.

**Figure 10 – Gross domestic product (GDP) at current market prices (2005, 2013)**

Oblast	GDP/head (EUR)		Change (%)	GDP (mEUR)		Change (%)
	2005	2013		2005	2013	
Zakarpattia	904	1569	73.6	1127	1970	74.8
Ivano–Frankivska	1163	2211	90.1	1618	3056	88.8
Lvivska	1119	2295	105.1	2891	5829	101.6
Chernivetska	783	1395	78.2	712	1266	77.9
Ukrainian region	1077	2079	93.0	6348	12642	99.1
Ukraine	1576	3213	103.9	74232	146177	96.9

Source: [www.ukrstat.gov.ua](http://www.ukrstat.gov.ua)

Table 5 shows the structure of gross value added and employment in various sectors (agriculture, industry and construction and services). The largest share of GVA in agriculture belongs to Chernivtsi Region (sufficiently large number of agricultural land, unlike other areas where the Carpathian Mountains are). Industry is developing intensively in Lviv and Zakarpattia Regions. Analysis of the construction industry shows that the largest share of GVA goes to Ivano-Frankivsk due to intensive construction (region occupies the first position in Ukraine in this area). The services sector is dominant in all regions and has the largest share in Lviv region due to the development of information technologies and tourism.

**Figure 11 – Distribution of gross value added and employees along sectors (% , 2012)**

Oblast	Agriculture, forestry and fishing		Industry and construction		Services	
	GVA	Employees	GVA	Employees	GVA	Employees
Zakarpattia	14,2	3,2	22,7	23,2	63,1	73,6
Ivano–Frankivska	12,2	3,5	36,5	23,8	51,3	72,7
Lvivska	9,0	2,9	20,3	24,6	70,7	72,5
Chernivetska	20,2	6,2	14,5	18,8	65,3	75,0

Ukrainian region	11,8	3,5	24,2	23,5	63,9	73,1
Ukraine	7,8	6,2	20,7	27,4	71,8	66,5

Source: [https://ukrstat.org/uk/druk/publicat/Arhiv\\_u/Arch\\_reg.htm](https://ukrstat.org/uk/druk/publicat/Arhiv_u/Arch_reg.htm)

The following table presents the key economic sectors and industrial clusters in each area of the region.

**Figure 12 – Key sectors, industrial clusters in the counties (examples)**

Oblast	Key sectors	Industrial clusters
Zakarpattia	<ul style="list-style-type: none"> <li>• Food (water and juices)</li> <li>• Engineering (cars)</li> <li>• Light industry</li> <li>• Woodworking</li> </ul>	<ul style="list-style-type: none"> <li>• Transportation and logistics</li> <li>• Tourism</li> </ul>
Ivano–Frankivska	<ul style="list-style-type: none"> <li>• Chemical industry</li> <li>• Refining</li> <li>• Food (processing a /g products)</li> <li>• Mining</li> <li>• Electricity, gas and heat supply</li> <li>• Woodworking</li> <li>• Building materials</li> <li>• Machinery engineering</li> </ul>	<ul style="list-style-type: none"> <li>• Hutsul crafts</li> <li>• Tourism</li> <li>• Decorative textiles</li> </ul>
Lvivska	<ul style="list-style-type: none"> <li>• Food and processing industry</li> <li>• Fuel and mining industry</li> <li>• Mechanical Engineering</li> <li>• Metal processing</li> <li>• Power</li> <li>• rubber and plastic production</li> <li>• Woodworking</li> <li>• Pulp and paper industry</li> <li>• Light industry</li> </ul>	<ul style="list-style-type: none"> <li>• Livestock (meat and dairy industry)</li> <li>• Light industry (textiles, clothing, fur, skin)</li> <li>• Paper and printing (pulp and paper industry, publishing)</li> <li>• Machinery engineering (electric, electronic, optical equipment, radios, TVs and communications, medical equipment, measuring and optical instruments)</li> <li>• Tourism (hotels, restaurants, travel agencies)</li> <li>• Transport and Logistics</li> <li>• IT technology and business services</li> <li>• Retail</li> </ul>
Chernivetska	<ul style="list-style-type: none"> <li>• Production of food and beverages</li> <li>• Light industry</li> <li>• Mechanical Engineering</li> <li>• Chemical and Petrochemical industry</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural Cluster</li> <li>• Tourist</li> </ul>

The introduction of simplified tax system in Ukraine in recent years has increased entrepreneurial activity of the population in the region. As a result, there occurred a large number of registered individual entrepreneurs without employees. Their share in the total number is 92%. Around 35,000 are small enterprises. This distribution of enterprises by size shows that the economic activity is carried out in service and maintenance fields mostly. Only 33 of these belong to the group of large companies - 0.01% of all enterprises in the region and 5% of the number of large enterprises in Ukraine. The uneven distribution of enterprises in the region is observed. 50% of all registered enterprises are located in Lviv region. This figure is the smallest in Zakarpapattia region.

The number of businesses is high if compared to the national rate per 1,000 residents: 72 in the region to 38 in the country. But there is a difference between areas. In Zakarpattia and Ivano-Frankivsk regions it is 40.5% less than in Lviv and Chernivtsi regions.

**Figure 1 – Number of active corporations and unincorporated enterprises by staff categories, and business density (2014)**

Oblast	Фізична особа підприємець	Мікро 1-10	Малі 11-50	Середні 51-250	Великі 250+	Total	Number of active enterprises per 1000 inhabitants
Zakarpattia	59101	5122	677	266	6	65172	52
Ivano-Frankivska	70115	6803	849	287	6	78060	57
Lvivska	200963	15081	2637	844	20	219545	87
Chernivetska	71770	3286	611	167	1	75835	84
Ukrainian region	401949	30292	4774	1564	33	438612	72
Ukraine	1328743	318472	55337	18859	659	1722070	38

Source: KSH

The business infrastructure includes business centers, business incubators and industrial parks. The industrial park "Solomon" (66.2 hectares), "Lviv Industrial Park "Riasne 2" (23.94 hectares) and Ivano-Frankivsk park "Dolyna" (29.4 hectares) are officially registered parks on the territory of the region. These parks have determined their specialization and are at the stage of search and attraction of investors to the area. Moreover industrial parks in Lviv, Yavoriv, Kamyanka-Buzka and Noviy Rozdil, and the industrial park in Burschtyn (Ivano-Frankivsk region) are at the stage of preparation for the official registration in Lviv region. In terms of business infrastructure the introduction of favourable conditions and appropriate range of services for potential investors is significantly important and will result into their involvement and the start of functioning.

Administrative reform in Ukraine 2015 will increase the resource potential in the new united municipalities, which have increased in size, and will accelerate the formation of industrial parks in the allocation for them and create the necessary infrastructure. Good access to skilled labor and the development of new technologies will contribute to positive tendency of the emergence of new industrial parks. However, it is necessary to form and create a certain set of business services to attract investors.

Business center and business incubators are created as infrastructure support for development of small business is SMEs. The first business center in Ukraine was launched in Ivano-Frankivsk in 1997 due to the financial support of CIDA. In each region there work either business centers or NGO, the purpose of which is to provide information and consulting services for beginners and small SMEs, which make the first steps.

Business incubators are being intensively created in Lviv region, these include «Startup Depot» business incubator, "Lviv Polytechnic" business incubator. These incubators are of innovation and technological nature and work in IT technology sphere, business services, implementation of new technology projects. With the assistance of "Seed Forum Norway" Foundation and "Seed Forum Ukraine" International Charity Fund in Lviv and Chernivtsi a business - incubator iHUB (July 2015) -

office business incubator to support SMEs in their financial independence was created. An office incubator for SMEs operates in Ivano-Frankivsk as well.

Effective economic development and formation of high added value result in scientific research, technological development and innovation. All four regions have enough universities that provide academic training and conducting research for specialists. Among them, the most famous Lviv National University after Ivan Franko, "Lviv Polytechnic" University, Uzhgorod and Mukachevo Universities, Ivano-Frankivsk Oil and Gas University (the only one with the kind of specialization in Western Europe) and Precarpathian National University, Chernivtsi National University. Technology parks are created for the enforcement of innovation and technological development in Lviv Polytechnic University and University of Oil and Gas.

