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NEW CONCEPT OF SUSTAINABILITY AND SCANDINAVIAN COUNTRIES' SUSTAINABLE DEVELOPMENT POLICY

Sustainability has been a burning issue for all times. As an abstract concept it is relative to all spheres of human development and existence. This notion is of primary importance for everyone: scientists, politicians and common citizens. However, the stakeholders are still looking for the reliable ways to reach sustainability in practice.

The following set of events can be mentioned as milestones in understanding sustainability. In the early 1970s J. Forrester and Donella H. Meadows created the background for its modern vision. J. Forrester was the first who raised and empirically proved a concern that the economic growth is limited by natural resources availability thus, from his point of view, the environmental factor can't be ignored in the modern economy [1]. A little bit later active discussions were focused on the paper "The Limits to Growth: a Report for the Club of Rome's Project on the Predicament of Mankind" written and presented by Donella H. Meadows [2], where the new vision of growth in a strong connection with the environmental factor was presented.

These papers tuned the attention of the world society to the new issue: how to use natural resources effectively to be less harmful to the environment and to extend the limits of growth. It was recognized that unlimited growth and sustainable economic development could be reached due to such factors as human knowledge, innovative technologies and resources substitutes.

The first and the most important step towards the new concept of sustainability formation was done at the United Nations Organization conference on the Human Environment at Stockholm in 1972 [3]. It was stated that sustainable development should be based on harmonious development of three pillars: economic, social and environmental. Almost two decades later, in 1992, the contemporary concept of sustainability was eventually formulated at the United Nations Organization conference on Environment and Development and, thus, recognized by the world community [4]. It was agreed that "human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature" [4]. This is the assumption we operate with in this research.

It is also verse to mention the outcome document for Rio+20 United Nations Conference on Sustainable Development hold in Rio de Janeiro in 2012, entitled "The Future We Want" [5], where "a firm foundation for social, economic and environmental well-being is provided" as UN Secretary-General Ban Ki-moon said [6]. The document calls for a wide range of actions to go forward to the sustainable development of the world society.

The case for our research into the nature of a sustainable development was the pioneering experience of the Scandinavian countries who were the first to change the policy direction according to the ideas that appeared as early as in 1974.

The study is to answer the question: how effective has the Scandinavian countries' sustainable development policy based on the new concept of sustainability been?

In our essay we will first cover the main guidelines of their policy and dwell on its specific features. Then we will attempt to prove this policy effectiveness by demonstrating the dynamics of key indicators in three main domains: economy, society and environment. We will conclude with comparing the sustainable development policy results with the relevant indicators in three main domains of European countries development to prove the effectiveness of this policy to be followed and disseminated.

To ensure the reliability of our research we have regarded the following official documents: the Declaration of the United Nations Conference on the Human Environment (1972) [3], The Nordic Environmental protection Convention (1974) [7], Rio Declaration on Environment and Development (1992) [4], Press Release of Rio+20 United Nations Conference on Sustainable Development [6]; figures from The Global Competitiveness Report 2012-2013 (2012 World Economic Forum) [8], Human Development Report 2013 (the United Nations Development Programme) [9], indicators devised by Yale University [10] and data of The World Bank [11-14].

So let's begin with an overall snapshot. Nowadays Scandinavian countries are the prime example of countries with socially oriented economy based on the integrity of market economy and strict system of state regulation. But their phenomena we see in the fact, that they were the first among European countries who recognized "the urgent need to protect and improve the environment" [7] to reach sustainability in development and convinced their will in the frame of the Nordic Environmental Protection Convention commitment [7]. This particular decision determined precisely their leading position in the coming future in comparison with the world society which realized the necessity of caring attitude to the environment almost twenty years later [4].

The basic peculiarities of their policy are [15]:

growing state governance role;

high social responsibility of business;

strict fiscal policy (multilevel system of tax rates, which depends on the level of individual income revenue);

protection and support of domestic producers by subsidizing such spheres as (agriculture, industry, energy, shipbuilding, health service, ecology and science);

foreign direct investments "filtering";

strict government control over environment protection;

power engineering development (based on energy conservation technologies);

financing of research efforts to develop new energy conservative technologies;

emphasis on energy conservative and improved extraction technologies;

protection of forest and water resources.

Thus the economic policy of Nordic countries is focused on the following directions: decreasing of anthropological burden on the environment, the control of ecological standards maintenance in activity of enterprises and increasing the level of energy saving due to the new innovative technologies introduction [15].

