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***WIDENING OUR HORIZONS***

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Розглянуто нагальні проблеми економіки, інженерії, а також охорони навколишнього середовища. Особливу увагу приділено сучасному законодавству, спрямованому на вирішення цих проблем. Матеріали згруповано у розділи, що відповідають секціям форуму і відображають сучасні тенденції та інноваційні розробки молодих учених, представників різних країн світу в різних галузях економіки.

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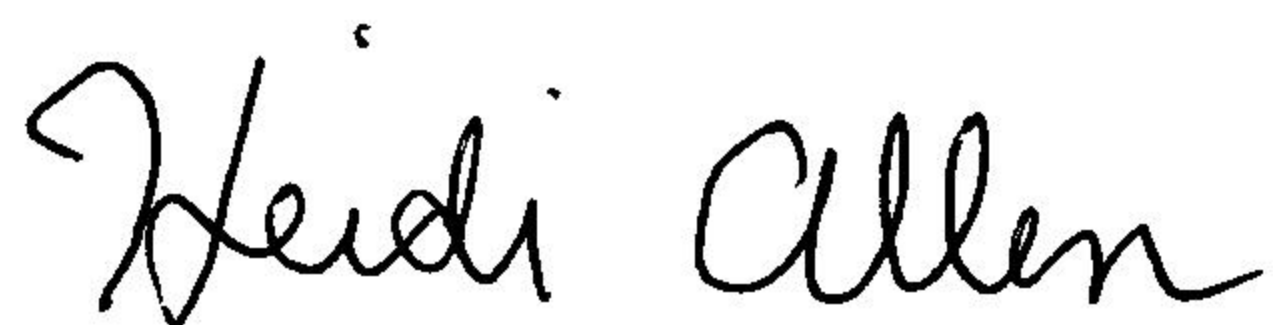
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Dear Students,

Benjamin Franklin, a famous American statesman, said, "An investment in knowledge pays the best interest." You have invested much time, money, and energy in your education. You have studied many hours in the library, attended classes, and done research. Your participation in this forum is one more example of your investment in knowledge. All your hard work will pay interest in many ways. First, it will provide you with career opportunities. Second, it will enrich your life and expose you to many exciting possibilities in the world. Third, by learning another language, you will have the chance to communicate and interact with people around the globe.

The world is waiting for you. You have opened new doors of knowledge and so much excitement awaits. I wish you much success and the return on your investment that you so deserve. Good luck with your future.

Sincerely,

A handwritten signature in black ink that reads "Heidi Allen". The script is fluid and cursive, with the first letters of each name being capitalized and prominent.

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## TABLE OF CONTENTS

	<b>TABLE OF CONTENTS</b>	4
	<b>Section 01. Modern Economics: Business and Law</b>	
1.	Svetlana Andreeva <b>Problems of creating a business</b>	8
2.	Ihor Bahrntsev <b>The Land Market in Ukraine: a Necessity or a Threat for Economy</b>	9
3.	Tetiana Bochkarova <b>Financial Conglomerates: Peculiarities of their Activity in the Domestic and World Financial Markets</b>	10
4.	Bondarenko D.S. <b>Prospects Of Investments In The Dnipropetrovsk Region</b>	12
5.	Tetyana Derevyanko <b>Economic Problems of Contemporary Ukraine</b>	13
6.	Dariia Filippiuk <b>How to attract investors to your startup?</b>	15
7.	Katerina Gulchenko <b>Role and Place of Small Business in the Economy of Ukraine</b>	16
8.	Rodion Horbunov <b>Changes in Simplified Taxation System and in Unified Social Tax</b>	17
9.	Nikolay Kolesnik <b>Problems And Ways Of Activating The Budget Process In Ukraine</b>	19
10.	Sofia Kovalyova <b>Main Tips of How to Build a Successful Network Marketing Business</b>	21
11.	Aliona Kravchenko <b>The Global Economic Prospects: Ukrainian Aspect</b>	22
12.	Kateryna Marchenko <b>Development of Ukrainian Consulting Services Market</b>	24
13.	Denis Markov <b>The Problem of Tariffs For Electrical Energy in Ukraine</b>	25
14.	Eleonora Martynenko <b>Foreign Direct Investment in Ukraine: Problems and Perspectives</b>	26
15.	Anastasia Nikolina <b>Problems of modern jurisprudence</b>	28
16.	Anna Orlovska <b>What kind of economy does Ukraine have?</b>	29
17.	Victoria Penyazeva <b>Global Economic Activity</b>	30
18.	Antonina Prylepa <b>Problems and Ways of Providing Financial Security in Ukraine</b>	31
19.	K.O. Rusakova <b>Demographic Evaluation Of The Object Using The Method Of Potentials</b>	32
20.	Daria Savchuk <b>Inflation In Ukraine: Causes And Methods Of Regulation</b>	33
21.	Veronika Shtokolova <b>The Role of Marketing in Enterprise Activities</b>	35
22.	Mariia Strilets <b>Public Self-Organization Bodies in the System of Local Self-Government Authorities</b>	36

23.	<b>Maksym Svysenko Unification of Germany in the 19th Century as a Factor of its Socio-economic and Political Upheaval</b>	38
24.	<b>Kateryna Yefimenko Essence, Effects of Shadow Economy and Red Flags to Combat it in Ukraine</b>	40
	<b>Section 02. Innovative Management</b>	
25.	<b>Maxim Antonenko Time Management as the Key to Success for the Manager</b>	41
26.	<b>Natalia Baklanova Innovative methods of promoting English schools</b>	42
27.	<b>Maryna Bohuslavska Administrative Management System as a Basis for the Effective Functioning of the Enterprise</b>	44
28.	<b>Efim Gosalov Time management</b>	45
29.	<b>Lena Kin' Some Aspects of Human Resource Management in Organizations</b>	46
30.	<b>Daria Kirtsova Mistakes and Problems of Nowadays Managers</b>	47
31.	<b>Yana Kogun How To Become A Successful Sales Manager</b>	49
32.	<b>Tanya Likar Main Tasks of a Successful Manager: Continuous Improvement and Innovations</b>	50
33.	<b>Yuliia Mikhnenko Development of the Organization Through Conflict Resolution</b>	51
34.	<b>Maria Mischenko How to Succeed in the Field of Management</b>	52
35.	<b>Denis Novak Interpersonal communication skills of a manager</b>	53
36.	<b>Nastya Popova The role of time management in today's world</b>	54
37.	<b>Maria Rudenko How to be Good at Planning and Strategy</b>	55
38.	<b>Polina Yehorova The Choice of Leadership Style with the Help of Transaction Analysis</b>	56
39.	<b>Anna Zeiferlin Features of Management System</b>	57
	<b>Section 03. Challenges in Environmental Protection</b>	
40.	<b>Olexandr Bilash Technologies of Valuable Components Recovery from Coal Mine Waste Heaps</b>	58
41.	<b>Maria Filenko How Does Mining Affect the Environment</b>	59
42.	<b>Valeriia Guscha Coal Mines Abandonment in Eastern Ukraine: Environmental Consequences</b>	61
43.	<b>Mykola Hlukhoveria Recycling of manganese ore waste</b>	62
44.	<b>Viktoriya Yewtuschyk Grundwasser</b>	63
45.	<b>Yevhen Koziy About Distribution of Co, Ni, Pb, Cr and V in Coal Layer c<sub>4</sub> of Mine «Samarskaya» of Pavlograd-Petropavlovsk Geological and Industrial District</b>	64

46.	Yulia Osypenko <b>The influence of air humidity on the healing of wounds</b>	65
47.	Natalia Podpriatova <b>Influence of the Military Actions on the Physical and Chemical Characteristics of Soil of the National Reserve “Kreidova Flora”</b>	66
48.	Maryna Prakhova <b>Burning leaves and its influence on the organism</b>	67
49.	Viktoriya Rusakevych <b>Chernobyl Disaster: Harmful Result</b>	68
50.	Yulia Semyhodova <b>Rock Dumps - the Valuable Mineral and Raw Material Resources</b>	69
51.	Nikita Shkarin <b>The Objects Causing Increased Ecological Danger In Ukraine</b>	70
52.	Irina Sirobaba <b>Miners` Occupational Diseases</b>	71
53.	Vadim Snisar <b>Environmental impact of the motor transport</b>	72
54.	Eugene Suprun <b>Energy-saving and eco-friendly innovation for shipping</b>	74
55.	Elena Tolpekina <b>Influence of Environmental Factors on Digestion Processes</b>	75
56.	Vladislav Vaseiko <b>Tidal Power as a Component of Ecological Energy</b>	76
57.	Dmytro Yermakov <b>Environmental Problems in Dniprovsk Region</b>	78
	<b>Section 04. Russian Language Section</b>	
58.	Алассад Мохамад <b>Бормашину в отставку</b>	79
59.	Алейшу Лоуренсу <b>Тампонажное устройство ТУ-4</b>	80
60.	Алнакла Иссам <b>Растительность в городе</b>	81
61.	Баясгалан Гантушиг <b>Проектирование доработки запасов газоугольных шахт на рубеже 2020 г</b>	82
62.	Джеббор Рабби <b>Сельскохозяйственное загрязнение почвы</b>	83
63.	Домингуш Говиана Тинта <b>Этапы развития мировой экономической системы</b>	84
64.	Каштру Давид <b>Бурение скважин в процессе геолого-разведочных работ</b>	85
65.	Карлос Малонда <b>Технология цементирования при бурении скважин</b>	86
66.	Фахриддинова Матлуба Равшан кизи <b>Использование ботокса в медицине</b>	87
67.	Хастиева Наира Арифовна <b>Нефть на страже здоровья</b>	88
68.	Ногейра Жуселино <b>Проблемы охраны окружающей среды</b>	89
69.	Омонова Сурайё <b>Векторы развития туризма в Узбекистане</b>	90

70.	Раджабов Діловар <b>Рослинний і тваринний світ Таджикистану. Природа Таджикистану</b>	91
71.	Йокубжонова Сарвиноз Йокубжон кизи <b>Защита материнства и детства в Узбекистане</b>	92
72.	Ситхоле Пичаник <b>Современные глобальные экологические проблемы и пути их решения</b>	93
73.	Усманова Юлдуз <b>Влияние окружающей среды на здоровье человека</b>	94
74.	Расулова Феруза Голиб кизи <b>Качество питьевой воды и её влияние здоровье человека</b>	95
75.	Хассан Мохаммед <b>Понятие "менеджмент" в строительстве</b>	96
76.	Махкамов Шохбоз Рустамжон оглы <b>Лечение змеиным ядом</b>	97
77.	Альрифай Юссеф <b>Ливанский кедр: лечебные свойства</b>	98

## **Section 01. Modern Economics**

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### **Problems of creating a business**

Today there are a lot of problems in creating a business; this work is devoted to the main ones, the solution of which will help in the advanced organization of business. One of the first points is a well thought out business plan. Your plan determines in which business area you are going to open and how you will get there. Of course, your plan will need to be reviewed as necessary, because the events in it will be developed at different times, but the general direction of movements should be established for a longer period in such questions as vision, mission and meaning.

The lack of financial resources for expansion of activities is very important problem for business. The majority of entrepreneurs do not use credit money, primarily due to the lack of necessary support from small businesses. Another reason is the high risks and overhead costs of banks.

One of the factors that cause numerous complaints of entrepreneurs is the excessive state regulation of business activity - the so-called administrative barriers. It should be noted that significant number of inspections by enterprises from the control and supervision authorities, as well as long-term procedures for obtaining the necessary permits and approvals in various institutions is very bad.

One of the most impotent problems of business which entrepreneurs continue to complain about is the level of taxation. A lot of criticism is caused by the existing cumbersome system of filling in tax returns and accounting reports.

Many entrepreneurs have limited opportunities in organizing sales of goods & services, in organizing advertisements and promoting the product on the market. This is due to companies that have competed for many years in the market and know the market better than the beginning companies.

And if you want to make your business to be successful you must do business with people who believe in the same things as you. Your main goal should be not just making a profit, but making people believe in you and your product and be inspired by it.

At present, enterprises have an acute need for developing strategies, attracting investors and taking maximum possible risks into account. It is impossible to move forward successfully without setting goals and objectives for several years ahead and understanding where and how to move, what to do today. Consequently, enterprises will attract investors with the right business plan, which will make investments for further business development.



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## **The Land Market in Ukraine: a Necessity or a Threat for Economy**

One of the major problems of land reform in Ukraine is the existence of moratorium on sale of agricultural land, which has been in place since January 18, 2001.

Aiming at analyzing the need for the moratorium at this stage of economic development of Ukraine, it is necessary to highlight the next points:

- the moratorium “steals” up to 90% of potential income from 6.9 million of land share owners each year, particularly due to low land prices;
- land owners haven’t got access to the credit resources in cause of disability to use it as a collateral property and high cost of credit resources;
- today nearly half of agricultural land in Ukraine is in a long lease;
- short-term lease became popular nowadays and it causes the fact of low level of agribusiness’s investment attractiveness and rapid depletion of soil fertility.

Fully-functioning land market has several negative aspects, and the biggest one is higher price of land, and, consequently, the prime cost of agricultural products. It leads to a decrease in competitiveness for Ukrainian agroholdings on the world market, but an increase in the efficiency of agricultural production will help them not to lose their segment of Ukrainian’s and world’s market. Furthermore, land market will lead to increasing competition between small and medium-sized landowners in Ukraine. Moreover, with the market legalization significant competition from foreign investors may appear (when the land market will be open for foreign investors), and this fact significantly will increase the value of land.

One of the hardest problems of creating a land market is an issue of market protection against foreign buyers. According to the scholars' opinions, the land market has to be protected from foreigners at least for two years, because we have to check up our legislation framework and make corrections to it.

To conclude it is necessary to Ukrainians to lift of the moratorium if we want to break out of the economic crisis and to fight corruption and shadow economy. The creation of land market will lead to higher incomes for land owners, higher investment attractiveness of Ukrainian economy, “healthier” banking sector, higher mobility of Ukrainian capital, higher income for Ukrainian budget and many others.

Unfortunately, these forecasts may be inaccurate, so the situation may develop within the frame of other scenario. All the population might be divided in two groups: the small one will comprise landlords who had enough money to acquire land assets; and the larger one will consist of people who should lease land from the first group. In Ukraine it seems to be the ground for the very threatening social tension, and our land legislation has to exclude the possibility of such a situation.

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## **Financial Conglomerates: Peculiarities of their Activity in the Domestic and World Financial Markets**

Effective organization of the financial market is a necessary condition for steady growth of domestic economy. Today the economic processes related to the functioning of the financial market are characterized by the increase in financial integration and by the emergence of new types of financial intermediaries known as financial conglomerates. Integration mechanisms along with financial intermediaries are inherent not only to the countries with the highly developed financial market, but also to the ones where the financial market is developing. The arrival of international capital to the Ukrainian banking and insurance sector has intensified the processes of financial integration and financial convergence, therefore, the research of financial conglomerates activity in the domestic and world financial markets seems to be urgent.

According to the European legislation financial conglomerate is defined as a group of financial intermediaries which includes two of three financial intermediaries - bank, insurance company or investment company [1, p.15].

Many economists infer that in the 21st century financial conglomerates seem to be the most effective players in the global market. The research shows that their amount has considerably increased over the past five years with the largest number observed in the UK (11), France (10), Netherlands (9), Germany (8) and Italy (7). Correspondingly this change has led to some increase in their concentration [2].

According to the 2016 rating of the largest companies of the world - "Global 500" the largest net income from rendering services among the financial intermediaries was made by the following financial conglomerates: "Allianz" (the 42nd place), Banco Santander (71st place) and "Axa" (the 149th place) with revenues of \$7522,37 million, \$7032,65 million and \$124333 million respectively [3,4]. In our view, the companies will continue this level of strong performance, meaning another year of strong revenue growth in 2017.

The banking market of Ukraine is represented by five financial groups from the Netherlands, France, Italy, UK and Sweden: «ING», «Credit Agricole», «Intesa Sanpaolo», «SEB», and «BNP Paribas». Our research proves that at least 7 Ukrainian companies (JSC «Alliance Ukraine», MetLife, Inc., CJSC «IC «AXA»», CJSC «IC «Grave Ukraine»», JSC «IC «UNIKA»», CJSC «IC «AEGON Life Ukraine»», JSC «IC «UNIKA Life»») can be a part of the international financial conglomerates - Allianz, AIG, AXA, BNP Paribas, GRAWE, RZB-UNIQA and Aegon. The 2015 analysis of the international financial conglomerates dynamics of assets in the

insurance market of Ukraine provides strong evidence that the greatest absolute value of assets among seven insurance companies is owned by MetLife, Inc. (1623242 thousand UAH). Moreover, we traced the activity of some banks that are part of the international financial conglomerates in the banking market of Ukraine, namely JSC "CJSC "SEB Corporate Bank"" (SEB AB), CJSC "ING Bank Ukraine" (ING), CJSC "Credit Agricole Bank" (CréditAgricole), JSCB "Pravex-Bank" (Intesa San Paolo) and JSC "UkrSibbank"(BNP Paribas).

As total assets of international financial conglomerates are up to 50583 times bigger than the NBU's official reserve assets and 12872 times bigger than the ones of the banking system of Ukraine, it can be asserted that effectiveness of the regulator's activity in critical situations seem to be rather doubtful [5, 6, p.17]. This fact testifies to very big influence of the international financial conglomerates on the Ukrainian banking market.

To summarise, financial conglomerate is a highly integrated and convergent financial intermediary. The activity of the international financial conglomerates in the financial market of Ukraine has led to the essential dependence of its banking sector from financial conglomerates. Their influence on the insurance market of Ukraine is less critical.

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## **Prospects Of Investments In The Dnipropetrovsk Region**

The favorable investment climate is an important condition for attracting investments. The latter improve living standards, growth, and restructuring of the country. Investment attractiveness includes processes, events, and action characteristic of the regional peculiarities: profitability, resources, labor, scientific and technical potential, and, of course, infrastructure.

Dnipropetrovsk region is one of the largest agricultural regions in Ukraine of 32.0 thousand Km<sup>2</sup>. There are 2.5 million h of land under farming with 3,8 thousand h offered to investors. Favorable climatic conditions and flat areas put the region among the world's leaders in the agriculture. Four of the top ten Ukrainian corresponding companies are located in the Dnipropetrovsk region.

Also favorable is the presence more than 26,000 industrial companies. Many of them are making the region one of the largest industrial centers of Ukraine. The Dnipropetrovsk region provides 20% in the total selling of industrial products, 11% of Ukrainian GRP and 16.8% of the total Ukrainian exports.

According to recent estimates of regions competitiveness, Dnipropetrovsk region takes the 5th place in Ukraine with its market size, business sophistication and innovation as the most developed. Thus, the Dnipropetrovsk region is attractive for investment and international cooperation. In 2015, the region was the first as to the volume of direct foreign investments (16,5% and \$2200 per capita: Germany (62% of all investments), Cyprus, the Netherlands, Great Britain, Austria and Hungary).

Mining, coal, metallurgy, space rocket, chemical, agricultural and construction( 7 of the top 10 largest Ukrainian companies) are the priorities for investors.

Generalizing, the competitive advantage of the Dnipropetrovsk region includes: profitable economic and good geographical position in the central Europe; a powerful industrial complex; transport infrastructure; balance of public and private interests; high rates of social and economic development in the region; organizational support of investment projects; a strong educational and research base; competitive workforce; developed financial infrastructure.

Despite economic hardship in the country, the Dnipropetrovsk region opens many prospects for major foreign companies.

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## **Economic Problems of Contemporary Ukraine**

Considering the development of countries, namely the state of development in the field of economy in different parts of the world it is possible to come to the conclusion that we are in different conditions, but the economic and financial systems of the majority of European countries are interrelated, because globalization as a set of events, approaches, measures and methods for the transformation of markets on a coherent economic, social, political system covered the entire world market. Its effective operation is determination the conditions and coordination of common interests of States as a result of analysis and justification of the priorities and directions of forming coordination of economic interests.

The main features of the current economic situation in Ukraine are:

- a significant debt of the state, some industries and companies of foreign countries;
- lagging economy that produces goods from the sector that consumes them;
- excessive control of the economy by the Ukrainian government, which has the effect of suppressing its sector that produces goods;
- criminalization of relations between the state authorities and business, distribution between clans most profitable sectors of Ukraine;
- "isolation" of Ukraine from the world economy.

As the current economic depression is an integral part of the global world order, the vulnerability of Ukraine's economy to global imbalances led to a deep crisis.

It is necessary to point out that the economic development of Ukraine is also complicated by the influence of the global financial crisis through predetermination first of all of serious internal factors, that are beyond the financial problems, that escalated into recession, rising unemployment, lower living standards of the general population.

Predicting the further economic development of Ukraine, it is of a crucial importance to identify that the world economy has entered a dangerous new phase

that requires exceptional vigilance, coordination and readiness to act decisively – the matter is about so-called "financial apocalypse world". Its effect will give what is called globalization, as our country does not stand apart from the rest of the world.

Analyzing the predictions of most experts, the following conclusion can be drawn: the global economy forward to a very slow pace of restoration. IMF's latest review downgraded the forecast for the world economy and pretty much supported the conclusion.

There exists quite a large probability that the fastest growing external demand for domestic products of agriculture and certain related industries (e.g. agri-chemical products). So, as the main engine of growth for the economy of Ukraine, the internal market for goods as consumer and investment destination should be taken into consideration, and this demand would constitute the main thrust of government policy growth. And at the same time strengthening the role of the domestic market is impossible without substantial restructuring of key sectors of the economy

So, objectively determined trend will strengthen mobilization "motives" of the Ukrainian economy and will be focused on consolidation of financial resources and their redirection to development goals through direct budget investments; promotion of investment activities, first of all a big business on consolidation of fragmented financial capacity - means of population, small business; rationalization of the assets of commercial banks.

The above leads to the conclusion that the necessary condition for overcoming the economic depression and stabilizing the economic development of Ukraine is to develop a modernization strategy with clear goals and to highlight ways to achieve them.

Therefore, the main task is to provide current period of manageability of economic reforms and to create a socially oriented market economy based on the revival and accelerated development of promising sectors of their own domestic production, modeling it on the Measurement of Economic growth effect.

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### **How to Attract Investors to your Startup?**

All start-ups begin with an idea, in which the founders initially invest money. Many students and young people are born with ideas for creating their own start-up. Some of them are successful, some not, but there are some genuinely ingenious ideas for building a new and successful business. Unfortunately, many people simply cannot realize their ideas because it is very difficult to attract an investor.

A beginner must understand that he has a long way to go, overcome many difficulties and remember that in business more than 90% of projects do not reach their goal. Only those are successful that begin repeatedly, overcoming failures and complexities. They also know how to form a team and are able to avoid critical mistakes. A start-up manager should reasonably evaluate his product; understand who its users will be; estimate the real size of investments and the amount of time that will be required for the construction of a large company.

One of the most difficult problems today is attracting investors to start-up. How to attract people and convince them to invest money in your project if most investors do not even understand the topic of your startup? The most optimal and popular way is to create a presentation. Most of them are successful, with many justifications, graphs and economic calculations that promise the success of the project, but they do not attract the viewer's attention.

I found one way to solve this problem. I will give a simple example. Suppose you came up with a startup for creating a new product, but nobody thought your idea is so brilliant and profitable to invest your capital into it. How to act in this case? All investors are interested in making a profit and the simpler and clearer you explain your idea to them, the more chance you have to get this investor. Even if you do not have more than one unit of finished goods, spend a small amount to create a page on the Internet, ads (any place where you can present your goods to the public) with the opportunity to buy it. When the first buyers of your product appear, show this site to the investor. Thus, you demonstrate that your product is in demand in the market and already brings profit. Such a presentation will impress investors. Do not forget about other parts of your presentation, which are very important to create the right impression of investors about you:

- talk about yourself and your team – you are the main asset of your project;
- know your subject perfectly and be ready for dialogue;
- do not ask about money;
- Agree on the next steps.