Key indicators, namely, the number of educational and research institutions, the number of students, employees engaged in research and the share of expenditure for the research in GDP is presented in the table. According to the indicators the first position goes to Lviv region, while the others are on the same level. Insufficient funds are allocated from the state budget and other sources for the research that hampers the process. Big difference of share in the region is observed in relation to the national average indicator (64% less).

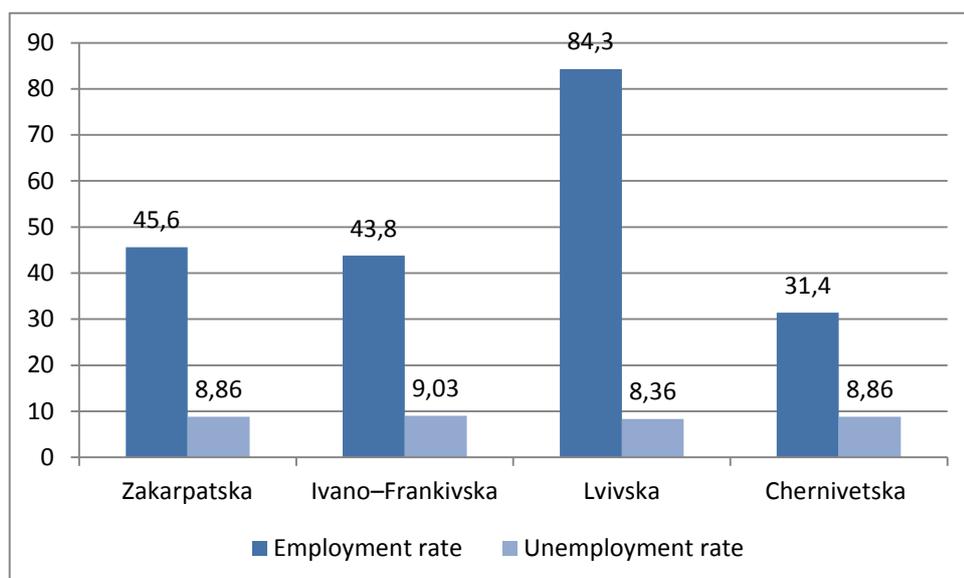
**Figure 14 – R&D indicators (2013)**

	Number of tertiary educational institution	Number of students in tertiary education	Employees in research and development	Total R&D expenditure as GDP share
Zakarpattia	14	24000	679	0,19
Ivano-Frankivska	22	43700	424	0,12
Lvivska	44	139000	4783	0,49
Chernivetska	17	32800	594	0,28
Ukrainian region	99	239500	6480	0,27
Ukraine			113454	0.77

The total number of economically active population in the region is 4219 thousand people. But the labour market in the region has negative situation compared to national one. In Lviv oblast itself the employment rate 29% exceeds the employment rate in Ukraine. In all other areas of the region it is lower than the national average indicator and is about 50% lower than that of Lviv city. This picture is negative and indicates a lack of jobs and slow development of economic activity.

The unemployment rate ranges from 8.36% to 9.03%. At first glance the indicator is not high. But it reflects the situation for officially registered people, but does not account for the rate of hidden unemployment. We can state the latter is very high, as the rate of employment is low. This situation is caused by growing level of migration to Eastern Europe.

Figure 152 – Labour market indicators (2013)



#### Main needs and challenges

- It is necessary to launch the process of preparation and foundation of industrial parks, and their official registration.
- Create Support Centres and investors support
- Increase expenses for research and involve private entities to this area
- A large number of young people with education contributes the labour market rate much faster than new enterprises are created or developed
- Unstable financial market adversely affects the revitalization of enterprises
- The political situation in the country and ATO negatively affect the entire economic situation

#### Main potentials

- Further development of SMEs will reduce unemployment rate and create gross added value
- The presence of academic and research institutions will promote the development of technologies and new knowledge that will accelerate economic development
- A large number of higher educational institutions will create efficient labour market with high potential
- Formation of the IT Clusters and industrial growth factors can significantly impact the economic potential of the region

## Tourism, culture and leisure

Tourism has a great significance for western regions of Ukraine as this sphere not only provides work placement but also insures income into the budgets of all the levels. The Western region is rich for tourist memorabilia of both historical and cultural heritage.

**Lviv Oblast:** Lviv (the historical center of Lviv is on the UNESCO World Heritage List), churches (St. John the Baptist Church, Our Lady of the Snows Church, the Church of Saint Nickolas, the Latin

Cathedral and the Dominican Church, the Golden Rose Synagogue, The Armenian Cathedral), castles (Olesko, Zolochiv, Svirzh, Pidhoretsky Castles), palaces (the Kornyakt Palace, the Palace of Lubomyrskis, the Black House), health centers (Truskavets, Morshyn), mountains, etc.

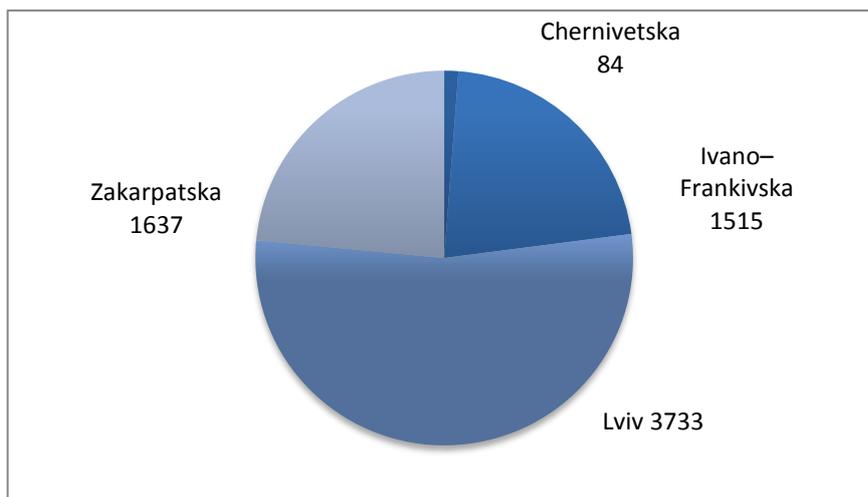
**Ivano-Frankivsk Oblast:** Ivano-Frankivsk City Hall (Ratusha), Stanislav fortress compound and the Potocki Palace, military fortification („Bastion Rampart”), the Church of the Blessed Virgin Mary, Jesuit College and the Armenian Church, the castle Ruins of Ancient Galich (the National Reserve "Ancient Galich”), the Church of St Panteleimon (v. Schevchenkove), the Assumption Church and the foundations of the Assumption Cathedral (v. Krylos), Mount Hoverla (the highest pick of the Ukrainian Carpathian Mountains), health centers (Bukovel, Tatariv, Kosiv, Cherche), etc.

**Zakarpattia Oblast:** Druget Feudals Castle (Uzhgorod), Beregovo – the center of viticulture and wine-making, All Saints’ Church and the Church of Reformers, old mansions and the Palace of Baron Pereni, a former Franciscan Monastery, village Dilove – geographical center of Europe, the medieval Palanok Castle in Mukachevo, medical health centers (Polyana, Solotvyno, Beregovo, Shayan, Kvasy), springs (Luzhanska, Polyana Kvasova, Polyana-Kupil, Shayanska), ski-resorts (Dragobrat, Pylypets, Lazenschyna), etc.

**Chernivtsi Oblast:** The Chernivtsi City Hall (Ratusha), houses of the Old Town, the Metropolitan Residence (current buildings of Chernivtsi National University), music and drama theatres, wooden churches (the Mykolaiv, the Ascension and the Spyrydonivska Churches), cathedrals (the Svyatoduhivsk and the Mykolaiv Cathedrals), the Armenian Church and the Church of the Assumption, medical and health centers in Glybotskiy, Storozhinetskiy, Vyzhnytskiy districts, mountains, etc.