So let us now look at how this policy results in basic indicators of three main domains of countries sustainable development.

We have analyzed figures in dynamic from the starting point of Scandinavian Countries' Sustainable Development Policy (from 1974 and till now). Moreover, we compared them with the world and the European Union average to show the visible progress and the effectiveness of the policy.

In economy we have taken into consideration as a key indicator GDP per capita [11]. At Figure 1 we can observe steady growth of this indicator with insignificant fluctuation from 1974 until 2008. During that period GDP increased significantly, but the most impressive rates of its growth were demonstrated since 2001 till 2008. At the time of economic crises the indicator naturally dropped, but after 2009 we again observe its upturn. It gets clear from table 1 that GDP per capita of Scandinavian countries has been exceeding the EU's and the world average the whole investigating period.

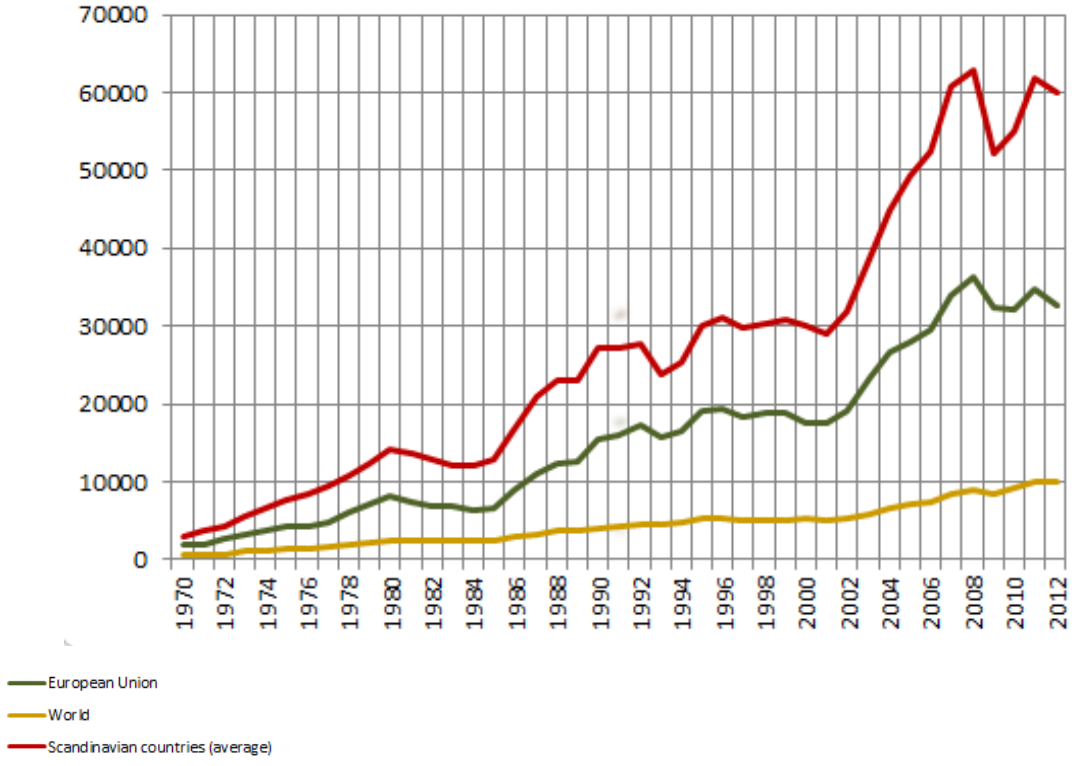

Fig. 1. Gross Domestic Product per capita (current US $) [11]

In order to regard social sphere we have used such indicator as government consumption expenditure, in particular, its share in GDP (Figure 2) [12], which are used as social transfers in kind (value of goods and services that are supplied to households without any transformation (pension, social protection, health protection etc.).

Comparing the indicators of Scandinavian countries with the world and the EU' average, we determined the following tendencies: the indicators of Sweden and Denmark were exceeding the EU' and the world average during whole period, Finland managed to climb higher than the EU' rates in the middle of 80th and after that it held up its position stable, Iceland left the EU far behind roughly in 1992 and began strengthening its position submitting an upward trend the following next years. Norway demonstrated the level higher than the EU' only from the end of 80th till the 2004.