Knowing all the above circumstances, the entrepreneur is usually better prepared for negotiations with the investor and can rely on the successful attraction of capital with good reason.

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### **Role and Place of Small Business in the Economy of Ukraine**

Small businesses create a healthy competitive environment, which in turn stimulates the solution of such problems as global economic crisis. For Ukraine, which aspires to join the European community, the issue of market reforms now requires extremely fast solution. Small business also has a direct impact on the formation of economic situation, because it is able to regulate the change in the gross domestic product, employment and unemployment rate, quantitative changes in supply and demand of goods and services on a national market. These changes, in turn, reduce social tension and promote the formation of the middle class. Besides, it provides small businesses with competitive level of flexibility and mobility required for markets today.

Unfavorable micro and macroeconomic situation creates numerous obstacles that slow down the effective operation of business. Each company being a part of the whole system reflects a general economic situation in the country as any changes in the main macro components effect on the business operation. So, a current crisis in Ukraine is marked by significant deterioration of small businesses. It can be explained by the lack of financial basis for starting capital, difficult credit conditions, imperfect system of taxation, low foreign and domestic investments, high levels of corruption and extended shadow economy.

Small businesses survive due to the high intensity of labor including imperfect management system, prolonged working hours, usage of old-fashioned equipment and ignorance of safety measures. Internal common causes of bankruptcies of small businesses are primarily caused by incompetence, lack of managerial experience and required knowledge of all production processes and marketing.

It should be noted that the problem of small business could be resolved at the state level as improving legal framework results in eradicating precedents contradicted each other and developing new programs aimed at supporting this business will gain a new level of profitability. Since the role of small business in economic life is one of the main attractions, and its share in GDP is negligible, the measures designed to support its priorities should be included into regional and state policy. Small business is a strong potential that will help Ukraine's economy reach a new level. There is no need of great investments to expand the production of consumer goods and services due to the use of local labor and resources. Economic instability is certain to increase the risks in the economy, but at the same time incentives to improve and modernize business activities are created. Therefore, the issue of small business development is one of the main goals of state policy makers to be under consideration.



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## **Changes in Simplified Taxation System and in Unified Social Tax**

Taxes are one of the main governmental sources of income that are always in progress. The Ministry of Revenues of Ukraine has set an objective to improve the tax and customs policy for small and medium size businesses. The changes related to the simplified taxation system have been introduced and made public.

The simplified taxation system is the specific government mechanism which replaces separated levies with unified tax. This system also simplifies reporting to tax authorities. There are four groups of entrepreneurs who work on a simplified system of taxation.

The first taxpayer group consists of retailers or service providers. The main restrictions for this group are to have an annual income not exceeding 300 000 UAH, and not to have employees.

The second taxpayer group consists of entrepreneurs having an annual income not exceeding 1.5 million UAH with no more than ten employees. They are involved in production and/or selling goods, providing services and catering. Entrepreneurs working in the sphere of real estate evaluation, buying, selling and renting as well as production, delivering and selling precious and semiprecious jewels belong to the third group.

The third taxpayer group consists of entrepreneurs having an annual income which does not exceed 5 million UAH without any limitation in the number of employees. Companies are of any legal form of organization.

The forth taxpayer group consists of entrepreneurs who have more than or equal to 75% of income from agricultural sector.

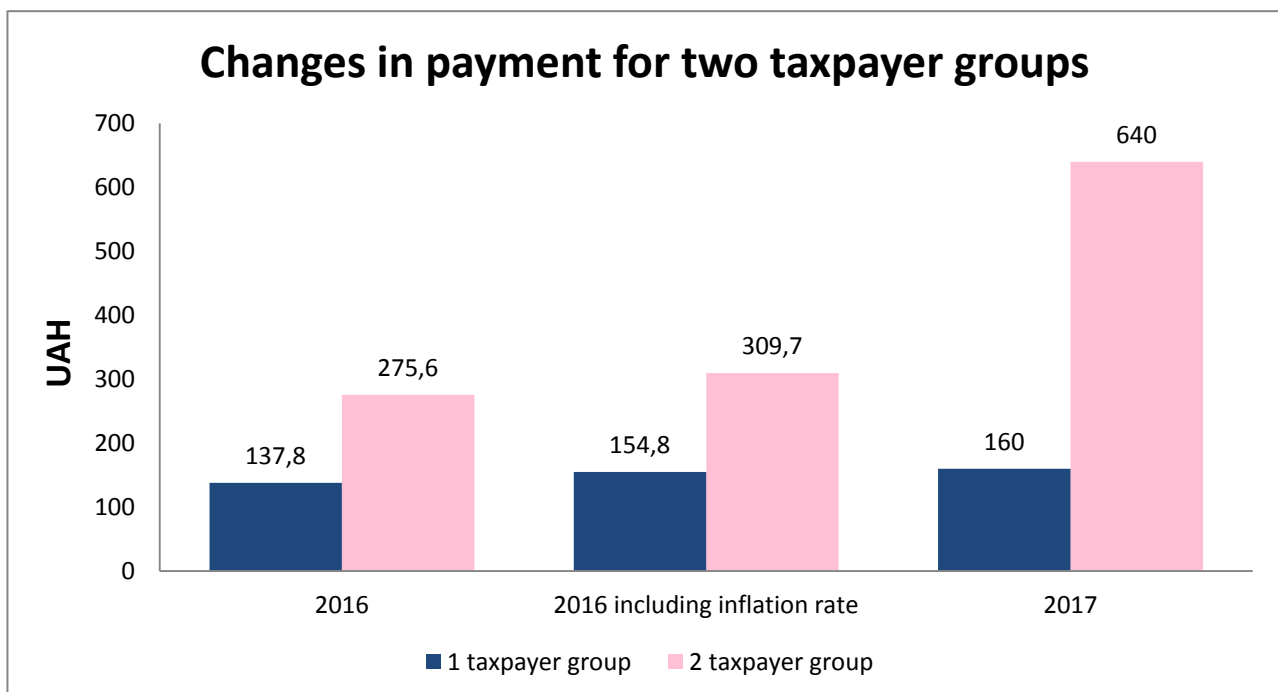
A lot of changes have been introduced in tax system in Ukraine. Unified tax is paid in the fixed percent of minimum **wage** (not minimum salary) for the first group of taxpayers and is settled in a fixed percent of minimum salary for the second taxpayer group. Taxpayers of the third category pay unified tax depending on total income. The taxation for this category is related to the profit tax rate (3% or 5%). The forth group of taxpayers is still unstable in 2017.

The social standards have been increased in the government budget by January the first, 2017. The minimum salary has been raised up to 3200 UAH and minimum wage has been raised up to 1600 UAH. The payment for two additional groups of single taxpayers has been calculated: for the first group it is 160 UAH ( $1600 \cdot 10\%$ ); for the second group it is 640 UAH ( $3200 \cdot 20\%$ ).

Unified Social Tax (UST) unites all social security taxes. The UST rate has not been changed and has stayed stable for the second and the third taxpayer groups. It is

still 22% of minimum entrepreneurs' salary as in the previous year. For the first group the UST rate has declined by 50%. As a consequence, UST payment is not less than 352 UAH ( $3200 \cdot 22\% \cdot 1/2$ ) for group 1 and 704 UAH ( $3200 \cdot 22\%$ ) for groups 2 and 3. Pensioners and disabled people are contracted out of UST payment. The main change is to make all entrepreneurs pay UST tax disregarding income. As a result, more than 128 000 entrepreneurs cut back their business operations.

Last year the same single taxpayer's payments were for the first group - 137,8 UAH, and for the second group - 275,6 UAH. Unified tax is 10% and 20% of minimum salary (1378 UAH) for the mentioned above taxpayer groups. According to statistical data, the inflation rate has been calculated as 112.4 by the end of 2016. As a consequence, inflated taxes would be 154.8 UAH and 309.7 UAH correspondingly. In comparison with the preceding year the fiscal charges has raised insignificantly (3%) for group 1 and dramatically (106%) for group 2. The payments are not big for both of the groups when we compare possible income and taxation.



So, the Ministry of Revenues of Ukraine pursues loyal and tolerant policy for small and medium businesses depending on the entrepreneur income. Taking the above mentioned into account, the nominal payment to the budget has been raised up to 93.5%. The real payment to the budget has been increased up to 72.2% compared with the previous year.

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## **Problems and Ways of Activating the Budget Process in Ukraine**

Along with winning the independence of Ukraine there arose an important task is to create own financial and fiscal systems, and provide currently their further improvement. A serious obstacle on the way was the instability of the legislation, the inconsistency and contradictory nature of some of its provisions. In this regard, problems of budgets functioning and intergovernmental relations, become of great importance.

Conventionally, the problem of the budget process in Ukraine can be divided into three categories:

- 1) on the stage of the budget adoption;
- 2) during the budget implementation;
- 3) the problem of control and responsibility for the budget process.

A problem that has always pursued the budget process in Ukraine, it was adoption, as well as a chronic late actions of public authorities. The need for the adoption of the budget each year just increases the complexity of the problems. Political instability and lack of political consensus, defending private interests of some officials makes the budget adoption problematic without mentioning making it in time.

The next problem of budget process in Ukraine is the lack of strategic component in the budget process. The budget is planned for the year, while the strategic development of the state and its components requires a long-term financial plans. As a result, the financial budget and social economic strategy of the state develop separately, instead of the necessary union.

Stage of the budget adoption and the problems that occur on it lead to another problem. In Ukraine, the state budget is approved first which determines the main profitable sources of local budgets, and then the regional budgets are approved. This procedure is not optimal, because with a sufficient level of autonomy of local budgets (which at least has been declared by the Ukrainian authorities), approval of the budget of the Central Government and local budgets are the components of two separate budgetary processes.

Another problem in the budget process, both at the stage of the budget adoption and its implementation is the transparency of the budget process.

Actually the budget process in Ukraine is torn away from the population. There are no public hearings and discussions, round tables are not created with appropriate coverage of their activities and no results in the media. Detailed figures for the budget are not published too, that does not give the possibility to conduct a qualitative analysis of the results and the course of the budget process implementation.

The present day situation greatly complicates the implementation of Ukraine's strategic objective to ensure accelerated economic growth and it requires achievement the improvement of budget development mechanism. In our opinion, this goal is possible is provided by the improvement of existing models of planning and financing the perspective expenditures as follows:

- determine the development budget of the state budget as a part of its special fund and introduce planning and accounting revenues and expenditures to the budget development at the level of particular low, which should be annex to the state budget for the respective year and is approved by Verkhovna Rada of Ukraine;

- view the sources of the General and Special Fund of the state budget formation by including the following points:

- 1) profit from the privatization of the state property (completely or partially);
- 2) Government external and internal borrowings;
- 3) fees for special use of natural resources;
- 4) other non-tax income;
- 5) income from capital transactions, in particular:

- income from the sale of primary capital;
- profit from the sale of state-owned stocks;
- income from the sale of land and intangible assets;

- to ensure through the development budget of the state budget funding budget programs implementation, which focus mainly on economic development.

This model in our opinion, will effectively function at the national and local levels as well. The implementation of the proposed model at the national level requires:

1. a reform of the management system of public finances;
2. Improvement of the methodological and regulatory framework of the budget process organization in Ukraine.

However, the benefits that we can get with implementation this model are:

- enhancing the manageability of the system for managing public finances for financial support of the implementation of the strategy of accelerated economic growth;
- fiscal policy transparency and manageability by society;

– enable to recommend it for practical application in the budget process.

So, to solve the above mentioned problems, it is necessary to adopt a package of measures:

- to decentralize the management of budgetary funds;
- improving of intergovernmental relations;
- improving the efficiency and transparency of the use of budget funds;
- establishing direct connection between the allocation of budget funds and the results of funds use;
- development and realization of budgetary programs focused on the end result.

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### **Main Tips of How to Build a Successful Network Marketing Business**

Probably anyone dreams about being successful and wealthy and reach their life goals but unfortunately, a great majority of people simply have no idea how and where to start. If you are an active, ambitious and purposeful, you are welcome to the network marketing business.

It should be noted that marketing is a new page in economic system. Previously, many people considered network marketing as something you did on the side to make a little extra cash. This option is still available today, but for most people now involved in it, network marketing is an opportunity to establish a business that is, and will continue to be, their main source of income. Being a successful marketer means being able to obtain data from a great variety of information resources, make detailed analysis and accept reasonable decisions in terms of valuable types of products and services, promotion technique etc.

First of all you should understand the difference between the network marketing system and other ones. Actually, the main methods of moving products from manufactures to consumers are retailing, direct sales and network marketing. Retailing is the process of selling goods to customers through the biggest stores. Direct sales comprise direct selling companies and sales people working for the company and paid as managers or getting commissions just for their own sales effort. Network marketing is a marketing strategy based on building a distribution network of consumers. This system is made of sellers and consumers. To build a successful network marketing business fast you should solve a set of very important tasks.

**First of all**, you should find out the answers to the following questions: Where are you going to be in 5 years if you start doing it now? Will you be able to retire? Do you like to be your own boss? You should know what you do and why you do it.

**Secondly**, you should consider such an issue as choosing the right company. It means that this company must be financially stable, has unique consumable and patented product that most people need and like.

**Thirdly**, you should compose a good compensation plan. It involves such stages as: choosing the amount of money you would like to make per month; asking what you need to do to earn it; making a feasible plan to achieve it; sticking to your plan – consistent and focused work will get you there.

Network marketing business is sure to get its popularity. It is considered to be as one of the ways to get into business and can boast by a lot of appealing aspects that mainstream businesses cannot provide. It involves more than 20 million people being encouraged to make a great fortune of money without hard work. This kind of people passed through difficult times at the beginning, but at the current period they enjoy the fruits of their hard work having earned enough money to spend the rest of their lives in comfort and pleasure.

## **The Global Economic Prospects: Ukrainian Aspect**

Today the world is trapped in permanent stagnation. In the future it will be difficult to reduce the debt burden, that is why economies and standards of living of future generations will be lower than expected. The International Monetary Fund (IMF) stresses that in recent years potential output growth in both developed and developing countries significantly decreased. It is a well known fact that potential output growth in developed countries began to fall in the early 2000s, and since then the trend only deepens. IMF also stresses that potential GDP growth in developed countries is declining. Among the main reasons there is the overall decline in productivity and demographic factors, including an aging population. Moreover, the IMF identifies demographic crisis as one of the main problems of the modern world. According to the analysis, working-age population will shrink by 0.2% by 2020 in Germany and Japan. Similar dynamics can be observed in Korea and China. Almost all of Eastern Europe faces a crisis of aging. Increasing the proportion of older citizens will mean the reduction of the workforce in percentage terms. Accordingly, production will fall, which in the future could result in a reduction in life. Over the past half century, the global economy has developed rapidly and has increased six times. Per capita income has increased threefold. However, if not to improve performance, the picture can change dramatically, and the world will return to sluggish growth. The company PricewaterhouseCoopers (PwC) published the long-term forecast for 32 major economies. According to the experts, economy will be dominated by Asia by the mid 21st century. The largest economy in 2030 will be China, but from 2020 it will slow growth. However, the current leaders - Japan, the US and Western Europe - will lose their positions. Mexico, Indonesia and Nigeria can push out of the top ten UK and France. In Europe, Poland will grow fastest. Average annual GDP growth in 2050 could reach 2.7% or 2.9% per capita. All mentioned above without a doubt influences economic development of Ukraine and gives the chance to make corresponding predictions for the country.

The prospects of several world leaders should be taken into consideration in more detail in 2017 in order to predict the situation in Ukraine. Most forecasts, like a recent one from the IMF World Economic Outlook, were predicting U.S. growth of just over 2% for 2017. One year ago, three factors conspiring against growth were mentioned: the uncertainties regarding the U.S. presidential election; the continued high cost of the regulatory state and all its effects; and the lackluster performance of most major Western economies. Today, there is less uncertainty in politics. The days of the Trump administration are keys in sending strong signals to the global markets. Some of the choices for his cabinet already reflect his determination to make the U.S.

more attractive to business. The strong performance of stocks, with indices in the U.S. and UK at an all-time high, indicates that the world markets take Trump seriously. Cooperation between Ukraine and the USA is an important development of Ukraine. The USA ever since the independence of Ukraine to this day gives financial assistance for the economic development of Ukraine. As a result, Ukraine's economy has begun turning around and is projected to grow between 2.5 and 3 percent this year.

Considering Germany, it overtook the UK as the fastest growing among the G7 states during 2016. In the final quarter of 2016 Germany's economy grew by 0.4%, improving on 0.1% growth in the third quarter. It was fuelled by domestic demand as government and consumer spending rose. Economists said growth in 2017 was likely to be slower than the 1.9% achieved in 2016. The German government is forecasting growth of 1.4% this year. Jennifer McKeown, chief European economist at Capital Economics said that in all, the German economy remains in good health. A strong economic backdrop has helped Germany post a record budget surplus of €23.7bn in 2017, fuelled by higher tax revenues, rising employment and low debt costs. It was the highest budget surplus since reunification in 1990 and the third successive year the government has a budget surplus. The country has always been keen on Ukraine and it means that the more positive predictions are made for Germany, the better the economic situation will be in Ukraine.

Dwindling world trade growth is both a contributing factor and a symptom of the global economic slowdown. World trade volumes expanded by just 1.2 per cent in 2016, the third-lowest rate in the past 30 years. The ratio of world trade growth to world gross product growth has declined significantly since the 1990s. While global import penetration is expected to exhibit a modest recovery, world trade growth is unlikely to outpace world gross product significantly in the coming years. World trade is projected to expand by 2.7 per cent in 2017 and 3.3 per cent in 2018.

To conclude, it should be noted that global economic prospects remain subject to significant uncertainties and risks that are weighted on the downside, with the potential to obstruct the modest acceleration in growth that is currently a forecast for 2017-2018.

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### **Development of Ukrainian Consulting Services Market**

Nowadays, when innovative economy is developing, consulting plays an important role in market infrastructure. The expansion of the consultancy activities' features has become a consequence of the creation and extension of innovations in all the sectors of economy, including the fact that the competitiveness of the research and development sectors has also increased. Winning the competition consists not only of providing material resources for the company. The basis of its strategic competencies contains primarily intangible assets, intellectual component of business. Therefore, the involvement of such intellectual resources as consultancy is becoming an objective necessity in our modern innovative world.

Among the world-leading consulting agencies and companies there are Hill & Knowlton, Weber Shandwick, Bearing Point, Porter Novelli, Bain & Company, The Boston Consulting Group, McKinsey & Company, Oliver Wyman. All these companies are generalist agencies with offices all over the world. They offer services in organizing and optimizing the business, implementation of IT, HR, logistics processes, political consulting, law, finance, online communications.

There is a tough competition between enterprises in Ukraine and there are players who make decisions in time, who are able to analyze and predict the market situation. The manager who keeps on track all the changes in management and uses innovation in their business is always in the winning position. Nowadays in Ukraine there are over 300 domestic consulting firms, 42% of them are providing services by representing the leaders of consulting business, including "The Big Five". The leading Ukrainian consultancy companies include McKinsey & Company Ukraine, Assistant, Bay & Company Ukraine, Solomon Groups, Pulse Ltd., STB system Ukraine, PTS Consulting. Currently a full range of consulting services is submitted including management, strategic planning, crisis management, optimization, engineering, marketing, investment, educational, financial and oth.

Ukrainian consulting services market has to be transformed. Now customers need comprehensive solutions to optimize business. Consulting market should be singled out as a separate activity. Further development of consulting should have the following directions: initiating and conducting forums, conferences and other public events dedicated to the development of Ukrainian market; popularization of consulting as a part of business infrastructure (the organization of background information); increasing openness and transparency of the market; implementation of educational programs for consultants (including online courses, webinars, collaboration with universities that train crisis managers); support activities of professional associations of consultants; increasing demand on consultancy services by governmental agencies by implementation of both large-scale projects at the national level and local governments.



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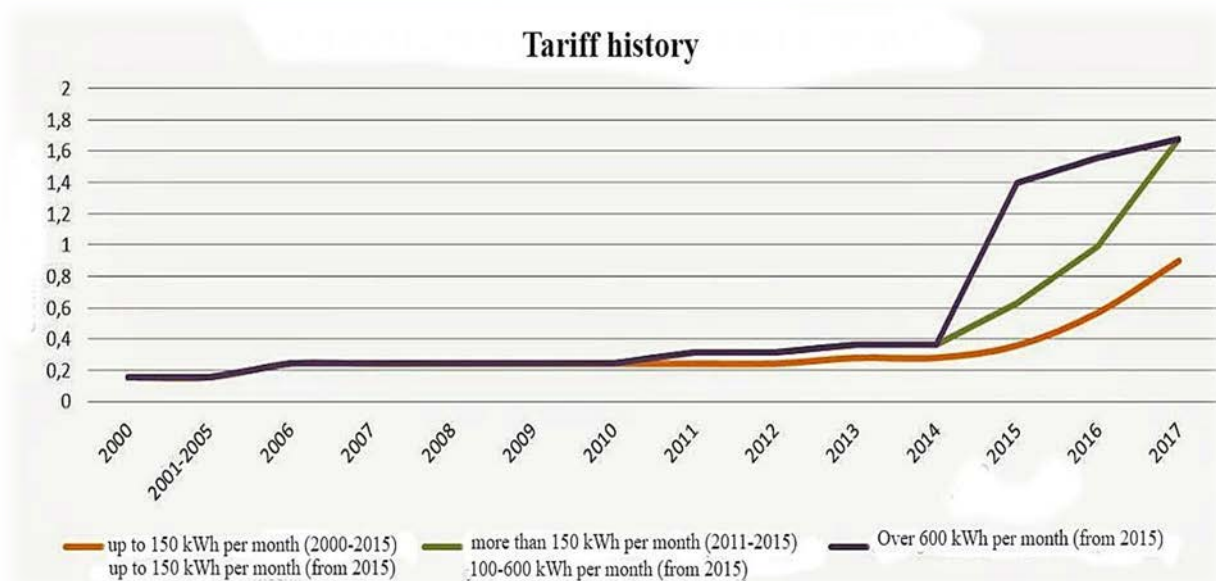
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## The Problem of Tariffs For Electrical Energy in Ukraine

Following the results of voting on December 20, NKRECU decided to reduce the wholesale-market price for electricity from 1,490 UAH per 1 MWh to 1285 UAH per 1 MWh. Why does the price reduction only apply to industry? Perhaps, this is due to the fact that most of the industry is under the control of oligarchic clans.

(Diagram) Increase in electricity tariffs for the last 17 years.



Over the past 17 years, electricity tariffs for the population have increased 10-fold, and wages - not so much. This indicates the need to change the state policy in all spheres of the economy, including the electric power industry. The growth of tariffs is due to the high cost of generation, conversion and transmission of electric power. This is due to energy dependence on imported energy carriers, obsolete, morally and physically, transmission and distribution systems. These factors should be taken into account and implemented in the shortest possible time, the program for the reanimation of the industry, which will reduce not only the payment for electricity, but also the cost of other goods and services, since the energy-consuming part of their production will also be decreased substantially. Finally, it is time for the state to think not about supporting and lobbying the interests of oligarchic clans, but about ordinary people whose living conditions and well-being should be the priority of any government.

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## **Foreign Direct Investment in Ukraine: Problems and Perspectives**

Investments are very important for solving social and economic problems in any country.