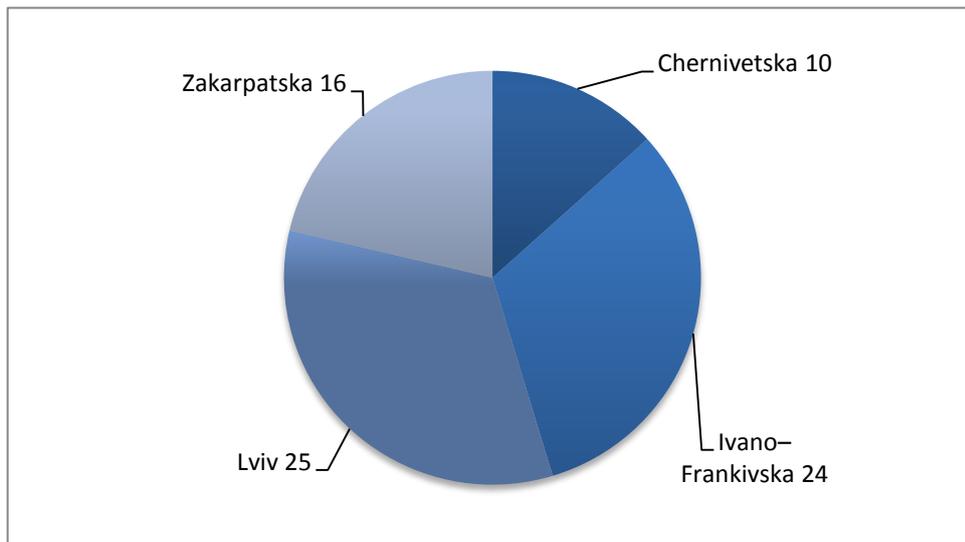
In Western Ukraine there are a number of buildings and monuments dedicated to the striking events of national history and cultural historical heritage.

**Figure 16 – Number of protected buildings and monuments (2015)**



The largest number of museum institutions is found in buildings of historical and architectural feature and are located in 87.8% of Lviv and of Lviv region, in 66.7% of Ivano-Frankivsk region, 62.5% of Chernivtsi region and 52.5% of Zakarpattia region correspondingly.

**Figure 17 – Number of museums (2015)**



Western Ukraine is famous for its mountain and green tourism, mineral resorts and health centers.

Lviv Oblast is famous for its unique mineral water deposits (over 200 sources) and medical mud used for treatment purposes, the tourist route "Golden Horseshoe of Lviv region" (the tour on the castle fortifications of Lviv), Botanical Garden of Lviv National University after Franko, ski resorts, annual fairs and festivals ("Christmas in Lviv", "Pampukh", "National Day of Chocolate" Ethno-jazz festival "Weather-Vanes of Lviv"), etc.

Ivano-Frankivsk region is famous for the international ski resort "Bukovel", the tourist route "the Chornohirskiy Range", sanatorium and spa institutions specializing in both general health improvement and treatment of digestive and musculoskeletal systems (the resorts in low-mountains areas are in Mykulychyn, New Mizun, Sheshory; the resorts in high-mountain areas are in Vorokhta, Yablunitsya and mud-bath foothill resort "Cherche"), mineral springs ("Goryanka", "Burkut"), annual fairs and festivals ("Rozkolyada", "Easter Vernissage", the International Festival of Blacksmith Art "Blacksmiths' Holiday", the Hutsul folk event "Polonynske Summer"), etc.

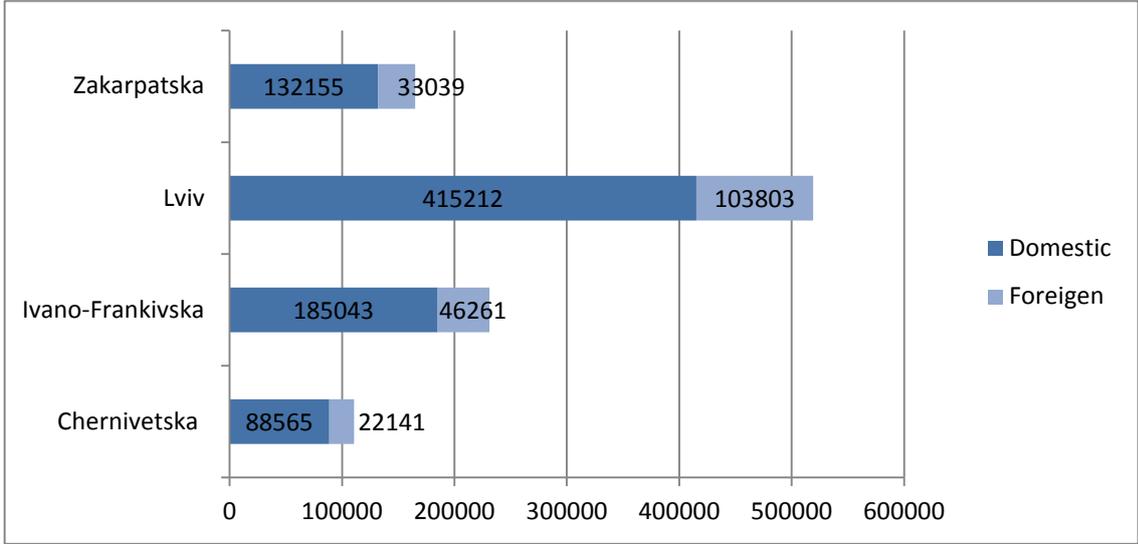
Chernivtsi Oblast is famous for its health resorts located in forests and mineral water areas: hydrocarbon water deposits in Putyla, Storozhynets, Hlyboka areas, chloride water deposits in Putyla, Vyzhnytsya, Storozhynets, Hlyboka, Sokyryany areas, sulfate water deposits in Novoselytsya, Zastavna areas, iron water deposits in Vyzhnytsya, Khotyn, Sokyryany areas, hydrogen sulphide water deposits in v. Scherbyntsi in Novoselytsia district, v. Brusnytsia in Kitsman and Putyla area; ski entertainment and tourist complex the "Nimchich Pass", annual fairs and festivals (the folklore-ethnographic Hutsul festival-fair "Zaharetskyy Harchyk", the Festival of Malanka (the Malanka Fest), the feast exit to the mountain "Poloninska Vatra"), etc.

Zakarpattia Oblast is famous for its ski resorts (the highest ski resort in Ukraine Dragobrat is located at the altitude of 1400 m above the sea level), and medical spa resorts (treatment of diseases of the digestive system in the phase of stable and unstable remission, treatment of circulatory and functional diseases of the nervous system, cardiovascular and vascular system diseases, etc.), thermal springs (there are wells with hot mineral water rich in iron), annual fairs and festivals (the "Festival of stuffed cabbage", the "Plum Lekvar Festival", the "Berry Festival", the "Hutsul Cheese Festival", the "Holiday of honey", the "Chervene Wine Festival", the "White Wine Festival"), etc.

Western Ukraine has traditionally attracted tourists who are engaged in more specialized types of tourism: hiking, cycling, water activities, fishing, hunting, horseback riding and rock climbing. The total length of walking paths is a few hundred kilometres of national parks and Carpathian Biosphere Reserve.

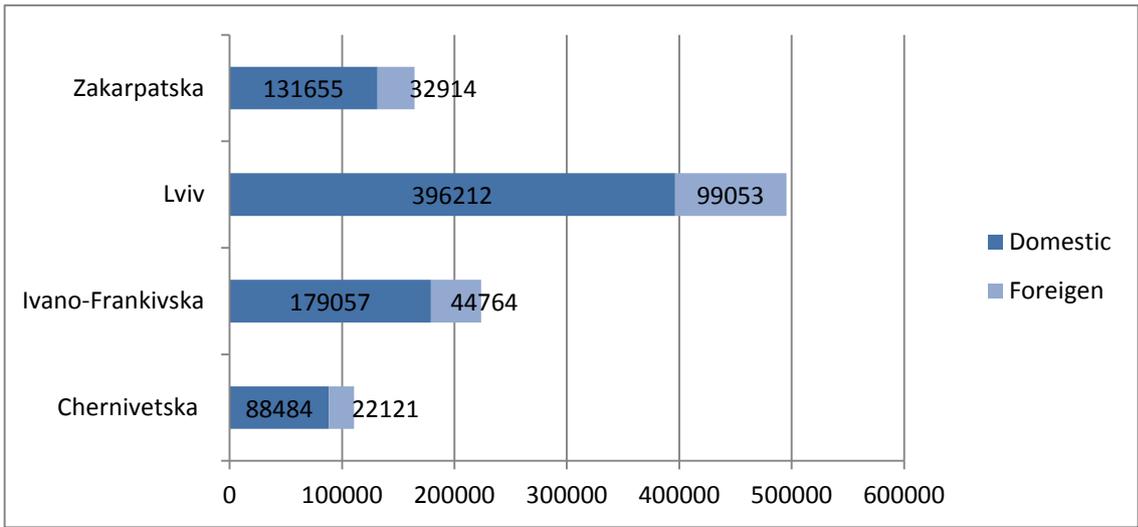
According to the State Agency of Ukraine for Tourism and Resorts in 2014 13.1 million foreign tourists visited Ukraine in comparison to 25.7 million foreign tourists in 2013. It is worth mentioning that 25% visited western regions.