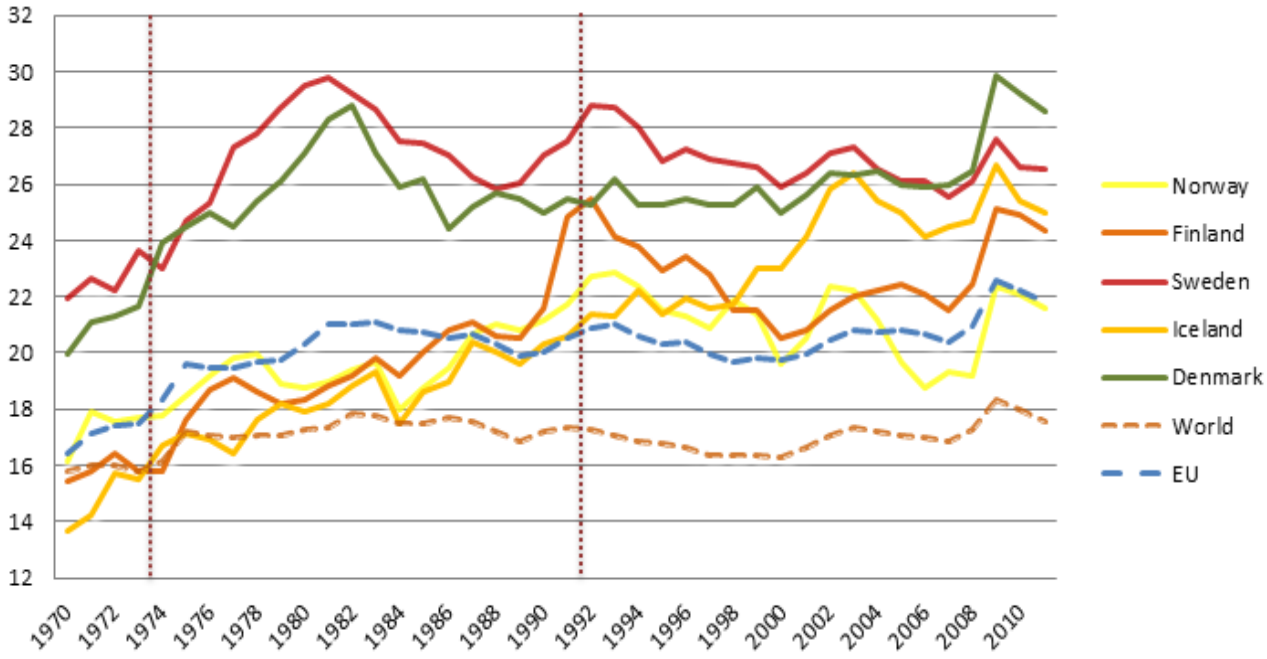

Fig. 2. Share of government consumption expenditure in GDP, % [12]

Then we marked at the graph the most important events in the new concept of sustainability evolution: the Nordic Environmental Protection Convention admitting (1974) [7], which determined the priorities of Scandinavian countries' sustainable development policy, the Rio Declaration on Environment and Development adopting (1992) [4], due to which the significance of the global environment was recognized by the world community.

The hidden point of Scandinavian countries' success w see in their immediate reaction on the new vision of sustainability appeared in the early 1970s. As soon as the world society got the recipe how to extend the limits of growth the Nordic countries changed the priorities of their policy and switched their attention to the environment protection.

As it was mentioned above, one of the main priorities in Scandinavian countries' policy is a creation of an appropriate financial basis for research and technology development. The diagram on Figure 3 reveals research and development expenditure of European countries in percent of GDP in 2010 [13]. As we see in 2010 four Scandinavian countries exceeded not only the EU' and the world average rates, but also the target of EU for 2020.

As a rule, research efforts stimulate alternative and nuclear energy use. The graph on Figure 4 [14] shows superiority of almost all Scandinavian countries comparatively to the world and the EU's level during the whole regarded period. Ireland occupies the leading position demonstrating the highest percent of alternative and nuclear energy in total energy use (84%), the third and the fourth places belong to Sweden and Norway correspondingly, Finland stepped to the sixth position in rating. The first three Scandinavian countries exceeded the European Union average more then two times and more then four times the world average. Such impressive results confirm, that the priorities in Nordic countries policy are right and its instruments and methods seem to be the most effective ones.