Every country has different investment resources: national and foreign.

Foreign investments are usually defined as all kinds of values that fit into objects of investment activity in the country (V.G. Fedorenko, V.B. Zahozhaj) or all types of property and intellectual values, which are invested by foreign investors in business and other activities to make a profit (L.N. Pavlova).

There are two major forms of investments: foreign direct investment (FDI) and foreign portfolio investment (FPI).

If an investment holds a threshold of more than 10% of equity ownership, it is qualified as the foreign direct investment (FDI), while if an investment holds a threshold of less than 10%, it is qualified as the foreign portfolio investment (FPI) [1].

Accordingly, foreign direct investments are one of the major factors of economic development and growth. They create conditions for expanding and improving existing production, and are used for creating new jobs and increasing employment in the recipient country.

A foreign direct investment (FDI) is a controlling ownership in a business enterprise in one country by an entity based in another [1].

The benefits of FDI are usually considered by researchers as:

- innovation technology availability (enterprises innovation activity);
- natural resources access;
- increasing production capacity;
- rate of remuneration;
- education quality;
- occupation level;
- increasing taxes;
- rising prices and demand for domestic factors of production;
- stimulated competition .

Nowadays our country urgently needs different forms of investment. But not every country of the world, especially the countries with developed economies is ready to invest money in Ukraine.

Barriers to attract foreign direct investment in Ukraine are usually identified as the following:

- low international rating;
- unstable inflation;
- imperfect tax legislation;

- high taxes and lack of tax incentives for investors;
- undeveloped financial market;
- no guarantees for foreign investors [2].

To find the relevant ways of solving investment problems is very actual and necessary for Ukraine now. Different authors suggest various solutions of this problem.

The key solutions to investment problems may be summarized as: 1) creating a favorable investment climate; 2) optimizing tax burden; 3) forming an appropriate legal base; 4) the establishment of a modern system of state guarantees protection of foreign investments; 5) strengthening of responsibility for counterfeiting products; 6) the development of science, technology and innovation.

Ukraine could potentially be one of the leading countries in the foreign investment mobilization.

Why Ukraine is attractive to foreign investors? This is highly connected with its vast natural resource potential, favorable economic and geographical location, the availability of skilled labor force, a significant domestic market, current geopolitical situation, etc.

Thus, foreign direct investments contribute to the economic growth of the receiving country and its integration into the global economy through the transfer of production capacity, transfer of technology, capital, management experience, skills and innovation. Though today investors begin to look more closely at Ukrainian companies, on the one hand, this is a really great perspective, but on the other hand it is too big risks, because nowadays the economic situation in Ukraine is not stable.

For Ukraine foreign direct investment is one of the most important means of the crisis ways out, the achievement of sustainable economic development, the quality indicators improving economic activity on the micro and macro levels.

It should be mentioned that Ukrainian economy has significant resource potential for the development of the investment climate.

However, there are some obstacles that prevent full use of the available investment potential.

Foreigners still view Ukraine as effective, but an unattractive place to invest in. That is why we really believe that one of the key challenges that the Ukrainian authorities are facing today is to increase the investment attractiveness of the country and to create the most favorable conditions for investors.

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### **Problems of modern jurisprudence**

A profession of a lawyer has always been very popular among young people. However, while choosing this job, most of them do not really understand all the difficulties and responsibilities of the future career.

In order to describe the legal profession, first we need to find out what this concept comprises. As a lawyer is a specialist who has professional legal knowledge in the field of jurisprudence and legislation, it means that he should possess both fundamental (the concept of internal regulations of the state and law) and specialized knowledge (regulations of a particular type of legal activity).

Being socially significant, a legal profession is directed to procuring human rights and freedoms. Therefore, every lawyer should feel responsibility and possess analytical mind, honesty, steadiness, attentiveness, mobility in order to meet the requirements of the modern society.

However, as every job in the world, a legal profession has its positive and negative sides. The most obvious advantages include: high social status, opportunity for career growth, big salaries, various business opportunities.

On the other hand, the biggest disadvantages are mainly connected with the moral factor such as the responsibility for people's lives, possible irritation and nervousness, irregular working hours. Looking at these characteristics, we can conclude that this work is promising, prestigious, but it has burden of responsibility.

There are also potential challenges and threats which a law student should overcome while developing his career. First, most higher education institutions do not provide any employment opportunities for law students, because Ukrainian labour market is overcrowded with lawyers. So, in most cases it is the individual responsibility to find a job. Second, a modern student should understand that theoretical academic knowledge is only the basis for his work, and he has to make much individual effort to develop necessary practical skills. On the one hand, there is nothing wrong with trying to get such an education, but the question of the quality arises.

In order to improve the situation, modern universities have to pay more attention to the practical component of legal education consistently implementing innovative approaches to learning. It should also be noted that despite the significant role of lawyers in modern society, at the moment, Ukraine actually does not have a developed state policy in the sphere of reforming higher legal education to bring it in line with the modern requirements and provisions of the Bologna Declaration.

### **What kind of economy does Ukraine have?**

Ukraine has a history of corruption and mismanagement that goes back to Soviet times.

Consider this: Ukraine's economy is smaller than it was in 1992, shortly after the collapse of the Soviet Union. At the time, Ukraine and Poland had similar-sized economies, but Poland's economy is now twice as big as Ukraine's.

The IMF estimates that the Ukrainian economy shrank 0.3% last year after barely growing in 2012.

Ukraine has a lot of coal mining, especially around the eastern city of Donetsk, as well as ageing heavy industry including shipbuilding, steel and arms. However, because many industries are so energy-inefficient, they are highly dependent on imports of Russian gas, which have been heavily subsidised.

Farming is also important: Ukraine has more arable land than any other European country and is a major producer of grain and sunflower oil. Wheat prices have risen 20% on world markets, partly because of the fear of instability in Ukraine.

And then there is the shadow economy: everything from cash-in-hand labour to corruption to illegal activities. A 2012 study by two Ukrainian academics reckons the shadow economy is equivalent to 44% of Ukraine's economic output.

In 2013, Ukraine was ranked 144 out of 177 in Transparency International's Corruption Perceptions Index.

Business and politics are deeply intertwined: Ukraine's richest man, Rinat Akhmetov was until recently an MP and a supporter of ex-President Yanukovych. His companies have received an important share of state tenders.

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### **Global Economic Activity**

The global economy is a single system, which has a layered structure and combines the economy of various countries. The term ‘global economy’ often refers to the foreign economic activity around the world without regard to national borders. As the growth of international goods and services increases, the world economy significantly enhances the mutual dependence of countries. This is a globalization of economy.

Globalization is a process in which the world is transformed into a single global system. It is caused by objective factors of world development. The deepening of the international division of labor, scientific and technical progress in the field of transport and communications reduces so-called economic distance between countries.

Thanks to new progressive technologies, international business reduces time and distance. Various technologies contribute to speeding up the ways of transferring information, cargo, etc. It allows the contact between any points on the globe, changes the content of the various activities.

The second source of internationalization process and globalization has become a phenomenon of transnationalization, in which a certain percentage of production, consumption, exports, imports, and the country's income depends on the decisions of international centers outside the state.

The opinions of economists on globalization are divided. On the one hand, economic growth with subsequent globalization is good. But this phenomenon will adversely affect some economic groups. Nobody knows whether profits will increase at high productivity. It will help to eliminate some difficulties but may cause problems, especially for a small business. While trade restrictions are eliminated, small businesses will not be able to develop.

Drawing conclusions, it can be said that global economic development as any other phenomenon has as advantages as disadvantages. However, this process is very important for the world economy because it increases international competition and improve the quality of the products and services.

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### **Problems and Ways of Providing Financial Security in Ukraine**

An important component of financial policy is to ensure the financial security. This is especially true for countries with transition economies where public finance system is not sufficiently stable. In the economic literature there are several definitions of financial security, due to the complexity of the processes that displays this category. Scientists believe that the financial security of the state is rather multifaceted notion in economic context and extremely important politically. In the National Academy of Internal Affairs of Ukraine during the financial security of the country it is understood as the financial, monetary, foreign exchange, banking, budget, tax system, which is characterized by balance, resistance to internal and external negative effects, the ability to ensure the effective functioning of the national economic system and economic growth.

Financial security is also understood as a set of measures targeted fiscal and monetary policy to achieve stability of the financial system and create a favorable investment climate. It is important to create an environment that makes it vulnerable to economic threats from within the country and outside.

The main threats are: large state debt bondage, the critical volume of public external and internal debt, "shadow" state of the economy and so on. It is necessary to point out that a very serious threat to the financial system of Ukraine is unofficial dollarization of our economy, indicating that the distrust of citizens and entrepreneurs to its own currency, as well as distrust of the government's monetary policy.

The main challenges in ensuring the financial security of Ukraine are: lack of financial resources to undertakings for the reproductive process; imperfect and incomplete legislation in the financial sector; the weakness of the monetary system; the imbalance in the structure of foreign trade.

It is supposed that the financial security of the country should be considered at several levels: the company, industry, country, global economy. Financial security cannot be guaranteed without financial security of individual businesses and industries.

State financial security depends on many factors: fluctuations in supply and demand, the monetary and credit system of the country, the balance(imbalance) of the state budget deficit, national debt, barter economy, tax relief, tax arrears and so on.

It should be concluded that to provide financial security it is needed to take the following measures: develop Concept of financial security of Ukraine; establish an effective system of control over budget funds; strengthen the payment discipline of business entities; improve the efficiency of the tax system; stop the "flight" of Ukrainian capital abroad; establish effective state control over currency transactions. This will definitely influence positively the economic development of Ukraine.

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## Demographic Evaluation Of The Object Using The Method Of Potentials

Before the construction of public facilities, shopping centers, it is necessary to determine its location. You need to take into account not only the population, but the distance between settlements.

**The object** of this work is to determine the most advantageous position of the object in the system of settlements.

**The present interest** of the study is that the method of potential is considered not only in theory but also is used to solve a task where the elements are real towns.

Demographic potential was first proposed by John Stuart in 1958. This is a relatively new definition that characterizes the habitability of area. Stuart defines potential as a measure of the availability of people to a certain point, it can be used to analyze the supply area resources with the expectation of their accessibility.

$$V_i = \sum_{j=1}^n \frac{P_j}{d_{ij}}$$

$V_i$  – potential

$P_i$  – population  $i$ -th point

$d_{ij}$  – distance between points

### Practical application of the method of potentials:

We have a system of settlements: A (v. Ihren), B (h.a. Pridneprovsky), C (v. Chapley), D (v. Lyubimovka). There are 2300 people living in A, in B – 7000, in C – 3500, in D – 2500. The distances between points: AB – 3,2 km, BC – 1,9 km, BD – 6,2 km. Select an item for construction of a supermarket Silpo.

Calculate the demography of each of the points in the system using the method of potentials, write down data in the table and carry out the necessary calculations.

	A	B	C	D	A	B	C	D
A	-	3,2	5,1	9,4	2300	7000/3,2	3500/5,1	2500/9,4
B	3,2	-	1,9	6,2	2300/3,2	7000	3500/1,9	2500/6,2
C	5,1	1,9	-	8,1	2300/5,1	7000/1,9	3500	2500/8,1
D	9,4	6,2	8,1	-	2300/9,4	7000/6,2	3500/8,1	2500
$V_i$					3714,4	<b>14000.7</b>	6460,27	3477,8

We see that the greatest potential is characterized by the point **B**, so supermarket Silpo should be built in the housing area Pridneprovsky.

Thus, the method of potentials can be used by the employees of construction companies, economists, architects when planning the location of building.



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## **Inflation in Ukraine: Causes and Methods of Regulation**

In a market economy the GDP is formed as a mass of goods that are to be on sale, and which, in turn, cannot be carried out without the use of money. In the national economy there should be correspondence between commodity mass and the amount of money currently in circulation. But the correspondence can be violated, resulting in inflation – overflow of currency circulation channels over the needs of turnover, which causes the currency devaluation, provoking the growth of overall commodity prices.

According to the inflation rate there are three types:

1. Moderate (creeping) inflation, with price increase less than 10% per year.
2. Galloping inflation occurs when in prices grow from 10 to 200% per year.
3. Hyperinflation reflects the annual rate of price growth of over 200%.

All these three types are examples of open inflation, which manifests itself in the increasing prices. Hidden inflation is characterized by money depreciation in the form of trade deficits with unchanged price levels.

Inflation can have not only positive, but also have negative values. In such cases the money rise and their foreign purchases of capacity increases. Negative inflation is called deflation.

There are a lot of factors that cause inflation. In each country there are specific socio-economic conditions that provoke inflation occurrence. There are internal and external factors of inflation increasing. Let's consider the factors that contribute to this process in Ukraine:

1. Imbalance of public income and expenditure. It appears as the deficit of the state budget, provided that the present deficit is covered through the money emission.

2. The lack of a pure free market, as well as perfect competition as its component. The market power of the monopolist, oligopolist and monopolistic competitor in the short-term period, provides the possibility the market price control. So trying to maintain a high level of prices, the economic subject reveals an interest in reducing the production and supply of goods. In turn, this leads to a disparity of aggregate demand and aggregate supply.

3. Inflation import. Its importance is growing, because country's economy becomes more open.

4. The inflationary expectations. In Ukraine often happens a situation when consumers are confident that the increase in prices cannot be prevented. In this case, they demand higher wages, reduce savings and increase current consumption. In turn, the producers beware of price increases from its suppliers. This causes an increase of the goods prices on the projected them growth in prices for raw materials.

Unfortunately, at the present stage of development, the inflation index in Ukraine is growing. Since 2007 to 2012, inflation hovered in the upward and downward, but it has a tendency to increase since 2013. The dynamics of inflation in recent years is shown on the graph.

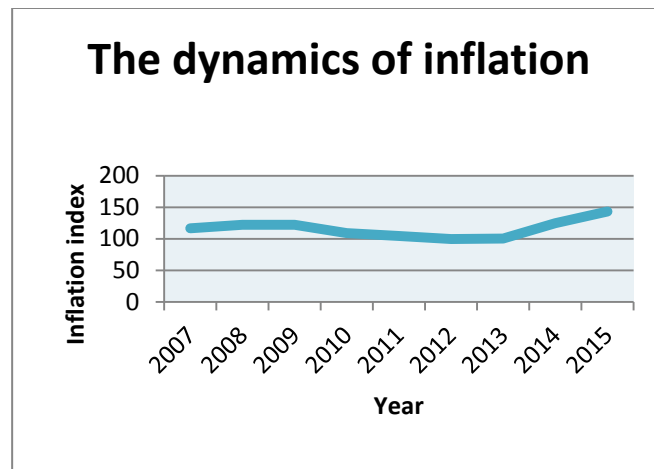


Figure 1. The dynamics of inflation in Ukraine

The inflation rate has economic and social consequences. If it is of a small rate, the growth of prices and profit rate are stimulated. In this case, inflation becomes a factor of a temporary revival of economic conditions. With increasing growth inflation turns into a problem of reproduction as it increases economic and social tension in the country.

Market economy at this stage of development is of an inflation type. So the state tries to control inflation and make it temperate through anti-inflationary policy.

Experience of anti-inflationary measures implementation in western countries shows a need for a combination of long-term and short-term instruments of regulation. The main recommendations for our country should be as follows:

- reduction of the inflationary expectations of the population which are over stimulating demand. To do this, the state must hold a clear weighted anti-inflationary policy that will increase the confidence of the population;
- the use of measures aimed at reducing the budget deficit, but not through the emission of money;
- implementing measures in the money supply circulation by setting strict limits and standards to increase the money supply in a particular period that will predict and tame inflation;
- weakening influence of external factors. The purpose of this measure is to reduce the inflationary effect on the economy, due to the overflow of external capital in the form of loans on a short-term basis and state loans abroad to finance the budget deficit.

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### **The Role of Marketing in Enterprise Activities**

Currently marketing is an essential part of any business. The importance of marketing is increasing all the time. Marketing is perhaps the most important component in determining an enterprise profitability and success.

Marketing is the management process through which goods and services move from a seller to a customer. It includes the coordination of four elements called 4 P's of marketing. This rule explains the way you can introduce a new product or a service in a market. So, the complex of marketing includes: a product, a price, a place and promotion. How does it work? Firstly, identification, selection and development of a product take place. Secondly, the determination of its price proceeds. Then a distribution channel how to reach a customer must be chosen. And, finally, choice, development and implementation of a promotional strategy are meant.

Finance is always invested in business without any guarantee. The owners of capital give money at their own risk. But a lot of aspects of business depend on right marketing policy. Moreover, such a policy should contain prediction.

In spite of the fact that your enterprise can have the best products and services on the market, its sales may crash. Why? The answer is easy: without marketing none of your potential customers would know about it. Marketing is based on thinking about the enterprise in terms of customer demands and their satisfaction.

Marketing is associated with development and improvement of new products and services to a market. There are seven functions that show plainly the importance of marketing in an activity of enterprise. They are: - distribution of the product; - its financing; - market research; - pricing; - product and service management; - its promotion; - selling. Thus, marketing helps to earn money for enterprise due to creating a new value using available resources. But there is a particularly actual problem of marketing in an organization. It is the challenge of balancing between the internal resources of an organization and the necessary resources for demand increasing. Successful marketer is the one who creates all conditions for sales growth with higher new value without outsourcing.

An enterprise that focuses on the concept of marketing knows needs of customers and satisfies them more effectively than competitors do. Consequently, getting a profit is not ensured by imposing the goods produced for buyers. It is made by satisfying their needs that balances the interests of producers and consumers.

If your goal is to create recognizable product or service, you should use marketing strategies. Using marketing to promote your product, service or company provides your enterprise with a chance of being found by potential buyers. Marketing allows getting higher sales, increasing the company reputation and having a healthy competition. So, marketing has a special meaning in the process of formation an effective, successful and competitive enterprise.

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### **Public Self-Organization Bodies in the System of Local Self-Government Authorities**

Public self-organization body (PSOB) is a form of local community members' participation in solving local problems either on their own or through the mediation of other representative bodies of local self-government. According to Article 5 of the Local Self-Government Act, PSOB is an independent element of the system of local self-government authorities [1]. In general, self-organization is a manifestation of direct democracy at the local level, which results in the creation of representative bodies – public self-organization bodies by village, town, or city residents.

According to Article 2 of the Public Self-Organization Bodies Act, PSOBs are representative bodies established by citizens legally residing in villages, towns, cities or their parts with the aim of solving the tasks provided for by this Act. [2] Part 2 of Article 3 of the Act determines a comprehensive list of legal forms of PSOBs that can function as house, street, block, neighborhood, city district, village, and settlement committees [2].

Self-organization manifests the following features: 1) formation only on the public initiative; 2) multilevel nature (house, district, block, etc.); 3) functioning till achieving a certain result; 4) acting with a corporate status or without it [3, p. 282].

At the legislation level PSOBs' activity is provided for by the Constitution of Ukraine, the Local Self-Government Act and the Public Self-Organization Bodies Act, which thoroughly regulate the establishment, operation, and legal status of PSOBs. In addition, a number of local legal acts (statutes of local communities, public self-organization body regulations, etc.) relate to regulating PSOBs' activity.

PSOBs are the closest to the people entities through which the local community can decide local issues. The special role conferred on PSOB as a representative of the local community's interests is evidenced by the adoption of a separate Act to regulate relations connected with its activities.

It is PSOB's collegial nature – the possibility to form commissions, working groups, and other bodies [2] to ensure its operating – that makes it an effective means of protecting the interests of a particular territory residents.

Scientists emphasize the duality of PSOB's legal nature. A. Zdioruk, in particular, notes that on the one hand, implementing powers of the village, town and city councils in the expression of the will of the population in solving local problems, PSOBs serve as authorities. On the other hand, carrying out activities on a voluntary basis, they acquire the features of non-governmental organizations [4].

These bodies are related to a direct form of self-government and, if necessary, they participate in the discussion of representative authorities' activities [5, p. 3]. As

correctly noted by D. Koltsov, PSOBs are the collective form of exercising citizens' rights to participate in local self-government [5, p. 7]. In addition, they act as mediators between other local authorities and population [5, p. 10].

Although PSOBs are part of local self-government authorities and operate within their system, they are distinguished by the specific manner and procedure of formation, competence, and area of activity. Also, in the hierarchical structure of local self-government authorities PSOBs are accountable to and controlled by, on the one hand, the residents that have voted for them, on the other hand – the relevant councils [2].

PSOBs have both their own powers granted under the Constitution and laws of Ukraine by the village, town, city or city district (if established) council and delegated ones, additionally conferred on them by the relevant council [2].

PSOBs are an integral part of the system of local self-government due to their proximity to the public and broad competence in solving different local problems.

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## **Unification of Germany in the 19th Century as a Factor of its Socio-economic and Political Upheaval**

In the period of Ukraine's European integration, to radically change the standard of living in Ukraine for the best, the country needs decisive steps made by top government authorities. For the correct execution of these steps, the experience of prominent reformist politicians in the history of mankind must be taken into account.

In Ukraine, there is an acute problem of decentralization of the state which clearly leads to fragmentation. United Germany is a bright example of land consolidation during the chancellorship of Otto von Bismarck.

Otto von Bismarck died more than a century ago, but the interest to his reform acts is still vivid nowadays [5].

Bismarck's main aim was to create the most favourable conditions for the reunification of Germany. This has been the focus of his activities as a politician-reformer [2].

In the course of three wars (Second Schleswig War, Austro-Prussian War and Franco-Prussian War) fragmented German states were united into a single large state – the German Empire (1871) [3].

After Germany had been united, Otto von Bismarck introduced the world a kind of historical-legal paradox: the conservative Prussian Junker fulfilled the main national task of the German revolution with the help of the method of "revolution from above" [5].

The emergence of the German Empire opened a new page in the history of international and diplomatic relations in Europe. United Germany has become a mighty power, designed to play a greater role in the international arena [1].

After the unification of Germany, no European country could seek to encroach on the territorial integrity of Germany, to replace its state boundaries, because the United Germany had Europe's largest military capacity which made Germany a stronghold of peace and tranquility not only in Europe but throughout the world. Besides, the victory over France contributed to the active development of the country. During the war, rich deposits of coal and iron ore of Alsace and Lorraine were captured. There was a strong population growth in the last third of the XIXth century, the population increased from 35 million to 50 million people. Because of this, the number of industrial workers tripled. The most intelligent people of Europe and the world came to progressive Germany with the aim of implementing their innovative ideas.

In German and generally Western European historiography, there are various, sometimes opposing, interpretations and evaluations of the activities of the first

Chancellor of the German Empire. He is estimated as an ardent conservative, "white revolutionary", the creator of the new Germany and the culprit of its problems in the twentieth century, a defender of peace in Europe and at the same time as the creator of the situation that led to the First World War [4].

United "by Bismarck", "by blood and iron" Germany was imposed autocratic political system and the aggressive military traditions of the old Prussia. It started with the plunder of foreign lands. The power of the Junkers and the big bourgeoisie was active in Germany for two decades. There was a dictatorship of Bonapartism, the key figure of which was Bismarck along with the Emperor and head of the General Headquarters. The results and consequences of this dictatorship were disappointing for the founder and detrimental for the country [6].

The German Empire did not survive for long. In less than fifty years since its formation, it lost the First World War and it was abolished after the November revolution of 1918.

As a conclusion, the following can be summarized:

1. A centralized state in the form of the Empire in the period of development can demonstrate high rates of economic and political growth.
2. The role of personality in the history of the state in certain periods can play an important factor in the political and economic dynamics.
3. Centralized Germany in its heyday was able to become one of the leading participants of the European political and economic processes.