**Figure 38 – Number of tourists at public accommodation establishments (2013)**



The data show the concentration of tourists in western regions and the amount of nights spent in particular ones. The main locations are Lviv and Ivano-Frankivsk Oblasts due to available airports, railway system and staging areas for tourists who continue their trip further. The two other oblasts are way behind. Zakarpattia Oblast is in the third position due to its health centers and resorts.

**Figure 19 – Tourism nights at public accommodation establishments (2013)**



Concerning the average period of stay in the particular oblast, a considerable gap is observed between Lviv and other oblasts, as Lviv is a popular attraction among tourists.

**Figure 20 – Number of bed-places at public accommodation establishments (2013)**

	Bed-places
Chernivetska	3289
Ivano–Frankivska	8632
Lvivska	12589
Zakarpattia	6936
Ukraine	154233

#### Main needs and challenges

- Development of a high quality tourist product based on the rational resource use, identification of priority zones for tourism development by establishing specialized tourist districts in the regions;
- Development of the positive image of the regions on the external and internal tourist markets.
- Establishment of the unified state information network in the sphere of tourism and resorts by means of developing the corresponding information networks in the region centers.
- The main points of the tourism development issue are not satisfactory state of the roads on the way to the main tourist attractions, the lack of sanitary protection zones, hotels and gastronomy facilities to meet the urgent tourists' needs.
- Vast majority of the sanitary and health improving resorts of the regions need reconstruction and investment.

#### Main potentials

- Priority recreational and tourist facilities in each area of the region (health resort and recreational areas);
- Natural conditions and relief features for the development of different kinds of active tourism (skiing, rafting, speleotourism, climbing, hiking and sports qualification hiking, cycling, hang gliding, motorcycle and autotourism, etc.).
- Favourable geographical location of the Ukrainian western border areas in the heart of Europe and their accessibility (a dense network of transport routes, including the routes of international importance, international flights, the state border with the EU countries are favourable factors to attract not only domestic tourists but also contingent of tourists from many countries in the world, including EU countries.

## Environment, climate change, energy, risk management

All four areas of the Carpathian region of Ukraine against the background of the whole country are considered relatively ecologically clean and safe for residence. This is the area with diverse terrain and high landscape diversity, which makes both advantages in achieving environment security and difficulties in risk management. There are no companies with heavy industry that also has a positive impact on the overall environment condition.

The total area of the Ukrainian part of the Carpathian region is 56 600 км<sup>2</sup>, 50.12% of them - agricultural land (Zakarpattia region - 36.8%, Lviv region - 59.18%, Ivano-Frankivsk region - 46.4% Chernivtsi region - 58.10%), 41.6% - forest land (Zakarpattia region - 56.8%, Lviv region - 31.2%, Ivano-Frankivsk region - 46.0%, Chernivtsi region - 31.8%), built up territory makes up only 4.58% (Zakarpattia region - 3.7%, Lviv region - 5.22%, Ivano-Frankivsk region - 4.5%, Chernivtsi region - 4.9%), open wetlands make up only 0.605%, open land without vegetation - 1.77% and waters - 1.84%. Hence that is a typical agricultural region.

The variety of landscapes and vertical zonation caused by the mountainous terrain is the cause of high biodiversity, which is protected on 1611 territories and objects of natural reserve fund of different levels (national and local). They occupy 655.422 thousand hectares, that is 12.52% of the whole territory of the region (Zakarpattia region - 13.92%, Lviv region - 6,81%, Ivano-Frankivsk region - 15.7%, Chernivtsi region - 13.66%). 16 protected areas among these ones are of national importance, that is natural and biosphere reservations and national parks. They occupy 348.85 thousand hectares, i.e. 50.36% of the total area of protected territories, indicating the high value of natural ecosystems, which are protected in the territory of the Carpathian region of Ukraine. Such valuable natural territories of the western part of the Ukrainian Carpathians were combined into trilateral International Biosphere Reservation "Eastern Carpathians" located on the territories of Ukraine, Poland and Slovakia. Object recognition of European ecological network Natura 2000 is for the present only in Zakarpattia region and only by Habitats Directive of EU (Habitats Directive 92 / 43 / EEC), but identified habitats do not have a favourable conservation status yet.

Carpathian region of Ukraine has an extensive net of mountain and lowland rivers (32,862.35 km in total), which belong to the basins of the Black and Baltic Seas. The largest rivers of the region are the Tisza, Dnister, Prut, Seret, Styr (they flow into the Black Sea) and the Western Bug and Sian (they flow into the Baltic Sea). Currently the process of approximation of Ukrainian law to European environmental legislation, particularly in water management is being conducted. This approximation will harmonize the system of monitoring the quality of surface and ground waters under the EU Water Directive (Water Directive 2000/60 / EEC).

The main polluter of surface waters in the Ukrainian part of the Carpathian region is wastewater of enterprises and municipal sewage of settlements. A smaller polluter is agricultural production and farms. Centralized water supply and sanitation and wastewater treatment system exist only in cities and towns. Rural areas mainly use well water or surface water from forest streams. Sewage in rural areas is collected in septic tanks that are often poorly isolated and contaminate soil and groundwater. The existing systems of treatment facilities in major towns are technically obsolete, outdated and often do not stand modern load. All they need complete reconstruction and implementation of modern technologies of water purification. For small businesses this problem is partly solved through individual biological treatment plants.

The air quality monitoring system exists only for regional centres. During decades the major air pollutant in Uzhhorod and Chernivtsi was road transport, and in Ivano-Frankivsk and Lviv - industrial enterprises. This is due to the fact that the last two cities are more industrialized. During the past 3 years these emissions decreased by 66.48 thousand tons in all four regions collectively, and in 2013 they amounted 600.1 thousand tons (69.1 thousand tons in Zakarpattia region, 238.4 thousand tons in Lviv region, 253.5 thousand tons in Ivano-Frankivsk region and 39.1 thousand tons in Chernivtsi region). Greenhouse gas emissions in CO<sub>2</sub> equivalent increased by 1.17 million tons during the last 3

years, and in 2013 they accounted in total 19.1 million tons. At what they grew only in industrially more developed regions - Lviv and Ivano-Frankivsk, and on the contrary in Zakarpattia and Chernivtsi they decreased.

Waste management systems are very weak and imperfect in all 4 regions. Centralized collection and export of solid waste to landfills is conducted in only 70% of settlements. Mountain villages have the worst situation. The whole system of waste management comes down to their collection, removal to landfills and their disposal. Today there are 1188 such polygons in the region, occupying 1189.97 hectares. Only 33% of them have been certified, and therefore legal. In the region there is no ground for waste disposal that meet EU standards. Currently, the only one is being built in Yanoshi village in Zakarpattia region. Centralized system of collection, neutralization and disposal of hazardous and "green" waste from the public is inefficient too. The system of selective collection of waste from the population covered only 25% of settlements. The worst situation is in the Zakarpattia region, where selective waste collection is established only in 16% of settlements.

The main natural risks and the risks associated with human activities are floods, landslides, mudflows, soil erosion, karst phenomena. Almost all of them are related to mining activities and the building of settlements in floodplains. Global climate changes exacerbate the situation in the region. Emergency situations are possible on the enterprises (on the existing enterprises and already closed but not reclaimed ones). This situation is typical for all four areas of the Ukrainian part of the Carpathian region.

Theoretically technical potential development of alternative and renewable energy sources in all four regions of the Carpathian region of Ukraine is different. Key indicators can be seen in Table 1.