Thus, having all domains regarded we may converge basic results in conclusive table (Table 1). We do this as follows: we will look at Scandinavian countries in world rankings using aggregate indexes which include previously mentioned indicators. They are the Global Competitiveness Index reflecting the economic

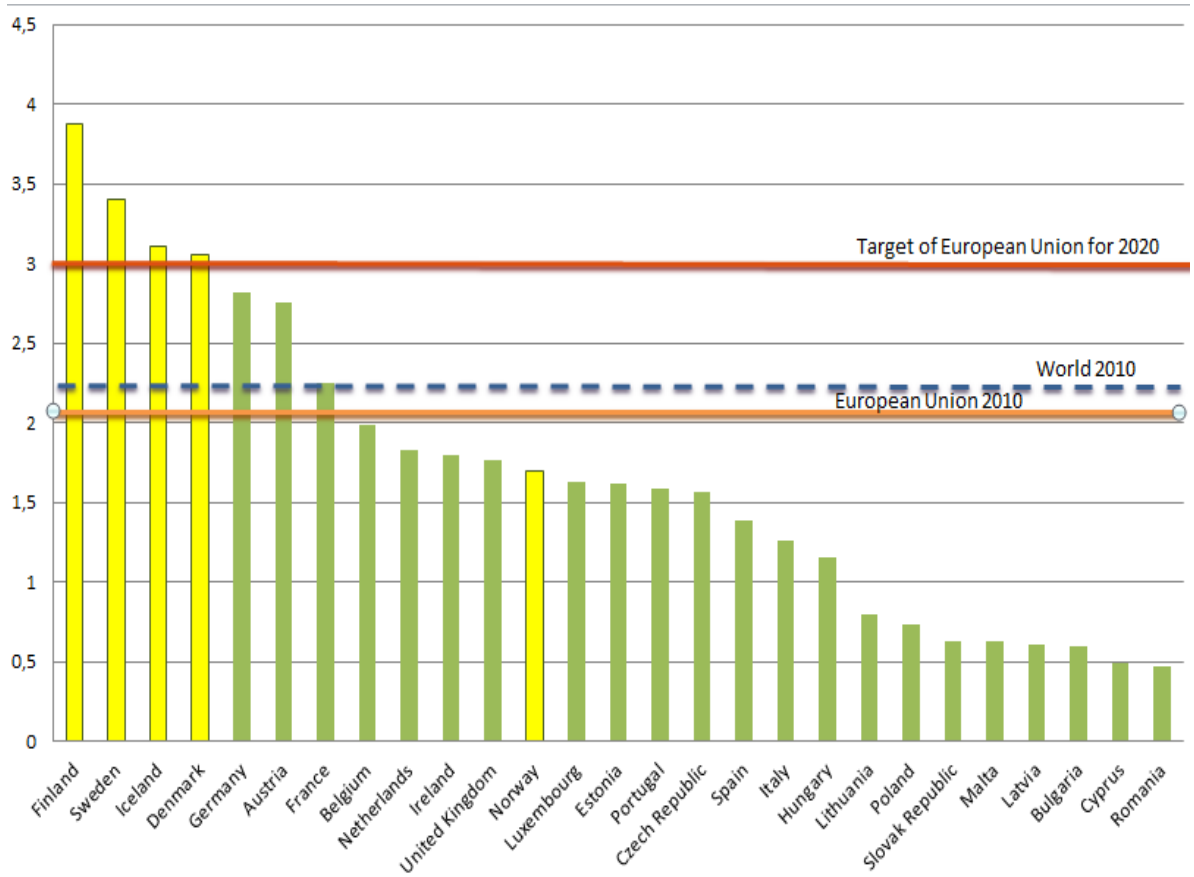

Fig. 3. Research and Development Expenditure in 2010, % of GDP [13]