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### **Essence, Effects of Shadow Economy and Red Flags to Combat it in Ukraine**

The question of the shadow economy and its legitimization has recently become increasingly urgent. Large-scale shadow economy in Ukraine hamper social and economic reforms, distorting official data on the economy, affecting the volume and the GDP, acting as one of the main factors of criminalization of society. Shadow economy presupposes the economic activity associated with misappropriation of a person or group of persons of created value or proportion of assets through various distortions of objective information on cash flows and values, corruption of data obfuscation primary account for the sources of income and by lobbying through the implementation of applicable laws and regulations.

There are three areas of shadow economy: the informal economy - legal economic activity, within which there is no fixed official statistics of production of goods and services, to hide these activities from taxation; fictitious economy - corruption, registration, speculation and other types of fraud associated with obtaining and transfer money; underground economy-all are illegal economic activities. By transferring its activities in the informal channel of something a person must encourage. In most cases, the income level is too low that encourages people to increase their paths. One way of achieving this is concealing income or search for other activity which is not always legal. The main reasons for the existence of the shadow economy in Ukraine are: the interest of certain circles of the state apparatus in the existence of the shadow economy and receiving part of her income; fusion of government and business; systemic flaws tax and customs policy, imperfect regulatory policy on the registration and operation of the business; dollarization and more. The main effects of the shadow economy are: loss of tax revenue;increase in the criminalization of society by increasing the number of economic crimes. Deshadowing of the economy is a complete system of actions aimed especially to combat and eradicate the causes and preconditions shadowing processes. Deshadowing of the economy requires coordinated actions of all branches of government: legislative, executive and judicial. It should therefore be approved state program of legalization of the economy, which would have included a number of reforms of all three branches of government that would create conditions for reducing the shadow economy.

The main measures for reducing the shadow economy in Ukraine is liquidation non-criminal origin of capital; introduction of tax incentives for savings and investment in the innovation sector. So obligatory study the sources of funds for the purchase of goods whose value exceeds a predetermined amount; involvement in the strategy legalization representatives of international organizations specialized in combating illegal into farming like.



**Section 02. Management**

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**Time Management as the Key to Success for the Manager**

Speaking about the time and management, we naturally mean time-management. This new direction learns to operate time, allocating it so that the schedule is normalized, employees had the days off. The main objectives of time-management is an aspiration to effective planning of working hours, and also obtaining skills of rational distribution of duties between colleagues. The second task gives additional benefits to managers: some tasks can be charged to subordinates, it will save your time, will allow the subordinate to show the level of his qualification and experience.

The major aspect that is integral from the concept of time-management is control. Each kind of work should include so called “control points” meaning the careful analysis of time spent by the staff of the company for execution of tasks. This procedure is carried out at least once a month and it will give the chance to correct and change the schedule of work of the company. It gives the opportunity for each employee not only to perform and fulfill direct duties on time, but also have an opportunity to show an initiative and have a rest in a proper way.

The undoubted advantages of appealing to time management are gradual entry into moderate rate of work without time troubles and rush work. Effective use of time allows increasing considerably labor productivity and quality of work of employees. The main difficulty of using time-management is constant control. It involves such activities as estimating the time required for completing the operation, making decision on the best period to carry out different actions, and the cases making employees work as hard as possible, etc. The necessary elements of modern time-management are: drawing up the work plan of day; specifying the hours of the highest concentration of employees; avoiding extra nervous affairs capable to shift the operating schedule; using morning hours for the most important issues as this period of the day is the time of the greatest activity of a brain for most of the people in the world; using day time for holding business meetings; regular updating of the business plan; accounting possible unforeseen circumstances during the working day. Using these simple recommendations and spending some time to organize effective and productive working day, the manager can achieve big positive results in the field of management not only of personnel, but also personal time. It is important to develop effective strategies for managing time to balance the conflicting demands of time for study, leisure, earning money and job-hunting. Time management skills are valuable not only in job-hunting, but also in many other aspects of life: from revising for examinations to working in a vacation job.

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### **Innovative methods of promoting English schools**

Education today is one of the most rapidly growing perspective sectors of economy. Marketing education is an activity of the educational institution, aimed at needs satisfaction of the social order of society on the preparation of specialists with specific set of personal and professional qualities [1].

Nowadays, foreign language training service market is saturated and the competition is high, especially in the segment of English language teaching. That is why in Ukraine these services are provided by well-known large companies, common courses with intensive studying of foreign language and private tutors. Competitive advantages of a particular school are skills and experience of teachers, high quality services, a prime location, the presence of the branch network, effective advertising activity [2].

The main promotion tools of English language schools in the educational market are:

— Advertising. It can be printed in large business or educational magazines or newspapers, advertising in the Internet and ordering special promotional articles in these editions;

— Sales promotion – a system of short-term incentive measures and techniques to encourage the purchase of educational services;

— Personal Sale – oral presentation of educational services in the course of a conversation with one or more potential buyers to commit their sale;

— Public Relations – planned durative efforts aimed at establishing and maintaining relationships with various educational institutions of the public layers [3].

The priority forms of communication should be PR, marketing communications and advertising, aimed at image enhancing of the educational institution, the formation of a sense of belonging and loyalty to the future and nowadays students or pupils [4]. So, the innovative methods of foreign language schools in Ukraine may be the following:

— The system of unlimited subscriptions that include the unlimited use within the subscription, additional occupation, where you can train in a free communication, board games, watching movies, cartoons and news in English.

— Focus on the creation of the English-speaking space to build such an environment for people not only to speak English, but entering the foreign-speaking atmosphere they would begin to think in English.

— English-cafe. It can be a place where people can communicate in English with a cup of tea, as well as invite here friends, who did not attend classes before and to show how it works. There can take place various educational and entertainment events: championships in board games, «mafia» games, exhibition of photographs, thematic seminars in English.

It is expected that in the future competition in the field of educational services in Ukraine will be further strengthened, due to globalization, demographic situation, the influence of large universities will increase, the integration of educational institutions will intensify. Therefore, the marketization the sphere of education performs like the actual improvement of educational alternatives for the target users (through the improvement of the quality and diversity of services), the liberalization of the educational services market, strengthening the financial capacity of educational institutions.

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### **Administrative Management System as a Basis for the Effective Functioning of the Enterprise**

At the present stage of economic development in order to have a company working as a mechanism that is exposed to the CEO influence, it is necessary to set a certain level of effectiveness of the management system. This requires establishing a system of administrative management, then implementing it, rectifying the document flow and, finally, forcing to work accurately and efficiently. All large, medium and small companies in Europe, Asia and overseas (Toyota, Ford, Samsung, Coca-Cola, and McDonalds) use Administrative Management System (AMS). AMS provides an opportunity to solve the problems of management and motivation of personnel in the company, which in turn improves the quality indicators of work, performance discipline and productivity in each workplace as well as contributes to the elimination of losses and shortages, significant cost reduction, rhythmic work of the whole organization. Reliance on modern administrative management system allows companies to confidently compete in the domestic and overseas markets. In other words, AMS is initially focused on qualitative solving of two major management challenges: the rational organization of work at each workplace and motivation of each employee to productive and quality work.

Therefore, a complete AMS consists of two subsystems: - organizational subsystem of management (answering the questions of who, what, when and how need to operate in the organization for effective implementation of goals and objectives); - subsystem of administrative personnel management (answering the questions of how to work, how employees should build relationships with managers and colleagues, how work should be stimulated and paid, and in which way directors are supposed to manage their staff).

Administrative Management System is a basic system of organizational process, and all the modern innovations in management are a 'superset' on that basis, namely lean production; ERP-systems (Enterprise Resource Planning); certification of management systems by ISO standards (International Organization for Standardization), series 9000; process approach; modernization of production. If a company makes attempts to use these methods, and the expected results have not been received, it indicates the absence of modern administrative system. Implementation of this system will change the situation and as a consequence the company will work effectively.

To sum up, the Administrative Management System is an essential innovation for enterprises in Ukraine. All the various problems faced by the organization, cannot be solved without modern professional administrative system. It opens the way for organizations to improve the quality and productivity, to significantly increase competitiveness. Moreover, it will allow using other systems, such as lean production, ERP-systems, ISO 9000, the process approach and modernization of production.

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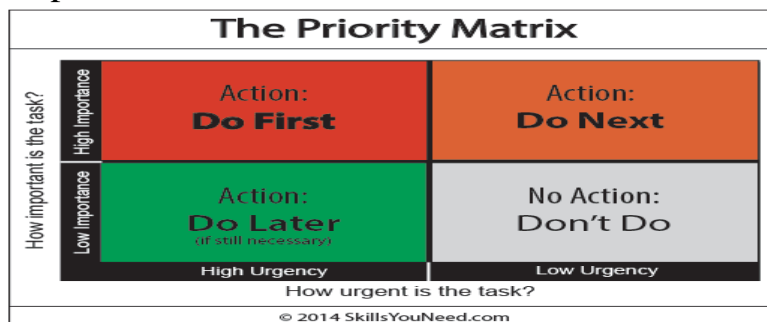
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## Time Management

Time is the most limited resource and if you do not plan your time correctly you will not succeed. To be a successful manager, it is necessary to know much about work, be able to control people, motivate them, set precise goals and reach them. But this all is useless if a leader cannot manage his time properly. And this is the work of time management. To use time effectively, first a manager needs to find out what steals his time. There can be many reasons, but the most common are:

- absence of a strict schedule;
- a lot of small deeds which consume most of the work time;
- trying to do everything or inability to delegate;
- constant rush;
- lack of concentration.

The best solution for these problems is maintaining statistics. Analysis of time usage helps to identify losses, find out advantages and disadvantages of day planning. But it requires reliable information, so it would be useful to make notes about the most important events during the day. Then the information received should be analyzed and prioritized. After all, there will be a list of points based on preferences and ordered by importance.



No one will make out without a schedule. It is very important part of time management because it helps to plan all important events in a short term. Also it visualizes time and makes it more accessible for understanding. It would be better to make a long-term plan and follow it step by step. In this way unreachable targets and dreams will come true easily. But small things must be avoided.

One of the important parts is ability to say “no”. It gives an opportunity to decline things that aren't included in your “priority list”. And it will help to control “time wasters”. Also list of things “never do again” will be very useful in order to give up a bad habit or something unnecessary.

Time management is a great opportunity to get more time for your family and entertainments and also make work more productive and successful without great efforts.

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### **Some Aspects of Human Resource Management in Organizations**

The problems of the human resource management in organizations is very important because it greatly influences the performance and development of any business. According to **Shelley Cason**, «two of the main personnel management challenges include the ability to retain and to positively motivate up-and-coming employees». There are different aspects which require special attention and consideration.

First of all, it is a problem of communication between a manager and the staff. If there is no proper communication of the employees with the managers, there will be misunderstanding between the workers of an organization. So, personnel should develop abilities to communicate to achieve mutual understanding and create good atmosphere at work.

The second problem is conflicts between personnel in a team which can lead to bad performance. Therefore, a good manager should be able to monitor and evaluate the situation in order to resolve any conflict situation. One of the possible solutions is regular staff meetings where employees could openly say about the problems that arise during their work.

Another problem is a choice of an efficient management method. There are a lot of management approaches these days and a manager must choose the most suitable method of managing his staff. The choice of management method depends on many factors especially on the psychology of the workers.

To achieve respect from the workers it is very important to show them that they are also respected. A good manager should be able to listen to the ideas of the staff, respect their rights, then he will gain respect from the workers.

The motivation of staff is an important problem. Motivation is divided into two types: material and non-material. Material motivation includes the system of rewards and fines. Giving the employee different rewards, we motivate him to work harder to get more bonuses. Fining employees who have shown poor results, we motivate them to work better not to be punished.

Non-material motivation means creating a favorable climate in a team, getting a praise from the leader, or professional development at the company's expense. Managers can also provide their employees with subscriptions to swimming pools, gyms, fitness clubs, etc. Each leader should choose such material and non-material types of motivation that would correspond to his business opportunities and objectives.

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## **Mistakes and Problems of Nowadays Managers**

Despite the fact that nowadays management made significant progress in development, management of human resources still leaves something to be desired. Managers often do not govern as they should, due to the lack of experience or fear to get out of their own comfort zone. That is why it is necessary to analyse the main mistakes of managers which influence the success of the professional career in order to avoid them while managing people.

There are two general types of problems specific to managers:

- 1) problems related to the professional and personal qualities;
- 2) problems associated with the current bureaucratic system (typical for countries of the former Soviet Union and Ukraine in particular).

A good example of the first type is demonstrated in the analysis of the team of the British researchers. The Mind Tools Editorial team indicates the following issues as the most significant:

- misunderstanding a manager's role that is rooted in the lack of necessary skills or unawareness of the responsibility level for a particular job;
- improper motivation associated with the attempts of managers to motivate staff only with money;
- the lack of clear objectives which is caused by the inability of some manager to explain the problem clearly;
- incorrect communication with employees based on a manager's disregard of his subordinates or, on the contrary, some attempts to make friends with them;
- lack of trainings which leads to the increase of employees' mistakes;
- fear of risk which is based on the fact that the manager is afraid to get out of his comfort zone.

The second type of managers' problems, defined by the existing bureaucratic system, is specific for Ukrainian management that encounters significant changes under the evolving socio-economic conditions and, therefore, requires new methods and approaches.

Although managers in Ukraine often face the same difficulties as their British colleagues do, it should be taken into account that our specific economic conditions cause specific problems such as:

- simulation of work related to the avoidance of "bureaucratic discomfort";
- paternalism, which has developed historically and contains the mistreatment of subordinates;
- “shadow” administration;
- long-life employment of most top managers;

- ignoring the achievements of workers, which leads to the decrease of staff performance.

Each particular type of problems requires specific solutions. So, when the problems of a manager are the result of his personal or professional qualities, managers are suggested to attend special managerial trainings in order to identify the problematic issues and develop skills and qualities necessary for success in professional career. Other recommendations include reading professional literature or watching videos where experts in the field of management share their experience and give advice. It means that manager's job involves constant professional development. Also, providing trainings for employees and paying more attention to their ideas and needs can help to change the subordinates' attitude to work, enhance their motivation and increase the work efficiency in result.

The problems specified by the unfavourable external environment or bureaucratic system cannot be overcome by the professional training programmes only, though serious retraining of managerial staff to enhance their skills and to bring them into line with the new economic conditions is a necessary step as well. This type of problems first requires creation, development and implementation of appropriate tools to change the system of existing economic rules and conditions into more competitive and free using successful foreign experience, concepts and technologies and adapting them to the national conditions.

Thus, while foreign managers' success is mainly a result of their professional skills development, hard work and talent, managers in Ukraine have also to deal with the bureaucratic system conditions which create some extra challenges or serious barriers in their work. However, Ukraine still has an opportunity to create its own effective model of management system.

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## **How To Become A Successful Sales Manager**

Management is one of the most popular specialties in the 21st century. Most young people want to become managers to open their own business or just to be bosses. However, it is not as simple as it seems. University degree is often not enough to start and run business properly or to be a good boss. So, what is needed then?

Let us consider one of the most popular branches of management - sales management – in order to understand how to become a successful sales manager. First of all, much depends on the inborn qualities of a character and the ability to find a common language with different people. A good manager, basically, is a good psychologist and it is hard to argue about it.

Another important skill of a successful sales manager is his ability to speak. It does not mean that his speech must be full of scientific definitions, formulas and complex terminology. The speech should be “alive”, that means it must satisfy some specific characteristics such as:

1. *Sincerity and naturalness.* The fewer phrases learnt by heart, the more of your own opinions and smiles. The talk with a client should be like a conversation with a friend who needs your sincere advice. But it is important not to overdo.
2. *Speech organization.* A sales manager not only sells – he leads the conversation. More simple and spoken constructions rather than book expressions should be used. It is also necessary to give a word to a client, listen to him attentively and lead the dialog, not the monolog. Then a client feels himself important and necessary.
3. *Emotionality.* A manager should not be afraid of showing his real emotions. The best solution is to listen and react to your interlocutor’s words as if he is your best friend and he tells you a significant story.

Moreover, there are some other relevant skills necessary for a good manager like creativity, erudition, diplomacy. Also it is meaningful to be patient and purposeful, because you will not always achieve what you want with the first attempt. You should not get upset and stop in the middle, but always go ahead. Some difficulties only motivate a good manager to become more hardworking. The manager will be successful if he is confident, able to motivate and respect people around, not afraid of failures and is easily appealed for help or advice.

Achieving success is possible only with the activity you like. This is not about the love for result and victories but for the process. A lot of researches prove that a client buys neither a company nor a product. He “buys” a person who he will work in future with.

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## **Main Tasks of a Successful Manager: Continuous Improvement and Innovations**

Continuous improvement and innovation are the keys that every resolute business should follow and implement. These keys define management practices that are critical in achieving high company performance. Here are three steps that help executives and employees of companies to focus on improvements and innovations and achieve business goals. These practices can be listed as following:

1. Adoption of core technologies and organizational objectives to drive new ideas. It is about getting you to focus on your goal. You can ask questions and come up with ideas for further improvement. Different types of thinking are used to stimulate creativity. Such types of thinking participate in the development of results-oriented goals. In addition, focusing on purpose involves the use of different types of thinking, such as creative thinking, which can help to come up with ideas.

2. Continuous improvement and innovation strategies are imperative for achieving strategic goals and objectives. It is about the development of actions to be taken to successfully implement your business plan. As well as about getting regular support to keep motivated and stay on track. And, of course, for a manager it is very important to be able to put aside those things that are not considered to be prior at the moment. Applying the most necessary resources is also very vital.

3. Monitoring the progress by using action plans or timetables as a part of the improvement and management system. By this we mean implementing certain actions and monitoring performance. This step involves evaluating and comparing previous results with the results predicted for future. Such types of activities are likely to be important for tracking progress and performance.

According to the words of experts modern marketplace demands to follow rather strict rules in terms of competition. Most international organizations face global competitors and a rapid flow of information. Due to this fact it is really hard to differ from a great majority of the rivals because the best practices are spread across any industry very fast. However, it should be noted that it requires much efforts from competitors to overcome a successful organization employing highly motivated and experienced staff focused on the customer satisfaction, and providing real opportunities for competitive advantages. Taking into account above-mentioned, we can make conclusions that proposed steps are reliable and valid for improving the level of performance of a successful manager and important for the achievement of any goals set by the enterprise.

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## **Development of the Organization Through Conflict Resolution**

Conflicts being an integral part of any human relationship are common as long as a person exists. Modern sociologists of the early twentieth century consider conflicts as an inevitable phenomenon in public life, stemming from the properties of human nature and the instinct of aggression inherent in any person. The lack of the conflict consensus is always in the core due to the presence of diverse opinions, views, ideas and interests. However, this is not always expressed in the form of a clear clash. The conflicts take place in the case of violating usual interaction of the people and impeding the attainment of the set goals. In this case, people are compelled in any way to overcome differences and enter into open conflict interaction. It is generally accepted that teamwork and conflict are opposite to each other. For centuries, the conflict was perceived as something destructive, what must be avoided at all costs. But approximately from the mid-90s of the last century the idea began to change. It was caused by the fact that morals have become much softer and social etiquette has won the aggressive desire to dominate the team at any cost. Conflict acquires positive functions and, depending on the function, conflicts are divided into functional and dysfunctional groups.

Dysfunctional conflict leads to decrease in personal satisfaction and destroys group collaboration. It arises because of the socio-psychological incompatibility of people and makes it difficult to accept necessary decisions. Functional conflict results in achieving greater efficiency of the organization. In functional conflicts, opponents do not go beyond ethical norms; they jointly seek solutions to urgent problems and consider reasonable arguments. To which of these groups will be attributed the conflict, largely depends on the ability of the manager to solve the problems of interpersonal relations. The algorithm activity of the head during the conflict depends on many factors: the content of the conflict, the conditions of its origin and development and many others. Therefore, an appropriate conflict resolution algorithm cannot be offered for the manager. But the main steps in the algorithm can be listed as following: studying the causes of the conflict, limiting participants' number, involving experts to provide additional analysis of the conflict and making decision.

Every leader needs to understand the importance and inevitability of conflicts and only with the right approach the benefit could be obtained. The goals of the organization are often not achieved as the results are not the main target. Attention is paid on the desire to maintain good relations between team members. Meanwhile, to make teamwork really effective adding a bit of conflict is required. Cooperation is not necessarily the consent of all with everyone. If you avoid disputes, you risk making wrong decisions.

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## **How to Succeed in the Field of Management**

One of the sectors that survive in a slow economy is management because in any field of business companies need managers to help them cut costs and increase revenues. Other benefits, such as opportunity to learn, intellectual challenge and prestige may additionally motivate a person to enter this field. However, if he desires to succeed in the area of management, he should be ready to work hard and make a lot of effort to withstand the huge competition that will be faced. Therefore, knowledge of things that will help managers to succeed in their field is very important for those, who want to be successful professionals.

First of all, an effective team leader should be confident because, if he demonstrates confidence in his abilities and behavior, then other people will treat him with respect. But in order to form this quality of character he needs to engage in constant professional development by means of self-development (reading specialized literature, watching professional videos, etc) or professional training programmes. Apart from this, a leader needs to possess such qualities as sociability, responsibility, initiative, self-criticism, ambitiousness, oratorical talent, willingness to take risks and creativity.

Moreover, an effective leader should focus his efforts on supporting people he would lead. Great leadership is not about bossing people around, it is about inspiring and leading the team towards a common goal for everyone's benefit. To create a positive atmosphere in the team, it is better to avoid much criticism of the inferiors, if they make mistakes, but emphasize their achievements instead and take faults as the opportunity for improvement and development. A good leader ought to be honestly interested in his subordinates' needs and make them feel important, because nobody likes to feel themselves ignored and unappreciated. Being interested in people, he will win their gratitude and, as a result, a cooperative attitude. A leader should not be bossy or a smart alec, but be able to see and hear other points of view. In this case he may find and learn a lot of new things valuable both for business and his professional development. Positive relationships with the staff will help gain the trust of the personnel and encourage them to increase efficiency.

Now a lot of people want to have great profits, power and prestige that comes along with leadership position, but very few of them are ready to do what it really takes to be an effective leader. The simple rule is to lead people in such a way that you would like to be led by and the skill and ability to manage successful projects and lead teams will gradually develop.

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### **Interpersonal Communication Skills of a Manager.**

Many specialists consider that one of the most important skills of a successful manager is the ability to set goals. It is also necessary for a manager to be very ambitious. A manager who never punches above his weight can come across as lacking ambition. Even the conservative poker player knows he needs to go 'all-in' from time to time.

However, a manager is not an independent player in business relations. In most cases his success is the result of an efficient team work. And the achievements of his team greatly depend on the manager's ability to communicate with his subordinates.

According to Henry Mintzberg's classification of managerial roles, good interpersonal relations are the key to running a company or a team smoothly because if employees feel themselves comfortable in the workplace, it increases their performance and performance of the company in result.

Another step to success is respect. If a leader manages by respecting his team's values, the team will do their best in response. Being a figurehead in the organization, whose duty is to fulfill legal or social requirements, a manager should communicate with employees to know about their important everyday needs. It is necessary to find it out to provide employees with some extra time for healthcare, for example, or flexible timetable if they need it.

In order to succeed, managers have also to identify strengths of their employees and use them in a proper way. To extra motivate the subordinates, managers should applaud their employees' strengths both publicly and privately. They have to demonstrate how they appreciate their efforts focusing, from time to time, on the specific points such as their diligence, their approach to work, their dedication, etc

Another important thing is feedback. A manager should keep his door open and remind his employees that if they have any problems, he is always ready to listen to them. It is dangerous to minimize or dismiss the concerns of the employees. Good managers should always listen to their subordinates, support them both financially and morally. When employees are actively sharing ideas, leaders should not butt in and talk just to make sure his voice is a part of the mix. This can put the idea-sharing into a stranglehold.