**Figure 21 - Technically reachable energy potential of alternative and renewable energy sources in terms of conventional fuel (million tons of conventional fuel) and volume of traditional energy sources replacement**

No	Regions	Solar power	Geo-thermal energy	Small hydro power	Biomass energy	Thermal wastewater energy	Thermal soil and groundwater energy	Total by regions	% of organic fuels replacement by renewable energy sources %
1	Zakarpattia region	0,13	7,40	1,05	0,21	0,05	0,45	<b>9,29</b>	79,6
2	Lviv region	0,22	0,45	0,42	0,41	0,32	1,05	<b>2,87</b>	33,4
3	Ivano-Frankivsk region	0,13	0,51	0,09	0,17	0,11	0,49	<b>1,50</b>	21,7
4	Chernivtsi region	0,09	0	0,21	0,29	0,03	0,19	<b>0,81</b>	60,1

Practical opportunities for using theoretically calculated potential of renewable energy sources in the region are not clear for each energy source. Thus, despite the high potential for small hydropower development, this activity is very dependent on hydrologic and climatic conditions that are becoming extreme as a result of global climate changes, and it also is associated with a significant negative

impact on the environment. Legislatively irregular small hydropower development in Ukraine contains environmental and economic risks.

Today, for example, Zakarpattia region provides itself with own-produced electricity only by 9%, and all this electricity is produced exclusively by renewable energy sources - 6 hydroelectric and 3 solar power plants.

According to Hydrometeorological Service of Ukraine forecasts, as a result of global climate changes the Carpathian region of Ukraine is undergoing major changes in meteorological conditions. There will not be the average water shortages. However, aggravation peaks of enhanced precipitation and drought are predicted. This means that the region will suffer from the increasingly large-scale floods that will rotate with low flow river periods. In view of this the following spheres will need adaptation measures: 1) agriculture and food processing (irrigation system); 2) water resources (strengthening of meteorological conditions); 3) forestry (change species composition); 4) energy (positive features for solar energy and negative features for hydropower); 5) mining; 6) biodiversity; 7) health.

## Transport infrastructure, mobility, ICT

### Length of transport networks (km):

Regions	Length of transport networks (km)		
	National public roads	Highways and roads	Tracking
Zakarpattia region	3300	3300	604
Ivano-Frankivsk region	4100	4100	494
Lviv region	8400	8200	1261
Chernivtsi region	2900	2900	413
Total among 4 regions	18700	18500	2772
Total in Ukraine	169600	166100	21605

### The quality of transport infrastructure:

There is the 5th (Cretan) International Transport Corridor (Trieste-Ljubljana-Budapest-Bratislava-Chop-Lviv) on the territory of Zakarpattia region. There is the European route E50 (France - Russian Federation) in the north of Ivano-Frankivsk region, and there are highways E40 (Venice - Kyiv) and E85 (Baltic Sea - Black Sea) nearby.

On the territory of Lviv region there are areas of road transport corridors laden with transport flows mainly from Central Europe (3rd international transport corridor Berlin - Dresden - Lviv - Kyiv) and Southern Europe (5th international transport corridor).

Within Chernivtsi region there is a branch (Ternopil - Chernivtsi - Porubne and Chernivtsi - Mamalyha) from the international transport corridor Baltic Sea - Black Sea (Yagodyn - Kovel - Lutsk - Ternopil - Khmelnytsky - Vinnytsia - Uman - Black Sea ports), and there is also the international

highway E85, that coincides with the international transport corridor on the site Ternopil - Chernivtsi - Porubne; state national highways H-03 “Zhytomyr – Chernivtsi” and H-10 “Stryi - Ivano-Frankivsk - Chernivtsi – Mamalyha”; regional roads R-62 “Verkhovyna - Ust-Putulia - Storozhynets – Chernivtsi” and P-63 “From the highway N-03 (Dankivtsi) - Vartykivtsi – Sokyriany checkpoint” and other territorial roads.

The railway network of the Carpathian region is thicker than in Ukraine whole. The main lines pass from Kyiv to Lviv and then to Uzhgorod and Chop. Transit loads dominate in transportations. Loads are overload at border stations Chop and Mostyska. The main units of the transport sector are regional centers (rail centres and road centres). The main direction of passenger flows in railway transportations in Zakarpattia region falls to the lines: Chop - Batyevo – Stryi and Chop - Uzhhorod – Sambir that are taking major transit loads. The following lines are less significant in carrying passengers and in terms of modern technical condition: Batyevo - Korolevo - Teresva - Velykyi Bychkiv. The biggest railway junctions of Ivano-Frankivsk region are Ivano-Frankivsk, Kolomyia, Kalush. The major railway junctions in Lviv region are Lviv, Krasne; the other railway junctions are Drohobych, Stryi, Sambir. Transit (Krasne), border (Mostiska) and tourist resort (Truskavets) junctions are developed. Railway network connects Chernivtsi region to Western Europe through Lviv. From the north trains depart from Moscow and Kyiv, from the south trains arrive to Odessa. Chernivtsi has direct railway connections with the following cities: Ternopil, Ivano-Frankivsk, Uzhhorod, Kharkiv, Kovel, Oknytsia, and in summer - with Sofia (Bulgaria).

The operational length of public railways is provided by two railways – Lviv railway and South-West railways. More than a half of railways are electrified. The operational length of public railways remains at the level of 2003.

**Table 7 - Number of railway border crossings**

Railway number	99/601	49/34	3252	8861	51/3310
From - To	Kyiv - Bratislava	Kyiv -Budapest	Chop - Zahony	Chop – Chyyerna Over Tisza	Lviv - Vrotslav
Daily number of passenger trains across the border	2	2	10	4	8
Electrification of railways	Yes	Yes	No	No	Yes
Number of tracks	1	1	2	2	2

*Source: Based on the information provided by Ukrzaliznytsia*

### **The number of international / national / non-public airports (airports list)**

International Airport “Uzhhorod” serves Uzhgorod-Kyiv flights, transit charters and private planes. Infrastructure of Uzhhorod International Airport requires significant capital upgrades for providing standards, including the quality of runway coverage. Runway length is 2.4 km. The airport can admit 1st class aircraft - Yak-42, Boeing 737, Tu-134, An-12, Hercules, 2nd class aircrafts - AN-140, Yak-40, AN-24, and different foreign middle class aircraft.

There are 5 airports in Ivano-Frankivsk region. There is an operating airfield at the international airport "Ivano-Frankivsk". Airports with hard surface of local importance are located in the cities of

Colomyia and Kosiv. Two field airports are located in the cities of Snyatin and Gorodenka. The airport is able to admit aircraft of almost all classes. Regular daily flights to Kyiv and backwards are performed from the airport.

International airport "Lviv" named after Danylo Halytskyi the largest airfield by passenger traffic and route network in western Ukraine. It is located 6 km from the city center. This airport is regional, strategic, 4 "D" international-class.

Flights to Kyiv (Boryspil, Zhulyany), Istanbul (Turkey), Forli and Naples (Italy), Aleppo (Syria), Tel Aviv (Israel) are performed from the international airport "Chernivivtsi". Air connections with Kyiv and Timisoara (Romania) are performed. The capacity is 12 take-offs-landings per hour. The airport is able to admit aircraft of the following types: An-12, Yak-42, Tu-134, weighing up to 75 tons.

#### Number of Internet subscribers

Number of Internet subscribers (people)	
Zakarpattia region	54 400
Ivano-Frankivsk region	57 200
Lviv region	238 500
Chernivtsi region	54 400
Total:	5 957 400

Regional Affiliates of "Ukrtelecom" Public Company provide access to the Internet. (dial-up, not switched and xDSL-access, ADSL-access). Modern high-speed Internet access with the ADSL2 + technology is actively developing. It has its own trademark "OGO!". Wireless Internet access (Wi-Fi technology) is being developed. To meet the needs of corporate users, FRAME Relay, VPN / MPLS services are actively implemented. 90% of urban residents and about 30% of rural areas residents are provided with the high-speed cable internet. Lack of high-speed cable Internet access is offset by the Internet, which is provided by mobile operators. The problem concerning the development of communication subsystem is the difficulty of high-speed cable Internet access in the highlands. Potential for development is creation of facilitated special tax conditions for companies that will provide high-speed cable Internet in rural areas with complex geography.

#### The main needs

The main needs for improvement of effective use of the Carpathian region transport potential are the following directions:

- construction of new high-speed highways within transport corridors and reconstruction of existing ones;
- reconstruction of roads of local importance and increase of the access roads to rural areas;
- efficient use of transport junctions, increasing their capacity;
- reconstruction and modernization of the major railways infrastructure in order to improve their speed.