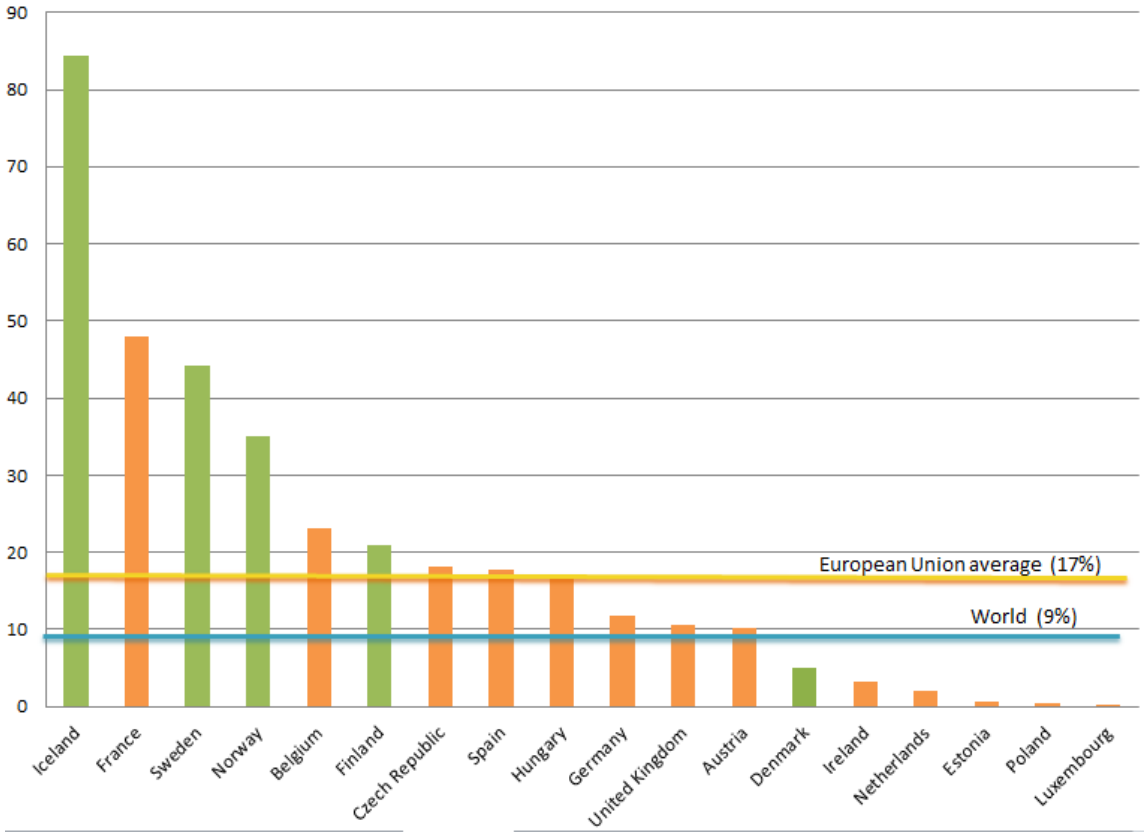

Fig. 4. Alternative and Nuclear Energy (% of total energy use) 2011 [14]

achievements [8, p.14-15], the Environmental Performance Index showing the current state of the environment [10] and the Human Development Index presenting quality of human being [9, p. 144-147]. They were regarded in recent years.

Being among thirty leaders Scandinavian countries demonstrate strong positions in the world economy. Finland and Sweden are the third and the fourth country correspondingly in the Global Competitiveness Index ranking, Norway is the third country in the Environmental Performance Index ranking and the top one in Human Development Index ranking, Sweden remains on the seventh position in the last ranking. Thus, Norway, Sweden and Finland seem to be the most successful Nordic countries and the world ones as well.

Table 1

The Scandinavian Countries in the World Ratings [8, p.14-15; 9, p. 144-145; 10]

	Economy		Environmental sphere		Social sphere	
	Global Competitiveness Index*		Environmental Perfomance Index**		Human Development Index***	
	2012-2013		2012		2012	
Country	Score	Rank	Score	Rank	Score	Rank
Finland	5,55	3	64,44	19	0,892	21
Sweden	5,53	4	68,82	9	0,916	7
Denmark	5,29	12	63,61	21	0,955	15
Norway	5,27	15	69,92	3	0,955	1
Iceland	4,74	30	66,28	13	0,906	13
Ukraine	4,14	73	46,31	102	0,74	78

Sources:
* Global Comtetiveness Report 2012-2013 (2012 World Economic Forum)
** Human Development Report 2013 (the United Nations Development Programme)
*** Yale University

So nowadays we may observe obvious results of Scandinavian countries policy proved by the certain figures. The hidden point of their success lied in the immediate reaction on the new concept of sustainability appeared in the early 1970s. They were the first who switched the priorities of their policy on decreasing of anthropological burden on the environment, the control of ecological standards maintenance in enterprises activity and increasing the level of energy saving due to the new innovative technologies introduction, thus implementing in practice the new vision of human life in harmony with nature, while the other countries were still in the process of discussing pros and cons of this concept. The right priorities chosen at the right time let Scandinavian countries demonstrate today strong positions in the world economy. Being among thirty leaders in the world ratings (Global Competitiveness Index Rating, Human Development Index Rating and Environmental Performance Index Rating) they are far ahead of the most European countries in their socially-oriented economic model, research efforts, advanced energy conservation technologies, innovations and environment protection attitude. Thus, we have enough arguments to announce effective results of Scandinavian Countries' Sustainable Development Policy and recommend its basic principles as a roadmap for other countries willing to be responsible for their "economically, socially and environmentally sustainable future" [5]. Definitely the application of this approach in the frame on Ukrainian economic policy or some other countries' policy deserves deeper and more detailed investigation and could be the topic of my further research.