So, as management means working with people, the effectiveness of a manager's job is the result of his efforts and talent to cooperate with people, understand and properly motivate them.

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### **The Role of Time Management in Today's World**

The problem of time management is known to be very important in today's dynamic world. It is considered to be a necessary condition for successful running any kind of business and effective work of each employee. A lot of psychologists and social scientists from different countries have studied the ways of better organizing and planning work by dividing time between specific activities. The main aim of their researches is to make good time management an essential tool which helps people to work smarter so that they could do more in less time, even when time is tight and pressures are high.

It should be noted that the situation when there is never enough time in the day has become quite common. The problem is that while getting the same 24 hours some people achieve much more with their time than others. The people who are good at time management and are able to arrange their time exceptionally well increase their effectiveness and avoid stress, while those who fail to manage their time damage their productivity and find themselves in stressful situations.

Recent researches have shown that using different time-management techniques can improve an ability to function more effectively – even under pressure and in limited time conditions. Good time management requires an important shift in focus from activities to results. It should be remembered that being busy is not the same as being effective. One must not divide attention between a lot of different tasks because it will result in losing concentration and low productivity. Time management deals with the ways that people use to organize and plan how long they spend on specific activities in order to achieve more.

Among the benefits of good time management are:

- better performance and efficiency;
- a better professional reputation;
- reduced stress;
- increased opportunities for advancement;
- greater opportunities to achieve important life and career goals.

The most undesirable consequences of failing to manage time effectively are:

- missed deadlines;
- inefficient work flow;
- poor work quality;
- a poor professional reputation;
- higher stress levels.

Learning about time-management techniques can be highly beneficial in the modern world because the process of organizing and planning time spent on specific activities is sure to make businesses and careers more effective and successful.

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## How to be Good at Planning and Strategy

Strategy and planning play an important role in any business. To develop successfully, any company needs to have a plan that will help to reach necessary goals in the future. An accurate strategic plan is also a good guideline in setting priorities and ideas to improve the business. Strategic planning is used both for big and small businesses. Therefore, it is necessary to learn how to plan effectively.

First of all, the development of the strategic plan means understanding the nature, mission, and needs of the organization. You must be aware of the exact purpose of the company and ideas for its future development. The general aim of strategic planning is to analyze the strengths of the business and match them to available opportunities. To do this, it is necessary to collect and analyze data important to the business environment. They are used to make decisions about managing, improving and expanding the business.

Strategic planning effects the positioning of your business in the market. Therefore, you need to make sure that you conduct a full analysis of your business and your current or potential market.

One of the strategic models that can be used to structure your research is SWOT analysis which defines the purpose of a business or a project, as well as internal and external factors that are favorable and unfavorable for achieving this goal. These factors are subdivided into four main categories – strengths, weaknesses, opportunities and threats. Table 1 provides the examples of each category possible elements:

Table 1.

<b>Strengths</b> -An innovative product / service. -Quality processes or procedures.	<b>Weaknesses</b> - Lack of marketing expertise. - Substandard goods or services.
<b>Opportunities</b> -Mergers, joint ventures, strategic alliances. -Transition to markets with higher profits.	<b>Threats</b> - Competitors offering innovations. - Taxes for products / services.

As business strategy usually involves setting goals, identifying actions to achieve these goals and mobilizing resources to carry out actions, a strategic plan describes how the aims will be achieved and what resources are required. So, by setting achievable goals and selecting the right analysis you can succeed in business.

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### **The Choice of Leadership Style with the Help of Transaction Analysis**

Different types of leadership styles are used by heads of enterprises. Autocratic, democratic and free-rein styles do not only set the pace of work, but also greatly affect the outcomes of the enterprise. Leaders often make the choice of a style based on their personal opinions, but it would be better to analyze the area of interaction first, and then determine the style.

The analysis of interactions between people can be carried out using the transactional model of Eric Berne. It considers a person in three roles: the Parent, the Adult, and the Child. The person plays these roles at every moment of his/her life. Communication between people can be described with the transactions that can go parallel (effective communication), be cross-cut (ineffective communication) or be hidden (when one of the people has a hidden motive).

The autocratic style should be used when the interaction is between the Parent (leader) and the Child (subordinate). In this case, the functions of the Parent are to put the task, to control its implementation and to evaluate the results. The function of the Child is an accurate implementation of the task. An example of this interaction will be: "Are you late to work again?" (P) - "I would have arrived on time, but was stuck in traffic" (C). When the subordinates are irresponsible or have no initiative, the leader must play the parental role.

Democratic style is suitable for the interaction between Adult and Adult. All members of the team perform their functions and control themselves. They can correctly assess the results of their activity. For example: "You need to recalculate the data in your report. I have noticed inaccuracies" (A) - "Thank you for your comment. I will fix them" (A). It is the conflict-free and the most effective interaction.

Free-rein style is suitable for leaders that are not able to make decisions and to supervise the work. Such a leader acts in the role of a Child. His subordinates can be Adults, Parents or Children. In the first case, the work will be performed without leader participation. In the second case, the Child, who is the leader, will be assessed by Parents-subordinates (whispering behind his back). In the third one, the enterprise will exist for a short while, because only children work.

At work, it is possible to combine leadership styles when communication is with each employee. If one worker shows himself/herself as an Adult, and another one as a Child, then communication with them should be different.

To summarize, it should be noted that the Eric Berne model cannot be always used. This model will not work for another selection factor. At an enterprise where complex and dangerous work is carried out (mining, production of expensive equipment), it is better to always follow the autocratic style. However, where workers do the creative activity or they cannot be limited by the formal dialogue, it is better to use a free-rein or democratic styles.



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## **Features of Management System**

In our time “management” has become a frequent word in business area. It’s a wide notion, but in general, management means organizing and coordinating a group of people for directing them towards accomplishing a goal.

One of the most important functions, that management implements, is planning. At this stage manager sets objectives and then thinks of strategies for achieving them. Next stage of management is commanding. The manager hands out the tasks to employees and has the right to supervise whether they are carried out. The final stage is coordinating, i.e. bringing together the results of collective work.

There are three basic styles of management. Directing style is used to tell people what to do, how to do it and when to have it completed. Managers assign roles and responsibilities, set standards and deadline expectations. Managers provide detailed instructions so employees know exactly what to do.

Discussing style is for debating relevant business issues. People present ideas, ask questions, listen, provide feedback, challenge certain assumptions and coach as needed. Managers often perform the role of facilitator, making sure the discussion stays on track and everyone has a chance to contribute.

Delegating style is used for explaining or getting agreement on what has to be accomplished and when it must be completed. The how to do it part of the equation is left up to the employee. Responsibility and authority are given to employees to get job done.

Most international companies have a three-leveled management system.

First-level managers are responsible for daily management (office manager, shift supervisor, department manager, foreperson, crew leader, store manager).

Middle-level managers (the branch and department managers) devote more time to organizational and directional functions. In small organization, there is only one layer of middle level management but in big enterprises, there may be senior and junior middle level management.

Top-level management consists of board of directors, chief executives or managing directors. It is the ultimate source of authority that deals with setting objectives, managing policy of enterprises, coordinating functions etc.

The number of levels in management increases when the size of the business and work force increases and vice versa.

### **Section 03. Challenges in Environmental Protection**

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#### **Technologies of Valuable Components Recovery from Coal Mine Waste Heaps**

Waste heaps are an integral part of the technological cycle of underground coal mining formed by rock winding to the surface after a complex of mine workings development. Dumps are not only a source of environmental pollution, condemnation of valuable land and deterioration of human health, but also a "technogenic deposit" of useful components on the earth's surface, despite the fact that they are classified as dumps. Analysis of valuable components in rock dumps allows to determine possible technologies for their recovery.

Most easily recovered component of the rock dump is coal fractions, the content of which varies from 10 to 40%. To separate coal from waste rock, a method of gravity separation applying heavy hydraulic media consisting of various components (trichloroethane, dibromoethane, etc.) was widely used to give it different densities. As a result, different particles of mined rock sink to different depths, rock particles are deposited, as they are heavier, and lighter coal fractions are distributed in the upper part. A significant content of iron oxide (up to 20%) in the dumps can be extracted by electrostatic separation based on the ability of various metals to accept charge. The crushed rock mass enters the electromagnetic field, the metal components are magnetized and separated from the nonmagnetic ones. In addition, this method can produce valuable rare-earth metals (germanium, scandium, gallium, etc.). The total content of these elements is estimated at least 200 g / t.

In Western countries the bioleaching method is intensively developed. It uses microorganisms as catalysts or special agents of biochemical destruction processes or dissolution of mineral compounds. This method is characterized by simplicity, low price and environmental safety. This method can also be used for rare-earth metals extraction. Rock dumps have very high content of alum slate (aluminum raw materials) within 10-25%. There is a problem of processing this raw material because of the presence of a significant content of silica and thus the lack of universal technologies. Nevertheless, there is a method of sintering (acid method), based on the treatment with two kinds of acids. Aluminum sulfate is obtained as a result of a number of processes - preparation, initial processing, sintering, purification and calcination. In such a way, using a combination of technologies for extracting valuable components in places with more dense dumps location will allow the creation of processing enterprises. In addition, it requires serious study of technical and economic feasibility, analysis of market environment and encouraging the investment support for such projects.

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## **How Does Mining Affect the Environment**

Ukraine is a country with mining sector playing important role for international economy. The mining industry of Ukraine is characterized by a high degree of concentration and large scale production, which makes it possible to reduce the cost of mining and the use of perfect equipment. The coal industry of Ukraine among other branches of the fuel and energy complex has the most provided raw material base. How to build a mining enterprise and how does it affect our environment?

Before mining can begin, the land is cleared. The first issue is deforestation. Deforestation immediately destroys wildlife habitats. As the land is cleared and low bushes and vegetation burned and destroyed, wildlife either moves on or dies.

Deforestation affects the nesting habits and migratory patterns of birds, as well as the pollination of flowers and edible plant life. It destroys the homes of valuable insect life as well. The process of turning CO<sub>2</sub> into oxygen cannot take place.

In any eco-system, life is dependent on the whole sum of its parts. When a tree falls in a forest, it is immaterial if someone hears it or not. What is important is that its loss can have an immediate, profound, and very visible effect on the survival of other life in, around, and near it.

It is particularly coal mining that has been proven to have disastrous effects on human health. Miners have been known to suffer and die from the disease Black Lung. What's more, people who live near coal mines have been known to have increased lung cancer rates, respiratory disease, and low birth weights. Similarly, people who live near surface mines face health issues due to the explosives used and the chemicals these release into the air.

Studies have shown that trace metals remain in the soil for a long time ranging from hundreds to thousands of years. Cd, Ni, and Zn have a relatively shorter residence time in the soil than Pb and Cr which may remain for several thousand years. This simply means that it is not easy and cheap to rehabilitate an abandoned mining site. In fact, the physical destruction of the landscape can be irreparable. And more importantly, the health risk of the contaminants that have already entered the food chain can remain for a long time.

Global participation is required to reduce the effects of mining on the environment.

On a fundamental level, recommends several ways to reduce mining's environmental impacts could be recommended:

- Reduce mineral consumption. Over 80 tons of natural resources are required annually per person, including resources from mining. It is anticipated that by 2050 this consumption will rise by a factor of three.

- Improving environmental performance at mines. Mining reportedly erodes more of the Earth's surface each year than natural river erosion. For example, in excess of 220 tons of earth are excavated to produce just one ton of copper.
- In particular abandoned hard rock mine sites can impact on public health and the environment. When mines fill with water, this becomes highly acidic.
- In addition to these measures, renewable energy will inevitably play a key role to reduce the impact of mining on the environment.

It is generally recognized that preventing pollution is more economic and effective at reducing environmental impacts than cleaning it up later on , leaving a legacy of environmental degradation for future generations.

Methods for minimizing and eliminating wastes in the production of minerals and metal commodities include:

- Using cleaner production techniques;
- Environmental control technologies;
- Using waste as raw material;
- Reducing the amount of waste produced through process re-engineering.

The overall pollution caused by the mining is enormous. The water and the soil are the main affected part. The pollution of the water and the soil around the mining area causes the imbalance in the eco-system of that particular area. The huge machines that assist in the mining procedure also cause air pollution as the burning of fossil fuels releases toxic gases in the air.

Mining for fossil fuels such as coal, or even for gems and gold, has always been about the money. Coal mining provides jobs that are steady and command a reasonably decent paycheck in this economy. There are safe practices companies can follow to protect the safety and health of their workers, communities, and the environment.

Their choice to do that must be encouraged as it is one tree in this particular forest that everyone around the world will feel the effects of if it is allowed to fall. It is past time to put the efficiency back into mining coal and other fuel sources in terms of energy efficiency.

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### **Coal Mines Abandonment in Eastern Ukraine: Environmental Consequences**

Restructuring of coal mining industry in Ukraine is aimed at concentration of production in high efficiency coal mining companies, further ensuring their development in accordance with the principles of market economy and liquidation of unprofitable mines. Closure of coal mining enterprises in the east of the country is a burning issue for economic recovery, protection of the environment and safety of people.

The objective of the research is an integrated study of the environmental consequences of a large-scale abandonment of coal mines in Eastern Ukraine. The ecological problems that arise at different stages of liquidation of unprofitable mines influencing the further development and use of adjacent territories involve:

- Changes in hydrogeological regime after shutting-down groundwater pumping, salting of soil. Flooding of built-up areas and agricultural lands.
- Dust and gas pollution.
- Deformation of the earth's surface. Activation of displacement and under flooding processes, changes of soil properties. Penetration of mine gases on the earth's surface, into buildings and other structures.
- Changes in the nature of deformation of the rock massif. The high concentrations of mine gases which are displaced to the surface after stopping the ventilation.

Theoretical studies of the main problems and adverse impact of the elimination of coal mining enterprises and analysis of the ecological situation in areas of rock dumps accumulation were carried out. On the basis of theoretical analysis three issues to be solved in liquidation of mining enterprises were identified: physical liquidation of mines, social protection of dismissed workers, ensuring environmental safety.

We showed that the process of liquidation of coal mining enterprises results in: changes of hydrodynamic conditions of underground waters, formed during long-term coal mining enterprise exploitation; under flooding of the earth surface caused by the elevation of underground water levels; accumulation and displacement of toxic gases in the confined spaces; contamination of underground waters and surface streamflows with muddy waters.

Completed studies will help to form theoretical, practical and information base of the ecological safety level in the process of coal mines liquidation and may be the basis for the development and implementation of highly efficient methods for unprofitable mines closure which involves neutralization of the negative environmental impact as well as environmental hazards prevention.

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## **Recycling of Manganese Ore Waste**

In Ukraine, there is a great amount of manganese slimes which have accumulated for many years as a result of extraction and enrichment of manganese ores. Their storage requires constant monitoring of the impact on the air and groundwater. Tailings of manganese slimes cover large areas of land suitable for agricultural production. Moreover, manganese is a polytropic poison, which has a harmful effect on human body. In order to avoid the negative impact of manganese slimes on the environment and humans, it is necessary to find a way of their utilization.

The research of the enrichment of manganese ore waste was carried out using laboratory magnetic separators of two types.

The first was deflecting-type separator, which consists of Ne-Fe-B permanent magnets. Magnetic field of the separator is configured in such a way that an isogradient plane is formed in space along which the magnetic particles slip away from the working zone under the action of gravity. Non-magnetic particles move downward into the collector of the non-magnetic fraction. Separator is designed for enrichment of particles with a size of less than 2 mm. Studies have shown that when the content of manganese in the initial product is from 10 to 15%, the average recovery of manganese to the concentrate is 82%, and with initial manganese content from 5 to 10%, the recovery decreases to 76%. This type of separator permits to obtain waste with a low content of manganese, which provides more rational use of raw materials. The main advantage of the separator is work in an active mode without consuming electricity.

The second type of separator was a roller belt separator with roll diameter of 20 mm and a bi-gradient magnetic system. Separation of manganese-containing products comprising particles smaller than 2 mm has shown that the extraction of the magnetic fraction is 72%. This type of separator allows to obtain high-quality concentrates, however, there is a relatively high quantity of manganese particles which are caught into the non-magnetic fraction.

As a result of the research, the deflecting-type separator proved to be more effective for particle size of less than 200  $\mu\text{m}$ , while the roller belt separator gave the better results of manganese extraction for a fineness of more than 200  $\mu\text{m}$ .

Therefore, it is advisable to use the roller belt and deflecting-type high-gradient separators together. Moreover, processing of manganese ore waste will not only solve a number of environmental problems, but will also give the opportunity to obtain a commodity product with a content of manganese of more than 37%.

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## Grundwasser

Grundwasser ist einer der wichtigsten Umweltfaktoren und der meistgenutzte Rohstoff, weswegen es auch als Wirtschaftsgut betrachtet wird. Auf unserem Planeten versorgen sich heute etwa 2 Milliarden Menschen mit Grundwasser. Im Gegensatz zu Rohstoffen wie Erdöl, Erdgas und Erzvorkommen ist Grundwasser eine Ressource, die erneuerbar ist. Wie entsteht Grundwasser, welche Zusammensetzung hat es und warum ist Grundwasser so wichtig?

Grundwasser ist Wasser unterhalb der Erdoberfläche. Es gelangt dorthin durch Versickern von Niederschlägen und durch Zufluss aus Seen und Flüssen. Ein Teil der Niederschläge dringt in den Erdboden ein, ein weiterer Teil fließt als Bäche, Flüsse usw. ins Meer ab, und der größte Teil verdunstet und kehrt in die Atmosphäre wieder zurück. In diesem Fall sprechen wir vom Kreislauf des Wassers. Das in den Boden eingedrungene Wasser bildet das Grundwasser. Die Höhe des Grundwasserstandes, die von der Niederschlagsmenge und von der Beschaffenheit des Bodens abhängt, heißt Grundwasserspiegel. Das Wasser wirkt umwandelnd auf verschiedene Mineralien und Erze ein, welche fähig sind, es aufzunehmen. Auf dem Weg durch die Hohlräume des Erdinneren werden Mineralstoffe vom Wasser gelöst und teilweise an anderer Stelle wieder abgegeben. Die Mineralien, die im Speichergestein vorhanden sind, bestimmen die chemische Zusammensetzung des Grundwassers. Mit dem tieferen Eindringen in den Hintergrund wird es immer reicher an verschiedenen Mineralien.

Wovon hängt die Gesamthärte des Grundwassers? Die Gesamthärte wird vom Calcium- und Magnesiumionengehalt im Wasser bestimmt. Sie besteht aus der beim Kochen ausfällen Karbonathärte und aus der Nichtkarbonathärte.

Die anderen Faktoren, die die Eigenschaften des Grundwassers bestimmen, sind Temperatur, pH-Wert und Sauerstoffgehalt. Ihre Werte hängen von unterschiedlichen, sich gegenseitig beeinflussenden Bedingungen ab. Was organische Stoffe angeht, so kommen im Grundwasser nur wenige Organismengruppen vor, weil nur wenige Organismen sich aufgrund ihrer äußeren Gestalt und wegen ihrer Stoffwechsel- und Fortpflanzungsstrategien an das Leben im Untergrund anpassen können. Das Grundwasser ist für die Menschen unentbehrlich, weil wir es täglich für verschiedene Zwecke verbrauchen. Das Trinkwasser wird Haushalten und kommunalen Einrichtungen wie Schulen, Behörden und Krankenhäuser zur Verfügung gestellt. Menschliche Eingriffe können sich äußerst negativ auf das Grundwasser auswirken. Das Grundwasser muss vor Verunreinigungen oder anderen nachteiligen Veränderung seiner Eigenschaften geschützt und in seiner natürlichen Beschaffenheit erhalten werden.

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### **About Distribution of Co, Ni, Pb, Cr and V in Coal Layer c4 of Mine «Samarskaya» of Pavlograd-Petropavlovsk Geological and Industrial District**

The research aims to establish regularities in the distribution of toxic and potentially toxic elements in the coal layer c4, one of the main minable layers of the Samarskaya mine.

To achieve this goal, the following tasks were accomplished:

- establishment of descriptive statistics for the content of toxic and potentially toxic elements in the coal layer c4;
- construction of maps of concentration distribution for toxic and potentially toxic elements and their analysis;
- identification of relationships and calculation of regression equations between the contents of toxic and potentially toxic elements and the main technological parameters of coal.

The object of research is coal layer c4 of the field of Samarskaya mine located in the Pavlograd-Petropavlovsk geological and industrial region of the Western Donbass. The subject of research is regularities of changes in the content of toxic and potentially toxic elements in coal and their relationship with its main technological indicators. Research methods used in the research are traditional methods of studying geological information, as well as a set of methods of mathematical statistics, including correlation and regression analyzes. For the purpose of revealing the spatial regularities in the distribution of toxic and potentially toxic elements and the main technological indicators of coal, 27 maps were constructed and analyzed.

The average concentration of toxic and potentially toxic elements in coal layer c4, does not exceed critical value. Only the average content of lead and vanadium is greater than in whole in the district and only the average content of lead exceeds the average content in the whole of Donbas.

Anomalously high content of ash, sulfur, Co, Ni, Pb, Cr and V are spatially associated with the areas of tectonic disturbances and are genetically related to the mineralization of fracture zones. A rank of closeness of toxic and potentially toxic elements to the organic substance of coals is as follows: Ni – Co – V – Cr – Pb.

The scientific importance of the obtained results is to establish a rank of closeness of toxic and potentially toxic elements with organic matter of coals and calculate descriptive statistics of their contents.

The practical importance of the results obtained is to establish the spatial position of zones of anomalously high toxic and potentially toxic elements contents and the calculation of the regression equations that allow predicting the contents of these elements in the coal layer.



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## **The Influence of Air Humidity on the Healing of Wounds**

Humidity is the main parameter of the environment, along with the temperature and air velocity, which affects the evaporation of water from a wet or wetted surface. For humans, the relative humidity of 30-60% refers to the hygienic norm. This moisture provides normal life activity of the body. It promotes moistening of the skin, mucous membranes of the respiratory tract and inhaled air, maintains the constancy of the humidity of the internal environment of the body. Air, the relative humidity of which is below 20%, is estimated as dry, from 71 to 85% - as moderately wet, and more than 86% - as strongly moist. Humidity less than 20% is accompanied by evaporation of moisture from the mucous membranes. This leads to a feeling of dryness. Humidity maintains the density of oxygen in the atmosphere, affects heat exchange and sweating. Wet air softens the skin and moisturizes the body.

Particularly sensitive to high humidity patients with essential hypertension and atherosclerosis. In most cases, exacerbation of diseases of the cardiovascular system occurs at high relative humidity (80-95%). With a sharp change in temperature, outbreaks of acute respiratory infections occur. On the other hand, high air humidity increases the adverse effect of both high and low temperatures.

There are many reasons of wounds healing at different rates. It depends on the type of wound, as well as on the individual characteristics of the patient - age, nutrition, medications are taken.

Regardless of the type of wound and the degree of tissue damage, the healing process consists of three phases: purification, granulation, epithelization. At each stage, it is necessary to maintain the optimum humidity of the environment. This will prevent the surface of the wound from drying out and its suppuration. Back in 1962, Dr. George D. Winter discovered that epithelization (the formation of a new epithelium at the site of damage to the skin or mucous membrane) occurs twice as fast in a moist environment than in a dry one (under a crust). Also, under the condition of optimal hydration, the risk of scarring and scarring is much less, and the change of dressings is painless.

Humidifier can be used to humidify the environment at home. Before using it, people need to check the purity of the filters to avoid the spread of bacteria and infection of the wound.