#### The main problems

- The main problems of transport infrastructure include technical characteristics of the roads that do not meet the current needs of economy, because about 80 % of the roads are built by the standards of 1960-1970 years and only 1.6 % of the roads are first class roads (four lanes, high capacity).
- In addition, during the last years the length of roads has practically not been increased, and existing roads need major repairs. Only a tenth of public roads are first and second category highways of state and local importance, condition of which meets European standards. Presence of a significant number of roads of transitional type of coverage limits access for

residents of the settlements to social infrastructure and hinders the development of tourism.

- Major problems in the road sector are inadequate technical condition of the road network, especially in rural areas, that is caused by insufficient financing of road industry of the region during the last years. This factor did not allow carrying out repairs of the road network in the region in the required quantities with bringing the lifetime of road surface to overhaul terms. Building commenced objects on the public roads of the region and development of international checkpoints and access roads to them were not completed.

### **The main potentials**

The real way and impetus to enhance transport capacity in the region is the resumption of work of existing facilities and involvement of additional transport links, including:

- automobile:
  - implementation of the concession road Lviv-Krakovets construction project; increasing transportation volumes, that will positively affect the development of transport infrastructure, including cross-border transport infrastructure within the 3rd and the 5th Pan-European transport corridor, in particular, improvement of existing public roads and communal property roads and road improvement;
  - unification of the D1 motorway on the Slovak side and the highway on the Ukrainian side of the Slovak-Ukrainian state border between the villages of Zagor and Storozhnica on the northwest of the city of Uzhhorod;
  - construction of the road from Verkhovyna in Ivano-Frankivsk region to the border with Romania, through Iltsi, Krasnyk, Topilche, Zelene and Yavirnyk villages;
- railway
  - commissioning the new railway tunnel, that will connect Zakarpattia and Lviv region of Ukraine to the Western and Central Europe (it will eventually replace single-track Beskydy tunnel);
  - resumption of the railway connection between Dilove village of Zakarpattia region Teresva village through the Romanian city Sighetu-Marmatsey. It would connect to one system railways of Zakarpattia, Lviv and Ivano-Frankivsk regions and create access to many cities in Romania
  - increasing the capacity of the railway between Lviv and Warsaw by conducting capital works on the railway tracks at the station Lviv-Rava-Ruska and construction of a new combined track at the station Rava-Ruska-Bryukhovychi;
  - keeping in good condition and expanding the network of narrow-gauge railway, its inclusion in the European network of narrow-gauge railway;
  - modernization of the international railway track in the direction of Žilina - Košice - SR / Ukraine state border, including the construction of broad-gauge railway;
  - establishment of regular connections between Zakarpattia and Hungary by Intercity trains;
- aviation:
  - signing agreements with international airline companies in order to provide cheap connections with the European Union countries, flights on the business class aircraft and increasing capacity;
  - usage of former military airfield in Mukachevo with civil purposes. This airfield is promising in terms of timeliness of perishable cargo delivery, and in terms of technical characteristics it can admit heavy transport aircrafts (Il-62, Il-76, An -124, Tu-154, Tu-204, Boeing-737). The direct proximity of the airport to railways, roads and cargo terminals, the opportunity to form transport cargo flows in the air, on the railway and on the roads;
- water:
  - through the navigation resumption in the upper reaches of Tisza river, construction and subsequent operation of a river port in the territory of Chop with an annual freight turnover of 1 million tons with the capacity of one navigable agent from 420 to 500 tons. Transportation of cargo in relatively small batches by water transport (that does not require high expenses) means a significant reduction of expenses of a carrier, hence the value of the goods.

## Migrations, border and security

### The length of the state border of the proper counties / regions

The total length of Zakarpattia borders is 460 km: 33.4 km with Poland, 98.5 km with Slovakia, 130 km with Hungary, 205.4 km Romania. In the north and north-east Zakarpattia borders with Lviv (85 km) and Ivano-Frankivsk regions (180 km).

Ivano-Frankivsk region has a border with Zakarpattia, Lviv, Ternopil and Chernivtsi regions of Ukraine. In the extreme south it has the state border with Maramures (Romania) with the length of 50 km.

The length of borders between Lviv region and Poland is 258 km. In the north and north-east Lviv region borders with Volyn region (120 km), Rivne region (52 km) and Ternopil region (122 km), in the south-east and west it borders with Ivano-Frankivsk region (218 km) and Zakarpattia region (84 km).

In the territory of Chernivtsi region there is the state border with the length of 404.4 km., including: in the south it borders with Romania - 226.4 km., in the south-east - with Moldova (178 km). In the west the region borders with Ivano-Frankivsk region, in the north – with Ternopil region, in the north-east - with Vinnitsa and Khmelnytsky region.

### List of Border-Crossing-Points

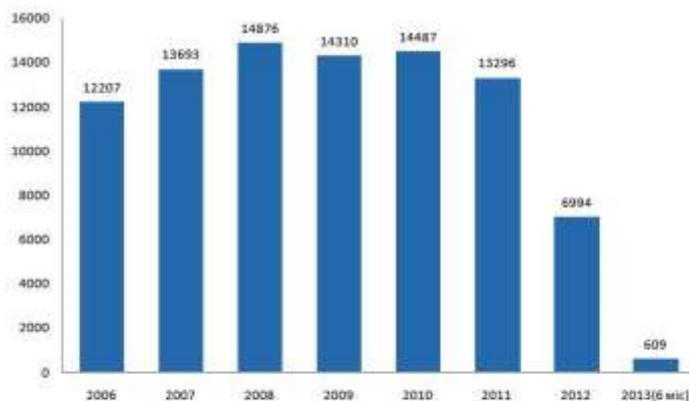
Border checkpoints		Vehicle type	Transport type
<b>Ukraine-Poland</b>			
Rava Ruska	Hrebenne	automobile	passenger, cargo
Rava Ruska	Hrebenne	railway	cargo
Rava Ruska	Verhrata	railway	cargo
Krakovets	Korchova	automobile	passenger, cargo,
Shehyni	Medica	Automobile, pedestrian	passenger, cargo
Smilnytsia	Krostsienko	automobile	passenger, cargo, (up to 7,5 tons)
Hrushiv	Budomezh	automobile	passenger
Khyriv	Krostsienko	railway	passenger
Mostyska	Przemysl	railway	passenger, cargo
Uhryniv	Dolhobychuv	automobile	passenger, cargo
<b>Ukraine-Slovakia</b>			
Malyi Bereznyj	Ublya	Automobile, pedestrian	passenger, cargo (up to 3,5 т).
Uzhhorod	Vyshne Nyemetske	automobile	passenger, cargo
Uzhhorod	Vyshne Nyemetske	railway	cargo
Mali Selmentsi	Velyki Selmentsi	pedestrian	passenger (daily)
Pavlove	Matiotse	railway	cargo
Chop (Strazh)	Chyverna Over Tisza	railway	passenger, cargo
<b>Ukraine-Hungary</b>			
Chop (Tisza)	Zahony	Automobile	passenger, cargo
Chop (Druzhba)	Zahony	railway	passenger, cargo
Dzvinkove	Lonya	Automobile	passenger (up to 3,5 т. daily)
Kosino	Barabash	Automobile	passenger (up to 3,5 т. daily)
Luzhanka	Beregshuran	Automobile	passenger, cargo (up to 3,5 т.), without limitations, transport carrying cargo of humanitarian and technical assistance
Vilok	Tiszabech	Automobile	passenger
Salovka	Eperyeshe	railway	railway
<b>Ukraine-Romania</b>			

Border checkpoints		Vehicle type	Transport type
Dyakove	Halmeu	Automobile	passenger, cargo
Dyakove	Halmeu	railway	passenger, cargo
Solotvino	Sighetu Marmatiei	Automobile, pedestrian	passenger
Dilove	Valia Vysheuluy	railway	passenger, cargo
Teresva	Kympylunh la Tisza	railway	passenger, cargo
Shepit	Izvoarele-Sucevevy	pedestrian	passenger (daily; Wednesday, Friday. Sunday)
Porubne	Siret	Automobile, pedestrian	passenger, cargo
Krasnoilsk	Vikovu de Sus	Automobile, pedestrian	passenger (up to 3,5 τ daily).
Vadul-Siretna	Vikshany	railway	passenger, cargo
Dyakivtsi	Rakovets	Automobile, pedestrian	passenger (up to 3,5 τ daily).
Ruska	Ulma	Automobile, pedestrian	passenger (up to 3,5 τ daily).
Bila Krynytsia	Klymoutsi	pedestrian	passenger (daily; Wednesday, Friday. Sunday).