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Хоменко Я. В., Хоменко І. А. Нова концепція сталості та політика сталого розвитку країн Скандинавії

В даній роботі була здійснена спроба отримати відповідь на запитання: наскільки є ефективною політика сталого розвитку країн Скандинавії, що заснована на новому баченні сталості? В першій частині роботи було опрацьовано еволюцію концепції сталості, надалі було визначено ключові особливості сучасної політики країн північної Європи, яка зорієнтована переважно на реалізацію наступних напрямів: зменшення антропогенного навантаження на навколишнє середовище, контроль за дотриманням екологічних стандартів в діяльності підприємств та підвищення рівня енергозбереження за рахунок впровадження нових інноваційних технологій. Основна частина роботи присвячена визначенню результатів політики. З цією метою базові економічні та соціальні показники було проаналізовано в динаміці з початку реалізації політики сталого розвитку країн Скандинавії (з 1974 р. по теперішній час). Окрім цього, щоб продемонструвати наочний прогрес та ефективність політики, проводилось їх порівняння з середнім рівнем в світі та серед країн Європейського Союзу. Перебуваючи серед тридцяти країн лідерів світових рейтингів (індекс глобальної конкурентоспроможності, індекс людського розвитку та індекс ставлення до навколишнього середовища), скандинавські країни займають сьогодні значні позиції в світовій економіці, таким чином підтверджуючи вірність обраних пріоритетів розвитку.

Ключові слова: сталий розвиток, політика сталого розвитку, сталість, країни скандинавії, енергозбереження.

Хоменко Я. В., Хоменко И. А. Новая концепция устойчивости и политика устойчивого развития стран Скандинавии

В данной работе предпринята попытка нахождения ответа на вопрос: насколько эффективна политика устойчивого развития стран Скандинавии, основанная на новом видении устойчивости? В первой части работы проводится обзор эволюции концепции устойчивости, далее определяются ключевые особенности современной политики северных стран, которая в большей степени ориентирована на реализацию следующих направлений: уменьшение антропогенной нагрузки на окружающую среду, контроль соблюдения экологических стандартов в деятельности предприятий и повышение уровня энергосбережения за счет использования новых инновационных технологий. Основная часть работы посвящена определению результатов политики. С этой целью базовые экономические и социальные показатели анализируются в динамике с начала реализации политики устойчивого развития стран Скандинавии (с 1974 г. по нынешнее время). Кроме этого, чтобы продемонстрировать видимый прогресс и эффективность политики, проводится их сравнение с мировым средним уровнем и средним уровнем стран Европейского Союза. Будучи в тридцатке лидеров мировых рейтингов (индекс глобальной конкурентоспособности, индекс человеческого развития и индекс отношения к окружающей среде) скандинавские страны занимают сегодня серьезные позиции в мировой экономике, тем самым подтверждая правильность приоритетов их развития.

Ключевые слова: устойчивое развитие, политика устойчивого развития, устойчивость, страны скандинавии, энергозбережение.

Khomenko Y. V., Khomenko I. A. New Concept of Sustainability and Scandinavian Countries' Sustainable Development Policy

This paper is to answer the question: how effective has the Scandinavian countries' sustainable development policy based on the new concept of sustainability been? At its first part it is given a brief overview of sustainability concept new vision evolution. Then the basic peculiarities of modern Nordic countries' policy are determined, which is mostly focused on the following directions: decreasing of anthropological burden on the environment, the control of ecological standards maintenance in enterprises activity and increasing the level of energy saving due to the new innovative technologies introduction. The key part of the research is devoted to the policy results justification. For this purpose the basic indicators of economic and social development are analyzed in dynamic from the starting point of Scandinavian Countries' Sustainable Development Policy (from 1974 and till now). Moreover, they are compared with the world and the European Union average to show the visible progress and the effectiveness of the policy. Being among thirty leaders in the world ratings (Global Competitiveness Index Rating, Human Development Index Rating and Environmental Performance Index Rating) Scandinavian countries demonstrate today strong positions in the world economy and confirm in a better way the right priorities of their policy.

Keywords: sustainable development, policy of sustainable development, sustainability, scandinavien countries, energy saving.

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