Thus, the humidity of the air has a significant effect on the rate of wound healing. This parameter is used in medicine for medical purposes. The main thing in this method is the correct approach and the accuracy of determining the required humidity.

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### **Influence of the Military Actions on the Physical and Chemical Characteristics of Soil of the National Reserve “Kreidova Flora”**

The object of the research is the department of the Ukrainian Steppe Nature Reserve “Kreidova Flora” as one of the most valuable protected areas of Donbas. "Kreidova Flora" is actually a unique large-sized protected area with cryophilic flora in Ukraine. High content of calcium compounds in the soil is over 3%. It adds this area as the reserve fund. Unfortunately, the reserve has been harmed by military attacks and fortification works. In areas with high density of shelling, soil is mixed with the underlying rock fragments. High content of iron steel and toxic substances have come into soil and atmosphere as a result of detonation.

The aim of the research is to analyze the changes in physical and chemical characteristics of the soil from the area after artillery shelling. For analysis, 6 approximately equal in size craters with the depth of 50 cm and diameter of 25-40 cm have been selected. Two samples have been selected from each of the crater: one directly from the middle of the crater, the second from 25-cm distance from the center. Besides, two samples from the intact areas have been taken as controls.

Physical and chemical soil analysis includes pH index, electrical conductivity,  $\text{NO}_3^-$ ,  $\text{NH}_4^+$ ,  $\text{PO}_4^{3-}$  content. The analysis of ICP-MS metal concentration has been also conducted. On average, the soil pH of this area is 7.7-8.0. This index remains unchanged in comparison with the control samples. Electrical conductivity has not changed significantly and ranged from 120 to 250 mS/m. The analysis of content  $\text{NO}_3^-$  has shown lower concentration in the center of craters than in the samples which have been taken from a 25-cm distance. The analysis of  $\text{NH}_4^+$  content has shown lower concentration in samples from the damaged areas than in the control samples. The results of  $\text{PO}_4^{3-}$  content analysis are very interesting because phosphate behavior is specific in chalk soil and requires further studying. The data obtained from the analysis of micro concentration of metals based on ICP MS indicate the presence of heavy metal contamination of soils and obvious negative influence of military actions on the soil state of the natural reserve.

All the results will be further studied and analyzed for the detailed assessment of physical and chemical properties of soil contamination.

It should be noticed that legal regulation of environmental protection during the military operations on the national level is fragmented. Unfortunately, the Ministry of Defense and other central government departments do not explicitly prescribe implementation environmental monitoring and environmental safety during wartime. The human rights for a safe and healthy environment should never be violated.

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### **Burning leaves and its influence on the organism**

Nowadays the problem of pollution of environment is extremely urgent. Ukrainians got used to burn fallen leaves down but the most still have no clue that this practice poses a threat to human health and the environment and often results in dangerous wildfires. A smoke of burning leaves consists mostly of small particles forming suspension in the air. Also smoke is composed of gases of different degree of toxicity. In fact, one ton of leaves may emit about 30 kg of carbon dioxide while it burns. Besides carbon dioxide and water vapor, numerous toxic substances are released during the combustion. For example, carbon monoxide, dioxins, benzopyrene ozone-forming chemicals, nitrogen oxide. Each of these substances makes toxic, irritant, and carcinogenic effect. These negative effects of burning leaves are explained by strong degree of pollution of soil, water and air of big cities and suburbs. If leaves are burning, all accumulated toxic substances such as pesticides (common in rural area) and radionuclides are emitted in the air again. Also villagers often burn household waste at the bonfires what makes that harsh smoke way more hazardous. In fact, in some areas of Ukraine burning of leaves and garbage sometimes causes much higher level of air pollution than factories and vehicles. Air pollution leads to a pollution of soil and groundwater. Smudge rises in the higher parts of atmosphere penetrating into clouds and rainfall cleanses the air. Then solid smoke particles are washed right onto the water or onto the ground from where they enter the groundwater that supply rivers. With river water poisonous remains of smoke can spread around the lakes, seas or even oceans.

Leaf-burning smoke can cause significant health problems. It has irritative effect on eyes, nose and throat and especially dangerous for children, elderly and people with asthma and another heart or lungs diseases. This affection is caused by small particulars of smoke that penetrate deeply in the lung tissues. A smudge may cause headache, coughing, wheezing, chest pain and sometimes shortness of breath. Those unpleasant symptoms may persist up to several days in case of breathing a large amounts of smoke. As it was mentioned before, smoke from leaf fires contains different toxic gases. Carbon monoxide binds with hemoglobin forming stable compound called carboxyhaemoglobin which is unable to carry oxygen. Mild poisoning with carbon monoxide causes headache, nausea, shortness of breath, tachycardia, dizziness and faint. Also smoldering leaves release benzopyren which can cause cancer, a number of diseases of reproductive system and pathologies of intrauterine growth of a fetus. In present burning leaves is prohibited by the Law of Ukraine "On the Protection of Atmospheric Air".

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### **Chernobyl Disaster: Harmful Result**

The Chernobyl disaster was a nuclear accident, which occurred on 26 April 1986 in the reactor №4 at the Chernobyl Nuclear Power Plant near Pripyat. The people who lived in the Chernobyl zone during the accident suffer from various diseases. After the accident, several thousand people were diagnosed with radiation sickness. Children have a lot of congenital disorders, including cancer and heart diseases.

A large increase in the incidence of these diseases can be attributed to the influence of the radioactive dust to the population released. 4 dangerous substances that fall into the environment in the explosion. Plutonium is carcinogenic, and can cause lung cancer. It has the property of concentrating in the hematopoietic areas of the bones and can cause disease many years after it hits. Cesium 137. About 80% of the ingested cesium accumulates in the muscles, 8% - in the skeleton, the remaining 12% are distributed evenly over other tissues. Iodine 131 - has a negative effect on the functioning of the human thyroid gland. The accumulation of radioactive iodine in large quantities leads causes thyroid cancer. Strontium 90 is a chemical analogue of calcium, so it is most effectively deposited in bone tissue.

Near the reactor there was a pine forest with an area of 4 km<sup>2</sup>. Under the influence of radioactive radiation, it turned into brown. After that he got the name "red forest". As a result of the accident, about 5 million hectares of land were removed from the agricultural turnover. Also around the NPP a 30-kilometer exclusion zone was created, destroyed and buried hundreds of small villages and towns. Many animals have died or have ceased to reproduce. Some horses stayed on an island near the Chernobyl zone. They died when their thyroid glands were destroyed by radiation doses. The next generation was born normal. As a result of the Chernobyl disaster, mutants appeared. They are descendants of people and animals. Mutants are born with various deformations. Foal with five legs, a calf with two heads, fish and birds of unnaturally huge size, giant mushrooms. Experts assure that the consequences of the accident will be observed for another 100 years. During this time, the severity of these consequences should decrease. After twenty-five years the wild nature returned to the contaminated area.

The Chernobyl nuclear power plant is located next to the Pripyat River. This is a part of Dnieper reservoir system, which at the time supplied water to Kiev's 2.4 million residents. So the problem of water pollution has become one of the most important problems of the accident. The result of water pollution was a significant excess of the level of radioactive substances in fish.

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### **Rock Dumps - the Valuable Mineral and Raw Material Resources**

In Ukraine the mining industry is of primary importance in providing the national economy with raw materials. As a result of its functioning rock dumps from underground mining have been accumulated on large areas, which have a negative impact on the atmosphere, soils, surface and ground waters, health of the population in mining regions, and cover a considerable area of agricultural land. The dump is a chaotic mixture of coal and rock fractions stored in a specially allotted area.

Rock dumps of coal industry on the territory of the country (under Ukrainian control) have been accumulated in the amount of more than 1 billion tons and an area of more than 1,400 hectares in Dnipro, Donetsk, Luhansk, Lviv and Volyn regions by 2016. In density of their location they can be divided into the following 8 areas: Pavlohrad, Dobropolskyi, Pokrovskyi, Uhledarskyi, Toretskyi, Lysychanskyi, Chervonohradskyi and Novovolynskyi. According to the mineralogical composition, rock dumps are a source of accumulation of valuable components and materials for use in the national economy.

The rock mass of the mine dumps contains an average of 10 to 40% of coal, up to 15% of alumina and up to 20% of silicon and iron oxides. According to the SE “Ukrheolohiia”, a much higher content of rare earth elements is found in at least 20 g per ton of rock than in Clarke of the earth's crust such as germanium, scandium, gallium, yttrium, etc. The rational content of elements for industrial development of dumps should be not less than 10 g/t. The total average content of identified rare earth metals is not less than 250 g/t. According to their physical, mechanical and chemical properties the mine rocks can well serve as a material for the construction industry. Thus, the use of mine rocks as coarse and fine aggregate for concrete, ceramic wall materials, astringent substances, base course, etc. has been proved. However, the industrial utilization of rocks is not carried out, only scattered instances are registered. It should also be noted that the development of waste dumps should be carried out from the point of their complete elimination, with subsequent transformation, for example, into leisure facilities, as this practice is successfully introduced in the developed countries of the world.

Thus, the waste dumps of the mining industry accumulated on the earth's surface should be viewed not as tails, but from the perspective of a powerful source of mineral and raw materials for the national economy. Taking into account scientific and technological progress the development of waste dumps in the coming years is quite capable of competing with traditional methods of mining when considering initial capital costs which are substantially higher.

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## **The Objects Causing Increased Ecological Danger In Ukraine**

Today, in the industry of Ukraine works more than 1000 objects, on which hazardous chemicals are saved or used in production in quantity over 200 thousand tons. Among the most dangerous are objects from production of explosive substances and utilization of ammunition; factories of chemical or oil refining industry. The majority of population of Ukraine lives in places, where chemical contamination is possible (Donetsk, Dnipro, Lugansk and Kharkiv).

Provision of the ecological safety is requiring re-equipment of industry by modern technologies and fulfillment of requirements of industrial safety.

Nuclear power is strategically important kind of power in Ukraine, today's contribution of it is about 50% of electric power, made in Ukraine. For solution of ecological and social problems, that occurred as a result of Chernobyl disaster, it's necessary to continue the following kinds of work:

- Increasing systems of radioecological monitoring on territories, which adjoined to radiation hazardous objects
- Improvement of land and water resources condition, by the way of polluted territories rehabilitation
- Technical re-equipment of industrial manufacture
- Prevention of industrial or domestic pollution of reservoirs, decreasing volume of throwing out harmful substances in atmosphere
- Involvement of new sources of financing, to prevent unusual situation of natural character
- Shaping and development of ecological net according to European example and increasing quantity of wildlife sanctuary.

Maintenance of complex recycling, utilization, export and burial of waste production, increasing supervision of performance of conditions of industrial safety with potential hazardous objects and finally technical re-equipment of manufacturing by modern resource- and energy-saving technologies are necessary for provision ecological safety on potential hazardous objects.

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### **Occupational Miners` Diseases**

The risk of developing an occupational disease is exceptionally high among miners. Hard coal industry occupies a leading position on the list of occupational disease incidence for all industries while the related morbidity rate is 6-7 times higher than in the whole economy. Mining is not a homogeneous industry since current miners work in formal and informal operations with numerous, and often multiple, airborne exposures. A further occupational health challenge facing primary care practitioners are ex-miners presenting with disease only after long latent period.

The most common cases of occupational diseases among miners include: pulmonary silicosis, an incurable disease that intensifies even after a miner retires and results in death among painful symptoms of respiratory failure; occupational hearing damage, an irreversible injury, worsening with age and depriving miners of the possibility to communicate with others, using speech. This results in acute degradation in the family and the society, denying the affected miner one of the basic values in life; vibration disease, an incurable, painful disorder of the blood vessels, nerves and joints of the upper limbs that deprives patients of sensation in the fingers whose precise movements are impossible. These incurable diseases are most common among hard coal miners. Other occupational diseases contained in the official record are mostly disorders that following appropriate treatment recede without leaving any permanent effects. Among the most characteristic factors related to the miners` occupation are: enormous accident risk; the highest risk of suffering permanent and significant health damage due to occupational diseases; extraordinary physical load resulting in hyper-stress; risk of suffering from the status of psycho-physical burn-out.

Occupational accidents occur twice as often among miners than among other workers, while fatal accidents occur three times as often. It is more probable to be killed working as a miner than participating in a traffic accident.

It is a disturbing fact that the issues relating to health and life protection against unfavorable effects of accidents or exposures connected with underground work receive far less attention from coal mine managers than economic aspects. The miners` lives are still sacrificed for the sake of the primacy of production. Enormous effort is to be made in order to markedly improve this situation. Work Safety and Hygiene inspectors as well as Occupational Medicine employees should obtain appropriate qualifications, however, it seems equally important that the awareness about health and safety issues should be raised among miners as well as all individuals responsible for proper operation of this industrial branch in Ukraine.

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## **Environmental Impact of the Motor Transport**

Issues of ecological safety of the motor transport are a part of ecological safety of the country. The importance and acuteness of this problem grows from year to year. The fact that release of pollutants in the atmosphere from vehicles increases on average by 3, 1% per a year causes alarm.

Now there are more than half a billion of cars in the world. Statistics shows that cars are owned by every tenth Ukrainian inhabitant and in big cities every fifth one has got the car. The main source of urban air pollution in Ukraine is traffic. Exhaust gases in the cities are especially dangerous because they pollute air at the level of 60-90 cm from the Earth's surface on average. It exceeds threshold limit values of harmful substances by 5-10 times.

Cars emit dioxide, carbon oxide, nitrogen oxide, formaldehyde, benzene, benzpyrene, soot (about 300 toxic substances in total) into the atmosphere. During road travel car releases lead impurities from gasoline polluting soils by this heavy metal. As aftereffect of asphalt tire scuffing rubber dust soils the atmosphere being unhealthy to humans.

The car weekly consumes as much oxygen as its four passengers breathe in per year. Car washing produces contaminated water containing engine oil causing waterbody pollution. Cars are a source of noise pollution as well.

It is necessary to reduce harmful impact of cars on the environment as much as possible. The internal combustion engine remains the main driving force of the car. In this regard the only step to a solution of power problem of the motor transport is to create alternative types of fuel. New fuel has to meet a lot of requirements: substantial raw material resources, low cost, maintenance of engine capacity, reduction of harmful substances emission, incorporation into current fuel supply system.

People know three main modernizations of cars which could become a solution to current ecological situation: hydrogen as fuel, electric vehicles and hybrid engines.

From the ecological point of view hydrogen is the most promising fuel for cars. Technically, the storage tank becomes the place where an exchange of electrons between molecules of two gases (hydrogen and oxygen) occurs. Therefore energy is emitted with water as its by-product. One kilogram of hydrogen contains three times as much energy as gasoline.

Current production cost of hydrogen is five dollars but its energy capacity equals to one liter of gasoline. Hydrogen is highly volatile (the filled stationary car with the idle engine constantly loses fuel), highly explosive (it is impossible to store the car in a garage or in a container), because of a small running time between gas stations it demands very volumetric petrol tank etc.



Another alternative solution is to use electric vehicles. They will considerably improve environmental situation. The electric vehicle doesn't consume carboniferous fuel and doesn't pollute air by the exhaust gases, works almost silently, isn't flammable and is easily controlled.

Disadvantages related to the high cost of the car, lack of infrastructure, small mileage between gas stations, heavy car mass in comparison with the car with DVS hamper full-scale use of electric vehicles.

Hybrid engines can be used everywhere as “intermediate” and commercially more justified option. For example the liquefied gas has all qualities of full-fledged fuel for internal combustion engines.

It is recognized around the world as cheap, environmentally friendly fuel outperforming gasoline in many properties. It is important that natural gas conversion procedures don't demand a car design changes allowing using both gasoline and gasing motor fuel.

To reduce pollution of atmospheric air planted borders are recommend. Dense green wall of deciduous trees with young plantation and bushes in the understory isolates transport corridor providing additional green area especially useful in urban and industrial zones.

The solution of environmental problems caused by motor transport demands considerable financial means which can't be raised by current manufacturers. Therefore it is necessary to set the economic leverage stimulating acquisition and operation of environmentally friendly vehicles, mobilization of funds for their production.

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### **Energy-saving and eco-friendly innovation for shipping**

Being one of the most ancient ways of transporting goods and resources, sea shipping serves approximately 80% of the world trade market and successfully competes with the other ways of delivering goods. However, with fuel prices rising, popularization of “eco way of life” and increasing pressure to make industry greener, shipping companies are now suggesting new technologies that could help them to reduce carbon emissions and fuel consumption in order to make the marine industry more efficient and eco-friendly. As a rule, there are two ways of improving any kind of technology: the simple and the complex one. The first represents solutions that, at the first sight, seem to be silly and inefficient, but more detailed analysis proves them to be successful. The second variant proposes expensive innovations. However, Air Lubrication Technology (ALT) is a mixture of these two ways: on the one hand, what can be simpler than applying the Archimedes force, especially in shipping, but on the other hand, there is another question how to use it correctly.

ALT work is based on the principle of trapping a layer of air bubbles beneath the ship's hull. A special system is used to generate air bubbles to pass them continuously beneath the ship's surface. Air bubble outlets are created at different locations along the bottom of the hull, symmetrically on both sides of the ship's center line. Also, the system has to control the amount of the lost air bubbles to ensure that a uniform layer of air bubbles is maintained beneath the ship and the desired effect is produced. So, the technology is simple and complex at the same time. The Mitsubishi corporation believes that ships equipped with this system will achieve an energy-saving effect of more than 10% and will offer reduction in CO<sub>2</sub> emission up to 35%. Silverstream Technologies company claims that ship's velocity will increase drastically.

However, several disadvantages create the barriers for the wide use of this technology. First of all, it is necessary to develop a reliable software controlling numerous microparameters. For instance, to obtain the desired effect, it is important that air bubbles are of uniform size and are evenly distributed beneath the hull surface, otherwise a change in the diameter would affect the bubble distribution beneath the hull. Another problem is that ALT can be used only for certain types of ships with flat bottoms and cannot be used in rough seas. Moreover, air cavities made for trapping the air bubbles could affect the handling and stability of the ship in the sea. Though ALS is realistic and perspective technology which can benefit both the economy and ecology, the problems mentioned require further research and improvement.

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### **Influence of Environmental Factors on Digestion Processes**

In a modern city, a person is exposed to environmental factors that largely determine the adverse changes in his health.

When extreme factors such as high ambient temperature, low atmospheric pressure, water pollution, various kinds of radiation and super-strong sound influence on the body, normal vital functions of the digestive tract are violated.

The water factor plays a big role in infecting geohelminths with the use of water containing eggs or larvae of these parasites. The helminth eggs can enter the human body if raw river water is used for drinking, as well as when washing fruits and vegetables. Worm infections can occur during bathing in a polluted water, which is especially characteristic of infection with a wide ribbon (diphyllobothriasis), since an aquatic environment is needed to develop its larval stages.

Contamination of drinking water causes primarily diseases of the digestive system and excretory system. These include gastritis, stomach ulcers, gallstone and urolithiasis, nephritis. Thus, with an increase in the content of chlorides and sulfates 3-5 times in water, the incidence of bile and urolithiasis are increasing, and an increase in vascular pathology is also observed. Pollution of water with organic and inorganic industrial wastes leads to damage of the liver, blood-forming apparatus and the deposition of calcium salts.

It is known that most of the polluting elements enter the reservoirs together with sewage from large enterprises. Water treatment is one of the ways to solve the problem of water pollution. Compliance with several simple rules will help to significantly reduce the level of water pollution:

- Use tap water sparingly.
- Avoid getting household waste into the sewer system.
- Remove nearby ponds and beaches from debris.
- Do not use synthetic fertilizers.
- Dispose of discarded trash.

Despite the fact that the problem of water pollution is reaching an alarming scale now, it is quite possible to solve it. For this, each person must make some efforts; take care of nature more carefully.

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### Tidal Power as a Component of Ecological Energy

Electricity production is one of the main criteria for mankind development. We can not live without heat and electrical energy. Production rate of organic fuel rises so fast that today there is a global problem of environmental pollution because of the fuel combustion products.

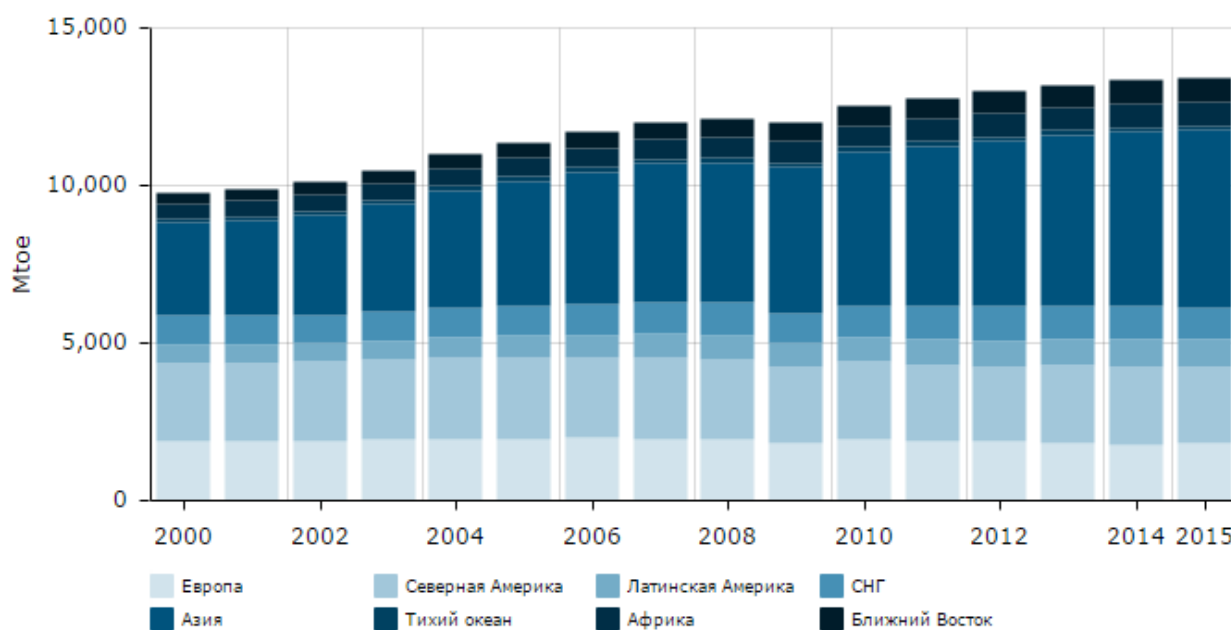


Figure 1. Energy consumption (source: <https://yearbook.enerdata.ru/>)

Solving this problem is a must. People are searching for and developing alternating energy sources. The energy of the sun and wind are being actively used now. However, the tidal energy, in spite of being perspective, remains underrated.

According to research carried out by the scientists [1] the total tidal power is estimated as 1 billion kW/h. Due to the Earth's rotation tidal power is inexhaustible, so it is classified as renewable power source. As a result, the tidal power station (TPS) may be built anywhere thanks to a number of rivers, seas and oceans on our planet.

Tidal energy has not been used to its full potential. Firstly, tidal power depends on the Earth-Moon system rather than Earth-Sun system and geography of coastline and the sea floor. Secondly, one must take into consideration that tidal energy depends on the time of the day. Tidal power is inherent in the moon day rather than the sun day. It leads to the issue of bringing the biggest and the smallest volume of energy. Thirdly, building TPS requires huge investment.