Source: State Border Service of Ukraine [http://dpsu.gov.ua/ua/activities/skipping/skipping\\_18.htm](http://dpsu.gov.ua/ua/activities/skipping/skipping_18.htm)

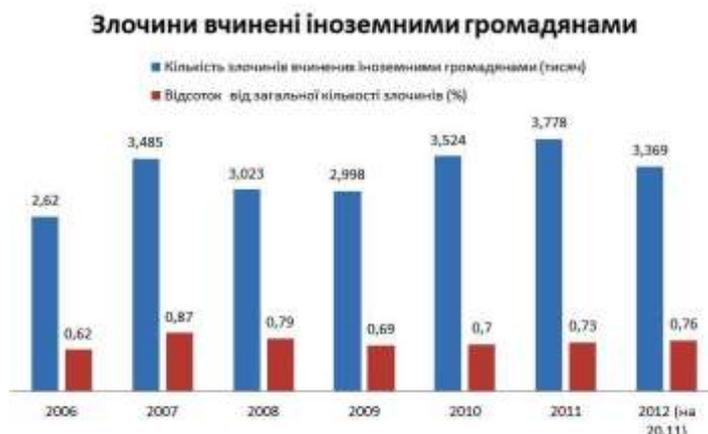
### The number of registered crimes

The official data of the Ministry of Internal Affairs show that the total number of illegal immigrants moving to the European Union in 2006-2012 significantly decreased. In 2006 this indicator was 26,000 and in 2012 - about 7 thousand people. The reasons of statistical data decline on the one hand is reduction of the effectiveness of the Ministry of Internal Affairs and the need to reform the existing structures or creation of new ones, on the other hand - changes of migration flows in the direction of the Balkan countries, that are now bypassing Ukraine and affect the reduction of the number of workers as a whole and also identified illegal immigrants.



Most of them are citizens of Arab and Muslim countries. The main flows of illegal migrants using Ukraine as a transit zone are the citizens of Moldova, Pakistan, Afghanistan, Iraq, Caucasian republics of Russian Federation, Palestine, Nigeria, Syria, Ethiopia, Sudan, Egypt, China, Vietnam, Bangladesh, India, etc.

Since 2013, the number of illegal immigrants in the territory of Ukrainian-Slovak border has increased. If in 2008 there were 947 detained persons, a year later – 2174 persons, then in 2010 - 17.9 thousand persons, in 2012 - 31.7 thousand persons, and during 9 months of 2013 - 26 thousand people.



During the last years detained people for illegal border crossing and other offenses were from former Soviet Union countries, primarily from Georgia, Russia (natives of Chechnya), Armenia, Azerbaijan, Uzbekistan, Tajikistan,

Kyrgyzstan and Kazakhstan. Great share of withdrawal from border violators falls to illegal immigrants. For example, 667 weapons, 16,684 units of ammunition and 718 kilograms of drugs during the year. According to the Ministry of Internal Affairs of Ukraine data, 733,000 foreigners were in Ukraine without legal grounds in 2012, 52.3 thousand persons among them were brought to justice, and 2008 people were deported from Ukraine. According to the State Border Service of Ukraine data, 123,000 foreigners from countries of origin of illegal immigrants didn't leave Ukraine during 2008-2012, that creates a real threat to Ukraine's national security, because no one knows where are most of these people and what they do.

### **The main needs and problems**

Preparation for visa-free regime for citizens of Ukraine should provide completion of the reform of customs and border guards. They need development agencies in the general system of reformation of the security and defence and the definition of strategic development goals, basic principles, objectives to achieve these goals in nearby (until 2017) and medium term (until 2020).

Close cooperation between border regions of the Carpathian Euroregion requires additional tools to build checkpoints at state borders of Ukraine and the European Union. It is about expanding and improving the network of border crossings, reconstruction of existing motor access bridges, roads to the border crossing points and so on and construction of new ones.

- **At the Ukrainian-Polish border:**
  - construction of the international cycling-pedestrian crossing Lubny – Volosate;
  - Opening of the crossing for international road connection Nyzhankovychi - Malhovitse.
- **At the Ukrainian-Slovak border:**
  - modernization and reconstruction of the checkpoint Uzhhorod - Vysne Nyemetske,
  - construction of new international road checkpoints with modern infrastructure Solomon - Chiyerna and Ulych – Zabrid;
  - reconstruction and opening the checkpoint of road connection for vehicles up to 3.5 tons Mali Selmentsi - Large Selmentsi.
- **At the Ukrainian-Hungarian border:**
  - reconstruction of the checkpoint Luzhanka - Bereghsuran (active) and construction of new checkpoints: Solovka-Tisasentmarton (bridge), V.Palad- Nadyhodosh (road), Badalovo - Satmarcheke (bridge) and a new bridge over the Tisza River at the checkpoint Chop-Zahony;
  - promising directions of border infrastructure development are: Lovnya - Dzvinkove - Barabash - Kosyno (checkpoint Vilok -Tysobech), Berehdyyda - Bereghdaróc (M-3, 5 transport corridor), Berehovo - Dyyda - Bereghdaróc, V.Palad - Kishpolad, Uska - (Maroshlihet) - Bobove.
- **At the Ukrainian-Romanian border:**
  - reconstruction of the international automobile checkpoint Dyakove - Halmeu and development of the surrounding transport infrastructure;
  - reconstruction, construction of a new bridge on the international automobile checkpoint Solotvino - Sighetu Marmatiei;
  - opening the international checkpoint Shybene – Poenile de Sub Munte.

### **The main potentials:**

The main potential concerning the migration policy is a particular dynamic cooperation with the EU

on migration issues in three main areas:

- Ukraine as the native country of many migrant workers will make efforts to reach agreements with foreign states on employment and social protection of migrant workers;
- The European Union interested in the controlled migration to its territory and internal security guarantees will provide assistance in the development of border infrastructure and preventing illegal migration to Ukraine;
- constant interaction on the line of freedom of movement in the EU territory for Ukrainians. The condition for this must be building the capacity of states to regulate migration processes effectively.

## Health and social affairs

Health care is an integral part of the social sector, which plays a key role in social welfare, whereas the health welfare is a key indicator of life quality. The average life expectancy of population in Ukraine at the beginning of 2013 amounted to 40.3 years; average life expectancy for men was estimated to be 37.5 years and 42.7 years for women. According to the social study, men do not live up to 65 more often than women. According to the survey conducted in Europe, early mortality is mostly caused by bad habits. The average life expectancy of the population in Ukraine is 40 years.

**Figure 20 - Selected age indicators of population by sex**

		Ukraine		Zakarpattia Oblast		Chernivtsi Oblast		Lviv Oblast		Ivano-Frankivsk Oblast .	
		2009	2013	2009	2013	2009	2013	2009	2013	2009	2013
Ageing index	Total	58,2	68,8	59,1	68,8	59,4	70,2	59,4	70,4	60,0	70,5
	Men	62,1	65,9	60,6	61,9	60,6	68,2	60,1	63,0	54,3	63,4
	Women	53,9	55,3	53,4	55,5	52,8	49,9	54,6	54,9	49,7	48,0
Mean age (years)	Total	39,1	41,60	36,7	38,13	37,22	39,24	38,51	38,56	37,15	38,68
	Men	38,4	39,6	36,08	37,20	35,71	36,55	36,12	37,05	41,02	37,5
	Women	40,05	41,15	41,11	40,11	38,33	37,09	37,72	38,50	40,01	42,7
Life expectancy at birth (years)	Men	63,79	66,34	64,75	67,14	66,94	68,59	66,30	68,37	66,39	68,41
	Women	74,86	76,22	73,69	74,75	76,61	77,63	76,96	78,07	77,03	77,76

Source: <http://www.ukrstat.gov.ua/>

Medical care in this region is carried out by medical health care institutions, which are available almost in every inhabited locality. Many medical institutions were built in the 60-80s of the 20th century. Hospitals provide multidisciplinary services according to their type, capacity and type of

health care and the system organization. Number of hospital beds in recent years has tended to increase, whereas about fifteen years ago the number of hospitals and hospital beds tended to decrease. The availability and quality of health services points at regional differences, namely the lack of doctors in rural areas and small towns.