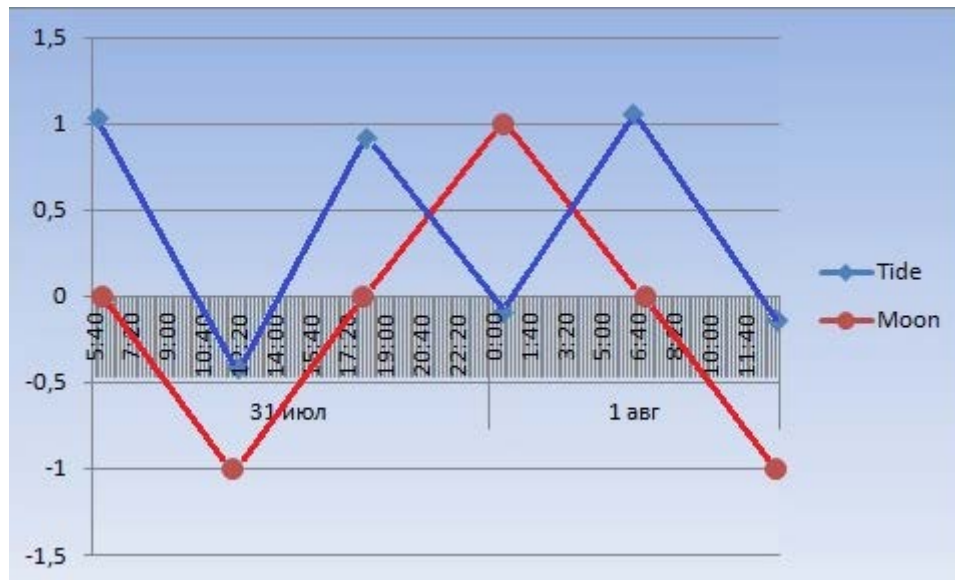


Figure 2. Tides in the moon day (source: <http://www.spacephys.ru/pochemu-proiskhodyat-prilivy>)

Here comes the question of advantages vs disadvantages of tidal energy.

Firstly, it brings no harm to environment. Secondly, tidal power station does not require any fuel. In this case, nature gives fuel. Thirdly, it is reliable because tides are not variables. The most important advantage is its highest efficiency compared to alternative energy sources. Efficiency of tidal power transformation is about 80%. For example, the efficiency of wind is about 30%, and the efficiency of the sun is about 5-15%. When compared with TPS efficiency, the difference is visible. The tidal power station on the banks of the English Channel is an example when the maximum production of electricity coincides with its maximum consumption. It produces about 544bil kW/h per year.

The conclusion can be made that tidal power is the most perspective renewable source of energy.

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## **Environmental Problems in Dniprovsk Region**

As for today, Dnipro is one of the most polluted cities in Ukraine. There is no proper environmental monitoring system in the city. Out of 39 types of air polluting substances are known, only 6-7 polluting indexes are being controlled within the small territory of the city now. Monitoring of soil pollution and land surface waters within the limits of the city, radiation and acoustic pollution monitoring, are not available.

The main sources of pollution are improper management of agriculture, nonferrous metallurgy. Atmosphere is polluted by dangerous waste products, like sulfur and nitrogen compounds. Also, big number of facilities in our city dump their waste in the Dnieper, and the amount of that dumping is really big. It includes 16% of all pollution in our country.

The situation with storage of pesticides, and chemicals for agricultural purposes is getting worse in Dniprovsk region. At the moment, there is more than 900 tons of chemicals and hazardous waste, that are contained on 178 storages, 90 of which are in terrible condition. Some waste is stored outdoors, without proper protection. That is dangerous for environment, especially in the periods of flood or heavy rain. Thus, for example, in some storages in Mezhevsk region, there is no roof, and containers are in insufficient condition. There are cases, when chemicals have been washed out by rain and melting snow. After that they get into the soil and water objects. Situation is not better at Hrekovataya station, that is located near Kryvyi Rih. There, containers are damaged by corrosion, and liquid waste starts to leak, and goes into the soil. That is the biggest storage base on the territory of Dniprovsk region, where almost 292 tons of chemicals are contained.

To sum up, I want to say, that the situation with ecology in our region is getting out of control. To solve this problem we need to build more purification plants, recycle waste products and chemicals and recultivate soil.

**Section 04. Russian language**

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Стоматология – одна из древнейших областей медицины. Очень давно врачи научились успешно удалять, лечить и даже протезировать зубы. И сейчас стоматология стоит на пороге серьезных изменений.

Оригинальную технологию разрабатывают специалисты Университета города Лидс (Великобритания). Как известно, кариес начинается из-за того, что кислота, выделяемая бактериями зубного налета, растворяет минеральные вещества. В результате в зубах образуются микроскопические поры, которые со временем увеличиваются в размерах. Понимание этого механизма позволило ученым создать состав, содержащий пептид, который при контакте со слюной преобразуется в гель. При нанесении на зуб лечебная жидкость проникает в микропоры, а затем загустевает, образуя своеобразный каркас, имитирующий белковую структуру растущего зуба. За несколько недель эта матрица заполняется кальцием, т.е. минеральная структура зуба восстанавливается изнутри. Ирландские ученые из города Белфаста исследуют возможности лечения кариеса при помощи озона. Суть технологии в том, что на поврежденный зуб накладывается небольшой пластиковый колпачок, в который поступает доза озона. Этот газ, известный своими антибактериальными свойствами, убивает микроорганизмы, способствует восстановлению поврежденного зуба. Учёные –микробиологи из Гамбурга (Германия) предложили лечить зубы искусственной плазмой. Такая плазма убивает бактерии, не задевая при этом здоровые ткани. Испытания новой технологии показали, что холодный плазменный луч очищает зуб от кариеса не хуже обычной бормашины, работая и в основной части зуба и под эмалью.

Вероятно, что скоро проблема лечения зубов вообще утратит актуальность. Зуб, поврежденный кариесом, проще будет выдернуть и вживить новый. В этом направлении сегодня экспериментируют сразу несколько исследовательских групп. Так, команда ученых из Токийского научного университета (Япония) научилась выращивать коренные зубы у лабораторных мышей из стволовых клеток. Спустя 36 дней после пересадки под местной анестезией новые зубы начинали прорезаться, а через 49 дней достигали нормального размера, чтобы можно было жевать пищу. По форме и размеру такие зубы практически не отличались от естественных. И хотя пока методика опробована только на лабораторных животных, нет причин считать, что она не сработает на людях. Если в ходе клинических испытаний ее эффективность будет доказана, это станет настоящей революцией в стоматологии, ведь врачам больше никогда не придется вживлять штифты, ставить коронки или вставные челюсти.

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### **Тампонажное устройство ТУ-4**

Устройство ТУ-4 предназначено для тампонажа скважин колонкового бурения быстросхватывающимися смесями (БСС) при поглощении промывочной жидкости. Создание плотного цементного кольца вокруг ствола скважины позволяет изолировать пути утечки промывочной жидкости сравнительно небольшим количеством тампонируемой смеси. С помощью ТУ-4 можно получать быстросхватывающиеся смеси с минимальными сроками схватывания непосредственно в зоне поглощения.

Отличительной особенностью тампонажного устройства ТУ-4 является то, что для проведения изоляционных работ используются недефицитные материалы и оборудование, находящиеся на буровой, и нет необходимости применять цементировочные агрегаты. Техническая характеристика: наружный диаметр составляет 89 мм, давление срабатывания 10-15 атм, длина 9725 мм, вес 110 кг. Остановимся на кратком описании и принципе работы тампонажного устройства.

ТУ-4 состоит из верхнего переходника, снабженного обратный клапаном, пробками, заглушкой, пружиной; двух колонковых труб, соединенных ниппелем, и двух внутренних трубок, соединенных муфтой; центратора; нижнего переходника со штуцером; трубок; штока; уплотнения; резинового шарика; пружины; шарового клапана; пружины и пробки.

Перед началом работы в буровой инструмент забрасывают шарик, который, двигаясь вместе с цементным раствором по колонне бурильных труб, достигает трубчатого штока и плотно садится в его гнездо, перекрывая отверстие штока. При этом давление в трубах повышается на 10-15 атмосфер.

Шток двигается вниз, сжимая при этом пружину, и открывает отверстия штуцеров, сообщающихся с контейнером, откуда начинает поступать в смеситель жидкий ускоритель. Ускоритель смешивается с цементным раствором, в результате чего получается быстросхватывающаяся смесь, которая через радиальные отверстия трубки поступает в скважину ниже устройства.

Наличие обратного шарового клапана в наконечнике трубки исключает возможность обратного перетока быстросхватывающаяся смеси в полость снаряда. Клапан служит для предотвращения создания вакуума в устройстве. Через этот клапан при спуске колонна бурильных труб заполняется промывочной жидкостью. После окончания закачивания цементного раствора его продавливают жидкостью, объем которой должен быть равен внутреннему объему спущенной колонны труб для предотвращения размыва и выдавливания быстросхватывающимися смесями из ствола скважины.



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### **Растительность в городе**

В настоящее время экологическая ситуация, складывающаяся в городах, является предметом особого внимания. С ростом города, развитием его, становится все более сложной проблема охраны окружающей среды, создания нормальных условий для жизни и деятельности человека. В последние десятилетия усилилось отрицательное влияние человека окружающую среду и, в частности, на зелёные насаждения. Проблема зелёных массивов – одна из важнейших экологических проблем в городе. Растительность, как система, восстанавливающая окружающую среду, обеспечивает комфортность условий проживания людей в городе, регулирует газовый состав воздуха и степень его загрязнённости, климатические характеристики городских территорий, снижает влияние шумового фактора и является источником эстетического отдыха людей; она имеет огромное значение для человека.

Основными элементами системы озеленения города являются парки, сады, озелененные территории жилых и промышленных районов, набережные, бульвары, скверы, защитные зоны.

Главными функциями зелёных насаждений являются: санитарно-гигиеническая, рекреационная, декоративно-художественная. Рассмотрим их детальнее. Санитарно-гигиеническая функция зелёных насаждений состоит прежде всего в очистке воздуха городов.

Растения не только выполняют свою биологическую и экологическую функцию; их разнообразие и красочность всегда «радует глаз» человека. В этом и заключается рекреационная функция зелёных насаждений.

Декоративно-художественную функцию зелёных насаждений можно подразделить на три большие группы: ландшафтообразующие, планировочные, организацию отдыха городского населения. Являясь органической частью планировочной структуры города, зелёные насаждения активно участвуют в создании ландшафтов жилых районов. Крупные зелёные массивы, расположенные между отдельными районами застройки, объединяют их, придают городу целостность и законченность.

Таким образом, зелёные насаждения имеют огромное значение в жизни человека. Одним из путей улучшения городской среды является озеленение, т.к. зелёные насаждения поглощают пыль и токсичные газы, участвуют в образовании гумуса почвы, обеспечивающего её плодородие.

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## **Проектирование доработки запасов газугольных шахт на рубеже 2020 г**

Согласно Парижского соглашения по «Глобальному Климату СО-21» большинство стран мира приняли путь продления развития теплоэнергетического сектора, в концепции улучшения экологических проблем, связанных с добычей угля и постепенным переходом к альтернативным возобновляемым источникам энергии.

Новые инженерные решения, последние достижения науки и техники, анализ производственного опыта, создают хорошую основу для создания прототипов-прообразов объектов горного производства, что является актуальным.

Дальнейшая разработка угольных пластов требует грамотного подхода к проектированию и планированию горных работ на новых горизонтах. Аналитические инженерные расчеты и решения позволяют оценить реальные запасы угля и газа, так необходимые для страны.

Базисом украинской энергетики на сегодня остается тандем атомной и тепловой генерации. Рассмотрим подробнее этот тандем. По данным источникам, выработка большей части электроэнергии ложится на плечи атомной генерации, эта выработка постоянна и не может регулироваться в зависимости от времен года и суток. Тепловая же генерация – это наиболее мобильный вид генерации, она может маневрировать: в зависимости от потребностей увеличивать или уменьшать выработку.

Проблема обеспечения Украины энергоресурсами может решаться путем дальнейшей отработки уже вскрытых и подготовленных пластов газугольных шахт. Сегодня надо комплексно смотреть на все проекты раскройки и подготовки новых выемочных полей для полноты выемки полезных ископаемых, как вскрыть, как и где в каких зонах расположить и провести капитальные выработки новых горизонтов, притом, с вариантами их наименьших затрат по проведению, водоотливу, поддержанию, транспорту, дегазации и вентиляции. Для этого выполняются суточные, недельные, месячные, квартальные «Программы» в электронном виде под Office Excel, согласно регламентируемым «Методикам, кодексам, процедурам, по проектированию и планированию горных работ на угольных предприятиях», представленных в бизнес-плане инвестора. Значит, рациональные варианты дальнейшего ведения горных работ должны приниматься коллегиально и четкой красной линией должны прослеживаться решения хозяйственника по сокращению затрат и снижения себестоимости добычи полезных ископаемых на всех стадиях и этапах проектирования.

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### Сельскохозяйственное загрязнение почвы

В современном мире сельскохозяйственное загрязнение почвы может характеризоваться как коррупция, которая пагубно влияет на сельскохозяйственные почвы. Химические или биозагрязнения прямо или косвенно отрицательно влияют на людей, животных и растений. Само же загрязнение сельскохозяйственного типа почвы будет зависеть от загрязнения, земельных характеристик, климатических условий и других факторов, такие как мгновенные – землетрясения, вулканы, или постепенные, например, как использование пестицидов и минеральных удобрений, а так же и повторное использование сточных вод для орошения земли. Стоит отметить тот факт, что на почву не менее пагубно влияют загрязняющие химические вещества, которые используют фермеры для уничтожения бактериальных, грибковых и вирусных микроорганизмов.

Можно выделить множество источников загрязнения почвы. *Прямой источник.* Это означает, что конкретный известный источник может измерить количество загрязняющих веществ, поступающих из него, например, промышленных отходов и канализационных стоков. *Косвенный источник.* Это источники, которые трудно измерить количество загрязняющих веществ, в результате их распространения на больших площадях, такие как загрязнение от химических удобрений и пестицидов, распространённых поверхностными водами с сельскохозяйственных угодий.

На наш взгляд, самым эффективным и действующим методом является осознание у всего населения о вреде загрязнения окружающей среды. А наиболее важным способом сохранить почву от загрязнения можно достичь лишь за счет повышения образовательного и культурного уровня. Научить людей, как правильно использовать землю так, чтобы она стала кормилицей человечества, что сохранение сельскохозяйственной почвы является коллективной ответственностью, которая требует полной ответственности человечества. Целесообразно время от времени давать земле отдыхать, не занимая участки овощными культурами в течение одного сезона. Раньше в сельском хозяйстве часто применялась практика «чистого пара», когда земля оставалась свободной от каких бы то ни было посевов. Но в современном мире сельского хозяйства чаще всего для улучшения состава почвы применяют химические соединения. Восстановление плодородия почвы – длительный процесс, требующий от фермеров значительных усилий. Но обязательно нужно верить – со временем почва обязательно отблагодарит каждого, кто ухаживает за ней с любовью и терпением.

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### **Этапы развития мировой экономической системы**

Мировая экономика – это совокупность национальных хозяйств, для которых характерно расширения международных связей. Эти связи подчиняются объективным законам рыночной экономики. В результате формируется мировая экономическая система.

Становление современной мировой экономики обусловлено закономерностями развития производства и международного разделения труда, превращение мировой торговли в один из важнейших факторов экономического роста, необходимостью удовлетворения возрастающих потребностей в самых разнообразных товарах и услугах.

Основу мировой экономики образует производство материальных и духовных благ, их распределение, обмен и потребление. Каждая из этих фаз мирового воспроизводственного **процесса** воздействует на функционирование мировой хозяйственной системы.

Мировой экономика на протяжении своего развития прошла 3 этапа. Рассмотрим их детальнее.

Первый этап – это 20-30-е годы XX века, когда был кризис в развитии мирового хозяйства. Он проявлялся в общей неустойчивости экономических связей, дезинтеграции хозяйства западных стран.

Второй этап наступил после Второй мировой войны. Образовалось социально-экономическое хозяйство, которое развивалась на иной социально-экономической основе: государству принадлежали промышленность, сфера услуг. Сельское хозяйство велось коллективно. Существовала централизованная система управления в рамках национальных хозяйств. Координация внешнеэкономических отношений, которая была основана на классовом подходе, сузила сферу прежде единого всемирного хозяйства, но не разрушила всемирный рынок.

Последнее десятилетие XX века можно считать началом нового периода в развитии мирового хозяйства. По сравнению с прежним периодом возросла степень формирования международных, а в ряде случаев – планетарных производительных сил, усилилось экономическое взаимодействие и взаимозависимость. Возрастание хозяйственной целостности мира обеспечивается новыми параметрами социально-экономического развития.

Значит, мировая экономика прошла в своем развитии три этапа становления, что обусловлено закономерностями развития производства и международного разделения труда, превращение мировой торговли в один из важнейших факторов экономического роста, необходимостью удовлетворения возрастающих потребностей в самых разнообразных товарах и услугах.

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**Бурение скважин в процессе геолого-разведочных работ**

Среди различных видов исследований в процессе поисково-разведочных работ значительное место занимает бурение скважин. Особое внимание уделяется исследованиям в процессе или по результатам бурения: проводят опробование скважин, отбор керна при бурении и его изучение, отбор проб нефти, газа и воды и их изучение, и конечно снятие каротажных диаграмм.

Основное внимание уделяется скважинам, которые бурятся при разработке месторождений. Интерес представляют скважины, которые бурят в процессе поисково-разведочных работ на нефть и газ.

Отличие скважин, которые бурят в процессе поисково-разведочных работ, от скважин, которые бурят при разработке месторождений, в основном сводятся к различию в глубине скважин и объеме исследований проводимых при бурении. Скважины бывают опорные, параметрические, поисковые.

**Опорные скважины** бурятся на слабоизученных территориях для изучения геологического строения и перспектив нефтегазоносности. По данным опорных скважин выявляются крупные структурные элементы и разрез земной коры, изучаются геологическая история и условия возможного нефтегазообразования и нефтегазонакопления. Опорные скважины закладываются, как правило, до фундамента или до технической возможной глубины и в благоприятных структурных условиях (на сводах и других поднятиях).

**Параметрические скважины** бурятся в целях изучения геологического строения, перспектив нефтегазоносности, определения параметров физических свойств пластов для более эффективной интерпретации геофизических исследований. Они закладываются на локальных поднятиях по профилям для регионального изучения крупных структурных элементов. Глубина параметрических скважин, также как и опорных выбирается до фундамента или, в случае невозможности его достижения, до технической возможной.

**Поисковые скважины** бурятся с целью открытия скоплений нефти и газа на подготовленной геологическими и геофизическими методами площади. Поисковыми считаются все скважины, пробуренные на поисковой площади до получения промышленного притока нефти или газа. Разрезы поисковых скважин детально изучаются.

Глубина поисковых скважин соответствует глубине залегания самого нижнего перспективного горизонта и в зависимости от геологического строения разных регионов и с учетом технических условий бурения колеблется от 1,5-2 до 4,5-5,5 км и более.

Значит, среди различных видов исследований в процессе поисково-разведочных работ значительное место уделяется бурению скважин.

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### **Технология цементирования при бурении скважин**

На современном уровне технология цементирования при бурении скважин включает систему отработанных норм и правил выполнения цементировочных работ, а также типовые схемы организации процесса цементирования.

Технология цементирования должна обеспечить: цементирование предусмотренного интервала по всей его протяженности; полное замещение промывочной жидкости тампонажным раствором в пределах цементируемого интервала; предохранение тампонажного раствора от попадания в него промывочной жидкости; получение цементного камня с необходимыми механическими свойствами, с высокой стойкостью и низкой проницаемостью; обеспечение хорошего сцепления цементного камня с обсадной колонной и стенками скважины.

При разработке технологии подбирают тампонажный материал, рецептуру и свойства тампонажного раствора, определяют режим закачки и продавки тампонажного раствора, суммарную продолжительность цементировочных работ и промежутков времени, необходимый для формирования в затрубном пространстве цементного камня с достаточной прочностью, позволяющей возобновить работы в скважине.

В практике бурения скважин широко используют одноцикловое цементирование с двумя пробками, двухступенчатое (двухцикловое) цементирование а также способ обратного цементирования.

Способ одноциклового цементирования с двумя пробками был предложен в 1905 г. бакинским инженером А. А. Богушевским. Двухступенчатое цементирование представляет собой раздельное последовательное цементирование двух интервалов в стволе скважины (нижнего и верхнего). Этот способ по сравнению с предыдущим имеет ряд преимуществ.

Способ обратного цементирования широкого промышленного применения пока не получил в силу ряда технических трудностей.

Значит, в каждом конкретном случае технологию цементирования уточняют в зависимости от конструкции и состояния ствола скважины, протяженности цементируемого интервала, горно-геологических условий, уровня оснащённости техническими средствами и опыта проведения цементировочных работ в данном районе.

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### Использование ботокса в медицине

Ботокс известен всем как препарат, который используется для предупреждения морщин. Помимо антивозрастного средства это еще препарат, который обладает рядом полезных свойств, которые делают его желанным не только в косметологии, но и в медицине. В медицинскую практику Ботокс вошел как лекарство для лечения блефароспазма (болезненный спазм век). Врачи отметили, что кожа вокруг введения препарата разгладилась и избавилась от морщин. Тогда-то данный “побочный эффект” и начали применять в косметологии с целью разглаживания мимических морщин.

Основу препарата составляет *ботулинический токсин типа А*, который получают из бактерий *Clostridium botulinum*. В природе эти микроорганизмы живут в анаэробных (без кислорода) условиях, например, в консервных банках с едой, и при попадании в организм вызывают тяжелое и опасное инфекционное заболевание – ботулизм.

За счет способности этого препарата расслаблять мышцы, в которые он вводится, Ботокс показал хорошую эффективность в лечении многих заболеваний, проявляющихся судорогами, перенапряжением мышц. В неврологии Ботокс применяют при некоторых формах головной боли, мигренях, различных видах дистонии. Также его используют для облегчения последствий инсультов, черепно-мозговых травм, симптомов детского церебрального паралича, рассеянного склероза и других патологий головного и спинного мозга.

Ботокс помогает снять периодически возникающие болезненные спазмы мускулов шеи, плечевого пояса, спины (в том числе после травм и при повышенных спортивных нагрузках). Есть положительный эффект от применения этого препарата при заикании, расстройствах мочеиспускания, запорах. В офтальмологии Ботокс применяют для лечения косоглазия, блефароспазма. Установлено, что инъекции Ботокса ускоряют процессы заживления ран, препятствуют возникновению патологических рубцов.

Очень эффективен Ботокс в лечении гипергидроза (повышенной потливости). Однократное его введение в подмышечную впадину обеспечивает эффект на срок около 6 месяцев.

В настоящее время другие способности токсина ботулизма активно изучаются с целью последующего применения в медицинских и эстетических целях. У Ботокса, несомненно, большое будущее, поскольку он уже доказал свою эффективность во многих областях, а кроме того, его веским положительным качеством является долговременное действие и обратимость.

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### Нефть на страже здоровья

Издавна известны различные способы улучшения здоровья и красоты. Люди принимают молочные ванны, посещают купели с эфирными маслами или морской солью, а в азербайджанском городе Нафталан принимают ванны с нефтью, лечебные свойства которой являются незаменимыми для лечения целого ряда болезней.

Лечебные свойства нефти человечество знает давно. Легенда рассказывает, что ещё в 6 веке до нашей эры купеческий караван оставил больного верблюда умирать возле мутного озера, однако, вернувшись, увидели животное живым и здоровым. Оказалось, что озеро наполнено целебной жидкостью. Слава о необычном водоёме разнеслась далеко за пределы страны. Уже в 13 веке им восхищался знаменитый путешественник Марко Поло. Он рассказывал, что нефтью лечат верблюдов и людей с заболеваниями кожи.