**Figure 21 - Health care indicators (2013)**

		Ukraine	Zakarpattia Oblast	Chernivtsi Oblast	Lviv Oblast	Ivano-Frankivsk Oblast
Health facilities	In total*	11248,0	417,0	304,0	473,0	342,9
- of which:	Hospitals	1219,8	54	40	135	81
	Out-patient care facilities	1291,8	358	261	327	196,6
	Natural curative spa	151	4	2	10	5
	Institutes for treatment	15	1	1	1	1
Bed fund in health facilities	In total	5 803	9097	7233	23576	11388
- of which:	Hospitals	125,3	11,3	17,4	16,2	22,3
	Natural curative spa	87,9	7,0	1,1	0,8	11,4
	Institutes for treatment	58,1	1,5	0,9	0,3	0,1
Employees in health facilities	In total*	97,4	87,2	102,5	159,9	140,8
- of which:	Hospitals	182,2	59,1	59,4	127	109,3
	Out-patient care facilities	54,3	10,9	28,4	14,3	7,9
	Natural curative spa	22,9	11,3	11,6	7,6	15,1
	Institutes for treatment	15,6	5,9	3,1	10,2	8,3

Source: <http://www.ukrstat.gov.ua/>

The situation in the social services sector is similar to the health sector; the number of facilities tends to increase. According to statistics new facilities providing social services for children have not been established.

**Figure 22 - Social service facilities and their capacity**

	Ukraine	Zakarpattia Oblast	Chernivtsi Oblast	Lviv Oblast	Ivano-Frankivsk Oblast
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	2009	2013	2009	2013	2009	2013	2009	2013	2009	2013
Facilities in total	1 895	2 110	501	521	433	436	585	584	652	702
Places in total	58000,8	51000,0	20 210	20 215	18 445	18 455	22 390	22 241	21 944	21 944
Social service homes for adults	50,4	44,0	12	12	13	13	13	13	12	12
Social service homes for children	325	290	6	6	5	5	8	8	6	6

Source: <http://www.ukrstat.gov.ua/>

According to the statistics the social infrastructure development is enhanced due to financing. Mostly the population with low incomes does not get sufficient social protection.

#### Main needs and challenges

- Reorganization of rural medical clinics, outpatient departments of rural district hospitals and outpatient departments of central district (CDH) and district hospitals (DH), large village health centers which will be the structural units of the new institutions - CSMU;
- Introduction of a mechanism for planning and evaluation of health care facilities in relation to medical services as well as funding under this factor, and conversely, the existing link of funding system to the volume of quantitative and not qualitative indicators;
- Introduction of professional management;
- Monitoring and analysis of public health care, access to health care services, the effectiveness of anti-crisis measures;
- Introduction of contractual relations to purchase medical services and new financing methods of medical institutions;
- Increase the number of skilled workers who leave the domestic health care sphere through intersectoral and labor migration (annually more than 6 thousand physicians leave Ukraine to work abroad).

#### Main potentials

- Development of the health care strategy and public health care at the level of the country;
- Development and implementation of state target health programs;
- Development of legislative and normative legal base for health care;
- monitoring the activities of public authorities to solve health issues;
- At the regional level, health care development taking into consideration regional differences;

development and implementation of regional health programs;

- at the local level it is necessary to form and implement local health care programs;

## Education

In Ukraine there are several levels of education. Preschool education includes preschool educational establishments such as nurseries, nursery-kindergartens, kindergartens, family nursery-kindergartens and educational complexes of combined and compensating type (special kindergartens and sanatoriums). Secondary schools can be referred to as schools, lyceums, gymnasiums, colleges, educational complexes (association), sanatorium schools of all levels as well as special schools. Secondary educational establishments of the first level (elementary school) provide primary education, establishments with the second level of accreditation (basic school) provide basic general education, the third level of accreditation institutions (high school) provide complete secondary education. Vocational education establishments are the institutions founded to meet the needs of citizens in technical skilled education and simultaneously provide complete secondary education.

Graduates of vocational and technical educational institutions, who have successfully passed qualification certification, acquire qualification of "skilled worker" in the corresponding profession of the appropriate level (category). Higher educational institutions are trade schools, colleges, institutes, conservatories, academies, universities and others. According to the status of higher education institutions there are four levels of accreditation: I level - technical schools, II level - colleges and other equivalent institutions, III and IV levels - academies, universities, institutes, conservatories. Higher education institutions provide training for the following educational levels: technical schools and other higher education institutions of the I accreditation level provide training for junior specialists; colleges and other higher educational institutions of the II-IV accreditation levels train bachelors; specialists and masters are trained in higher educational institutions of the III-IV levels of accreditation.

In Ukraine, complete secondary education is obligatory and free. Vocational education and training in higher education institutions in terms of the state order is free as well. In addition, higher education institutions provide students with an opportunity to get paid education. Pre-school, primary and secondary schools are financed by local government. Higher education institutions are financed from the state budget.

**Figure 23: Pre-school and general education institutions (2013)**

	Preschool EI			General EI		
	Number of institutions	Number of children	Capacity, %	Number of institutions	Number of children	Number of teachers
Zakarpattia	569	48,3	56,0	670	154	19,1
Ivano-Frankivsk	386	32,4	39,0	745	147	22,4

Lviv	712	67,8	48,0	1410	255	36,1
Chernivtsi	373	31,8	60,0	436	97	12,5
The part of the CE	2040	180,3		3261	653	90,1
Ukraine	16680	1470,8	62,0	19294	4204	508,2

Preschool education institutions are concentrated in towns and cities. There are not enough funds for keeping them in rural areas. The number of preschool children is the biggest in Chernivtsi Oblast and amounts to 60% which is close to the average number in Ukraine. The lowest indicator is observed in Ivano-Frankivsk Oblast and is 37 % less than the average indicator in Ukraine. Secondary schools in rural areas are not provided with sufficient number of skilled workers and are few in number. With the implementation of administrative territorial reform and the creation of united communities the school consolidation will increase to ensure efficiency of their operation. Today, one teacher has an average of 6-7 students, and in Zakarpattia Oblast a teacher has 8 students. Ukraine has been implementing the computerization program for schools to improve quality of logistics. According to the results of an independent evaluation of high school students' knowledge Ivano-Frankivsk is in the top five among other regions.

**Figure 24: Training of skilled workers and higher education institutions (2013)**

	Trained skilled Workers, thsd	Higher EI of the I-II levels		Higher EI of the III-IV levels	
		Number of institutions	Number of students	Number of institutions	Number of students
Zakarpattia	4,4	8	3,4	6	20,6
Ivano-Frankivsk	6,2	16	12,2	6	31,5
Lviv	17,5	22	19,2	22	119,8
Chernivtsi	4,0	13	10,1	4	22,7
The part of the CE	32,1	59	44,9	38	194,6
Ukraine	226,5	478	329	325	1723,7

Vocational schools are located in regional and district centers and higher education establishments of the III-IV levels are in regional centers. The largest number of those is found in Lviv region and amounts to 57% of all Ukrainian universities of the Carpathian Euroregion. "Lviv Polytechnic" University and Lviv National University after Franko make the Top 5 in Ukraine. Ivano-Frankivsk

National University of Oil and Gas is the only one specialized institution in the field not only in Ukraine but also in Europe. In every region there is a Medical University. Educational institutions have not only academic features, but also carry out scientific research.

#### **Main needs and challenges**

- Reduction of the number of pre-schools, which is caused by the shortage of funds for their maintenance, and low capacity rate that has a negative impact on employment of parents
- State expenditure on education remains very low, downward tendency is observed.
- Investments in human capital are insufficient.
- Reduction of the birth rate leads to a decrease of students' number in higher education institutions, which might reduce the potential workforce in the region.
- The imbalance of specialists trained for different trades (preferred nowadays are economic, legal, medical specialties and low interest is observed regarding engineering specialties) that impedes the establishment and operation of industrial sectors.
- Poor relationship between universities and production businesses gives the imbalance on the labour market. It is not possible for students to work out practical skills.
- Poor exchange programs for teachers, researchers and students within the Carpathian Euroregion.

#### **Main potentials**

- Wide network and developed infrastructure of educational institutions creates conditions for effective teaching
- Participation in cross-border cooperation programs allows educational institutions to strengthen their capacity, increase the level of educators' qualification, and implement innovative educational techniques
- A large number of educational institutions with a high rating allow preparing specialists in various fields of management.