Современное использование этого специфического лекарства началось в конце 19 века в Российской Империи, но наиболее популярным курорт в Нафталане стал в 80-е гг. XX века. Ежегодно поправить своё здоровье приезжали сюда более 70 тысяч человек.

Процедура лечения нафталаном требует соблюдения строгих правил. Как и все виды нефти, нафталан токсичен, хотя и не горит. Его применение должно происходить только под наблюдением медицинского работника, поскольку при несоблюдении правил могут возникнуть осложнения в работе сердечно-сосудистой системы или привести к аллергическим реакциям. Характерный запах нефти может сделать процедуру некомфортной, однако не уменьшит лечебного эффекта.

Нафталан благотворно влияет на организм человека. Он является биологически активным веществом, которое убирает воспалительные процессы, расширяет сосуды и обладает обезболивающим эффектом. С помощью удивительного вещества лечат многие заболевания. Широко он используется в косметологии и дерматологии, поскольку справляется с себореей, фурункулёзом, экземой и даже с псориазом.

Лечение нафталановыми ваннами снимает боль при различных неврологических болезнях и проблемах опорно-двигательного аппарата: остеохондрозе, артрите, полиартрите, ревматизмах и т.п. Пациенты так быстро излечиваются, что различные приспособления для ходьбы (палки, костыли) им становятся ненужными. Таким образом, лечение столь необычным средством дает хорошие результаты.



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### **Проблемы охраны окружающей среды**

Вопросы экологической безопасности являются в настоящее время одной из основных задач, которые необходимо преодолеть в любой сфере геологической эксплуатации. Чтобы успешно решать вопросы экологической безопасности необходимо глубоко изучить экосистему. Именно поэтому участие в программе изучения окружающей среды имеет большое значение.

Использование морских месторождений нефти выглядит одной из основных причин загрязнения окружающей водной и наземной среды. Загрязнение нефтью и нефтепродуктами создают значительную токсичную нагрузку на воду, почву, воздух, биологические объекты, нанося большой ущерб народному хозяйству и природной среде. Поэтому сегодня актуальной является проблема загрязнения окружающей среды нефтью и нефтепродуктами.

Цель моего выступления состоит в том, чтобы обратить внимание людей на проблему загрязнения окружающей среды нефтью и нефтепродуктами, показать вредное влияние нефти на живые организмы. Если мы будем знать, что происходит в результате загрязнения окружающей среды нефтью и нефтепродуктами, и как нефть влияет на живые организмы, то мы сможем предотвратить катастрофы и разработать механизм защиты организмов от загрязнения нефтью.

Нефть – это маслянистая, горючая жидкость со сложным составом. Нефть легче воды и почти нерастворима в ней. Мировые разведанные запасы нефти оцениваются в 90-95 млрд. т, а прогнозные запасы составляют 250-270 млрд.т. Из нефти вырабатываются всевозможные виды жидкого топлива, смазочные и специальные масла, парафин, технический углерод, битумы, нефтяные коксы. Применение нефтяного сырья для различных синтезов высвобождает большое количество пищевых продуктов, которые ранее расходовались на технические цели. Источники загрязнения нефтью следующие: при добыче нефти; аварии при транспортировке; при переработке; при работе автотранспорта; естественное загрязнение.

Наиболее яркими и общеизвестными случаями печальных последствий воздействия нефти и нефтепродуктов на окружающую природную среду, являются крупнейшие катастрофы мира.

Таким образом, особую роль в использовании ресурсов биосферы играют знания экосистемы. Имея эти знания, мы формируем в себе бережное отношение к окружающей среде, создаём базу для правильного понимания проблем экологии. Человек – это часть природы, законы которой он должен уважать.

Омонова Сурайё

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### **Векторы развития туризма в Узбекистане**

Узбекистан – удивительная страна, где тесно переплетаются национальные традиции и современное динамичное развитие. Ежегодно множество туристов с различных уголков мира приезжают в Узбекистан, чтобы почувствовать эту атмосферу. В первую очередь, их интересуют редкие архитектурные и исторические достопримечательности, поэтому знакомство с этой страной, как правило, начинается с таких городов как Самарканд, Хива, Бухара, Шахрисабз. Расположенные здесь мавзолеи, мечети и памятники завораживают уникальной красотой и величием.

После посещения архитектурных и исторических достопримечательностей маршрут туристов протекает по местным кафе и ресторанам, где гурманов ждёт яркая и разнообразная узбекская кухня. Плов, манты, лагман, ханум, нарын – всё это подаётся аппетитно, в горячем виде и с необыкновенным ароматом.

Керамическая посуда также может приятно удивить гостей Узбекистана, которые не смогут не отметить красоту и изящество блюдов-ляганов, пиал и кос, ваз хумы и чайников, горшков, росписных игрушек. Также огромной популярностью пользуется узбекский текстиль, а сама индустрия моды продвигается в ногу со временем. В основном, одежда шьётся из национального хан-атласа, адраса, натурального шёлка и украшается разнообразными вышивками и золотыми нитями.

В последние годы всё больше количество туристов желают проводить отпуск вдали от городской суеты и асфальтной пыли. Поэтому развитие экотуризма в Узбекистане становится одной из первоочередных задач в этой сфере. Великолепные скалы, ручьи, адыры, а главное, свежий воздух – всё это помогает уединиться и насладиться живописной природой. Магистральным постулатом экотуризма является стремление сохранить природные ресурсы, их уникальность, чтобы наслаждаться подлинностью и «натуральностью» подобных мест. В Узбекистане таких объектов огромное количество: пустыни, оазисы и степи в Навоийской и Бухарской областях; горные пейзажи в Кашкадарьинской и Сурхандарьинской областях; горы с пещерами, ледники и озёра Ташкентской области и Ферганской долины; ландшафты Кызылкум; крупные водоемы с богатой фауной в Каракалпакистане, Сырдарьинской и Джизакской областях.

Не меньшей популярностью пользуются горнолыжные курорты в Чимгане и Бельдерсае, являясь излюбленным местом для почитателей экстремального вида спорта.

Таким образом, туристические векторы развития туризма в Узбекистане достаточно разнообразные и динамичные.

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### **Рослинний і тваринний світ Таджикистану. Природа Таджикистану**

Гірський рельєф і різноманітність клімату визначають багатство і своєрідність форм рослинного світу Таджикистану. Тут є "представники" півночі і півдня, заходу і сходу. Серед рослин поряд з місцевими видами – саксаулом, фісташкою, арчою, полинями і солянками – зустрічаються середземноморські рослини – понтійський глід, волоський горіх, інжир, платан.

Таджикистан – один із центрів початкового поширення таких культурних злаків, як жито, пшениця. У горах і долинах налічується понад 5 тис. видів рослин. Особливістю флори є перевага трав, напівчагарників, чагарників степів, пустель і високогір'їв. Є тут і ліси, але вони займають лише 4% території республіки. Деревна рослинність не утворює в горах Таджикистану суцільних масивів. Рослини Таджикистану добре пристосувалися до пустельних та гірських умов існування і розселяються по "висотних поверхах". Листя деяких пустельних рослин дрібні, з голками, сприяють меншому випаровуванню, коріння довгі, розгалужені дозволяють діставати воду з глибоких шарів землі. Рослини районів, що відрізняються великою сухістю і суворістю клімату, мають подушкоподібну форму. Вона допомагає їм зберігати вологу і тепло.

Тваринний світ Таджикистану різноманітний. Тварини, що мешкають тут, пристосувалися до особливостей рельєфу та клімату. Тут водяться представники типових північних тварин – це бурий ведмідь, заєць, борсук, горностай, ховрах, сибірський козерог. Багато середньоазіатських і індо-тибетських видів – це азіатський леопард, гімалайський улар, тибетський вовк. З індійських видів тварин тут зустрічаються дикобраз, ластівка, іволга, з афганських видів – муфлон, шпак-майна, кобра, варан, москїти, терміти. Природні умови сприяють розвитку ссавців: хижаків, копитних (70 видів) і плазунів (46 видів). Дуже багато різних комах (понад 10 тис. видів), понад 350 видів птахів. Відмінна риса Таджикистану – порівняльна бідність іхтіофауни (близько 40 видів), що пояснюється відносною молодістю річок і озер. Деякі тварини, а саме: кабан, заєць, лисиця, борсук, гірська куріпка, індійська качка мають промислове значення. Нерегульований промисел призвів до різкого скорочення чисельності багатьох тварин. Леопард, сніжний барс (ірбіс), джейран, винторогий козел (мархур) тепер зустрічаються дуже рідко. Щоб зберегти цінних і рідкісних звірів, в республіці на них заборонено полювання і створені заповідники. Великі роботи ведуться по збагачення тваринного світу. У Таджикистані акліматизований хутровий звір нутрія. Іхтіологи розводять в заплавах озер форелевого окуня, а в гірських річках – місцеві види форелі.

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### **Защита материнства и детства в Узбекистане**

Охрана материнства и детства рассматривается как одно из приоритетных направлений политики любого государства. Вместе с тем, охрана материнства и детства является ключевой областью международного сотрудничества государств. Значимость данного направления государственной политики и интернационального внимания обусловлена тем, что от состояния здоровья женщин и детей зависит уровень репродуктивности населения, развитие трудового, интеллектуального потенциала государства, физическое, интеллектуальное и нравственное развитие подрастающего поколения.

Эффективность международного сотрудничества в сфере охраны материнства и детства зависит от наличия соответствующей правовой базы и механизмов. На сегодняшний день в данной сфере сформирована такая правовая база, которая даёт возможность говорить об эффективном регулировании этой важной составляющей любой страны.

Правовая база в сфере охраны материнства начала формироваться еще до создания ООН. С образованием Организации Объединённых наций данный вопрос вышел на значительно более высокий, глобальный уровень. Так, в 1948 году Всеобщая декларация прав человека закрепила, что материнство и младенчество дают право на особое попечение и помощь.

Поэтому в Узбекистане последовательно осуществляются планомерные реформы в сфере охраны материнства и детства. Законодательные основы охраны материнства и детства закреплены в Конституции, Трудовом кодексе, Семейном кодексе, а также в ряде законов, в частности, Законе «Об охране здоровья», Законе «О гарантиях прав ребенка» и иных законодательных актах. Важным шагом стало принятие Закона «О гарантиях прав ребенка».

В результате мер, которые принимаются в последнее время, в стране растет средняя продолжительность жизни, снижаются показатели смертности среди матерей и детей, обеспечивается стабильность санитарно-эпидемиологической ситуации, профилактика и эффективное лечение заболеваний. В рамках реформирования системы здравоохранения сформирована национальная модель охраны здоровья матерей и детей, высокую эффективность которой отмечают эксперты из разных стран.

Таким образом, результаты комплексных мероприятий по защите прав матери и ребёнка в Узбекистане закладывают основу стабильности страны, они направлены на сохранение семейных традиций, что благотворно влияет на развитие общества в целом.

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## **Современные глобальные экологические проблемы и пути их решения**

Под термином экология, впервые употребленным в 1866 г. немецким биологом Э.Геккелем, понимается наука о взаимоотношениях живых организмов с окружающей средой. Ученый полагал, что новая наука будет заниматься только взаимоотношениями животных и растений со средой их обитания. Этот термин прочно вошел в нашу жизнь в 70-х годах XX столетия. Однако сегодня о проблемах экологии мы фактически говорим уже как о социальной экологии – науке, изучающей проблемы взаимодействия общества и окружающей среды.

Сегодня экологическую ситуацию в мире можно охарактеризовать как близкую к критической. Среди глобальных экологических проблем можно отметить 7, которые рассмотрим детальнее.

Какие же необходимы меры для решения глобальных экологических проблем! Прежде всего следует перейти от потребительско-технократического подхода к природе к поиску гармонии с нею. Для этого, в частности, необходим целый ряд целенаправленных мер по экологизации производства: природосберегающие технологии, обязательная экологическая экспертиза новых проектов, создание безотходных технологий замкнутого цикла.

Другой мерой, направленной на улучшение взаимоотношений человека и природы, является разумное самоограничение в расходовании природных ресурсов, особенно – энергетических источников (нефть, уголь), имеющих для жизни человечества важнейшее значение. Однако ощутимый эффект все перечисленные и другие меры могут дать лишь при условии объединения усилий всех стран для спасения природы. Первая попытка такого международного объединения была осуществлена еще в начале XX века в Швейцарии с участием представителей 18 крупнейших государств мира.

Ныне межгосударственные формы сотрудничества выходят на качественно новый уровень. Активизировалась деятельность общественных организаций по защите окружающей среды – «Гринпис», Зеленый Крест и Зеленый Полумесяц, которые в настоящее время разрабатывает программу по решению проблемы «озоновых дыр» в атмосфере Земли. Однако следует признать, что международное сотрудничество в экологической сфере еще весьма далеко от своего совершенства.

Еще одним направлением для решения экологической проблемы, и может быть в перспективе – самым важным из всех, является формирование в обществе экологического сознания, понимания людьми природы как другого живого существа, над которым нельзя властвовать без ущерба для него и себя.

Усманова Юлдуз

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### Влияние окружающей среды на здоровье человека

Человек является частью природы. Если изменяется окружающая его природа, то и изменяется здоровье человека. Здоровье человека напрямую зависит от окружающей среды. Поэтому целью нашего исследования является выявление особенностей влияния тех или иных факторов на человеческое здоровье. Среди них можно выделить основные: воду, воздух, почву, шум, общество.

Грязный **воздух** действует в основном на дыхательные пути, вследствие чего появляется астма, бронхит, снижается работоспособность и выносливость человека, ухудшается его самочувствие и общее состояние: человек чувствует слабость, у него болит голова, нередко наблюдается тошнота.

Загрязнение питьевой **воды** также негативно влияет на здоровье человека и во многих случаях приводит к их гибели. Особому загрязнению подвергаются реки, озера, и другие водоёмы.

Загрязнение **почвы** отходами сельского хозяйства и промышленности, а также отходами от жилых домов также негативно сказывается на человеческом здоровье. Химические и органические (содержащие вредоносные бактерии) отходы через почву проникают в грунтовые воды.

Постоянное влияние городского **шума** снижает слуховую чувствительность человека, вызывает ряд неприятных последствий – от звона в ушах, головной боли, повышения усталости, снижения иммунитета до развития гипертонии, болезней сердца и других недугов.

Особое влияние на здоровье и благополучие жизни человека оказывает **общество**. Духовному равновесию, и, следовательно, эмоциональному спокойствию способствует гармоничное взаимодействие человека с членами общества, отсутствие конфликтов и недоразумений, которые негативно отражаются на эмоциональном состоянии человека.

Ключевую роль в здоровье человека играет его **семья**. Человеку легче соблюдать традиции и правила здорового способа жизни, когда она также обоюдно соблюдаются и другими членами семьи: режим сна, работы, отдыха, правильного здорового питания, занятия спортом и другие. Все это может снизить риск появления многих заболеваний.

Таким образом, различные факторы загрязнения окружающей среды негативно влияют на здоровье человека. В то же время к загрязнению воздуха, воды, почвы, сильному шуму приводит деятельность человека. Человеку необходимо уделять больше внимания защите окружающей среды, сократив количество вредных выбросов результатов своей деятельности в воздух, водоёмы, почву. Только так можно сохранить своё здоровье.

Расулова Феруза Голиб кизи

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### **Качество питьевой воды и её влияние здоровье человека**

Человеческому организму для нормального функционирования необходима вода. Без пищи человек может прожить до месяца, в то время как без воды – только несколько дней.

Вода регулирует температуру тела, служит смазкой, которая облегчает работу суставов, но в большей мере вода необходима для выполнения своей наиважнейшей роли – построения клеток. Если человек сокращает потребление воды или ухудшается качество питьевой воды, то это приводит к ухудшению состояния всего организма и может привести к различным заболеваниям.

Свидетельством важности воды в организме служит тот факт, что её содержание в различных органах составляет от 70 до 90%: мозг, мышцы и сердце на 75% состоят из воды, в лёгких, печени и крови – больше 85%. Поэтому нам очень важно получать чистую воду со сбалансированным минеральным составом.

Суточная норма чистой питьевой воды для взрослого человека составляет около 2 литров, что позволяет организму поддерживать водный баланс, защитить организм от стресса. Она разжижает кровь, оказывает благотворный эффект в борьбе с усталостью, помогает сердечно-сосудистой системе.

Учитывая такое большое значение воды для жизнедеятельности человека, очень важно, чтобы она была высокого качества, не содержала вредных веществ, поскольку они мгновенно разносятся по всему организму. Болезни, которые возникают из-за грязной воды, вызывают ухудшение состояния здоровья у большого количества людей. Как правило, такие проблемы наиболее часто встречаются в малоразвитых странах, что приводит к массовой смертности от таких болезней, как брюшной тиф, дизентерия, холера.

Через некачественную воду передаются инфекционная желтуха, водная лихорадка, полиомиелит. Часто вода становится источником заражения человека животными паразитами – глистами.

Качество воды также определяют и по наличию в ней химических соединений. Наличие в ней солей тяжёлых металлов и других веществ может привести к структурным изменениям организма человека, а также становится причиной различных заболеваний желудочно-кишечного тракта, аллергическим реакциям, онкологическим болезням.

Таким образом, использование чистой питьевой воды является необходимостью, так как качество воды – это показатель здоровья всего человечества, и сегодня эта проблема является общечеловеческой.

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### **Понятие "менеджмент" в строительстве**

Менеджмент – это совокупность принципов, методов, средств и форм управления производством. Процесс управления производством заключается в поддержании устойчивого режима функционирования системы путём принятия и реализации решений.

Управление по существу является непрерывным процессом принятия тех или иных решений, имеющих содержательную сторону и организационно-технологическую. Технологический процесс управления представляет собой ряд последовательных операций-этапов, кульминационным пунктом которых является принятие решений.

Совокупность этапов принятия решений образует понятие цикла управления, в котором насчитывается шесть этапов.

Решение базируется на опыте, является продуктом человеческой деятельности и поэтому несёт в себе субъективное начало. Поэтому решение сочетает технический подход и элементы творчества, искусства.

Управленческое решение должно отвечать ряду требований:

- должно быть своевременным, то есть не запаздывать и не опережать событий;
- полномочным, то есть приниматься руководителем в пределах его прав;
- решение должно быть конструктивным, то есть учитывать ситуацию и интересы системы в целом;
- ясным по форме, лаконичным и не противоречивым.

По степени охвата объекта – общие, частные и локальные (свойственные данному месту).

По временному признаку – стратегические (дальняя перспектива) и тактические (оперативные), связанные с текущей деятельностью.

По функциональному признаку – в соответствии с видами управленческой деятельности (учёт, планирование, оперативное управление и т.д.)

И, наконец, по степени полноты информации различают решения, принимаемые в условиях определённости, в условиях риска (результаты различны, могут быть и нежелательные) и в условиях неопределённости (вероятность исхода неизвестна).

Таким образом, эффективность работы аппарата управления во многом зависит от выбора способа действия для достижения целей управления.



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### **Лечение змеиным ядом**

Парацельсу принадлежат слова: «Всё есть яд, всё есть лекарство – всё зависит от дозы». Змея у многих ассоциируется со смертельным укусом. Однако издавна известно, что змеиный яд способен не только убить, но и имеет способность излечивать многие болезни и приносить пользу здоровью. Много столетий змея является символом врачебного искусства.

Змея относится к самым ядовитым на нашей планете существам. Её яда достаточно, чтобы убить человека, однако, разбавленный в нужных пропорциях, он становится эффективным лекарственным средством.

Змеиные яды бывают разные. Яд, полученный от разных видов змей, обладает различными лечебными свойствами. Так, яд кобры может снимать боли и спазмы, причём отсутствие в его составе морфия не ведёт к привыканию, в отличие от наркотических обезболивающих средств. Препараты, полученные из ядов гюрзы и индийской гадюки, позволяют крови быстро сворачиваться, что делает эти лекарства незаменимыми в лечении гемофилии. Яд малайской гадюки действует на кровь прямо противоположно – она на три недели теряет способность к сворачиванию, чем помогает лечить тромбозы.

Змеиный яд очень сложен по химическому составу и до конца еще не изучен. Известно, что он содержит белки, ферменты и фракции веществ, которые участвуют в образовании крови. Яды помогают лечить бронхиальную астму, межрёберную невралгию и целый ряд заболеваний опорно-двигательного аппарата: остеохондроз, полиартрит, последствия травм. Мазь на основе змеиного яда обладает обезболивающим и противовоспалительным эффектом.

Ядотерапию используют также для лечения сердечно-сосудистых заболеваний, бронхиальной астмы, а также желудочно-кишечного тракта. Она помогает при восстановительных процедурах после перенесённого инсульта, облегчает состояние больных сахарным диабетом.

Змеиный яд стал популярен в современной косметологии: кремы с добавлением яда помогают избавиться от морщин и вернуть коже упругость и эластичность, поскольку при нанесении крема, в состав которого входит яд змей, расслабляются нервные импульсы на мышцах.

Новинкой SPA-индустрии является рептилиотерапия, когда проводится массаж с использованием 6 видов змей, что позволяет глубоко расслабить мышцы. Таким образом, использование змеиного яда в лечебных целях позволяет быстро и эффективно бороться с различными недугами.

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### **Ливанский кедр: лечебные свойства**

Ливанский кедр известен с давних времён. Кедр является символом Ливана, который и сегодня привлекает внимание путешественников. Раньше весь Ливан был покрыт лесами из ливанских кедров, поэтому удивительное дерево изображено на гербе страны.

Называют ливанский кедр Арз Ар-раб (Кедр Бога), он поражает своей высотой, толщиной и неповторимым запахом смолы, который наполняет окрестности Бейрута. Некоторые деревья живут по 1,5-2 тысячи лет. В далёком прошлом кедровые леса покрывали значительные территории, однако ценность древесины привела к тому, что насаждения этого ценного дерева стали исчезать. Сохранились лишь несколько участков с кедровыми насаждениями, поэтому сейчас он занесён в Международную Красную книгу.

В давние времена название «кедр» относилось только к кедру ливанскому, он считался священным деревом, из ароматной древесины которого строили храмы (храм Соломона в Иерусалиме, врата храмов в Древнем Египте). Египтяне использовали смолу кедра для бальзамирования, поскольку считали его отличным антисептиком и отмечали его свойство предотвращать гниение.

Кедр издревле считался символом здоровья и долголетия, его лечебные свойства очень высоки. В состав белков кедрового масла входит 19 аминокислот, из которых 70% являются уникальными. В масле содержится витамин А, который способствует росту человеческого организма, комплекс витаминов В и D оказывает нормализующее действие на деятельность нервной системы, улучшает состав крови и воздействует на кожу. Кедровое масло богато витамином Е, который восстанавливает репродуктивную функцию. Жирные кислоты, которыми богат ливанский кедр, снижает холестерин в крови.

Однако самым уникальным веществом, входящим в состав кедрового масла, учёные XXI века назвали цитамин – биологически активное вещество, которое включает физиологические концентрации минеральных веществ, микроэлементов и витаминов в легко усваиваемой форме. По оценкам Всемирной Организации Здравоохранения эти препараты названы лекарством XXI века, которые замедляют процессы старения и увеличивают продолжительность жизни. Восстановление организма происходит на уровне ДНК. Таким образом, лечебные свойства ливанского кедра уникальны. Человек изобретает новые способы лечения многих болезней, в основе которых – вещества, полученные из этого священного дерева.

# **Розширюючи обрії**

**Збірник тез дванадцятого міжнародного форуму студентів  
і молодих учених**

**20 – 21 квітня 2017 р.**

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