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Х А Б А Р Ш Ы С Ы

ВЕСТНИК

РОО «НАЦИОНАЛЬНОЙ
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В 2016 году для развития и улучшения качества жизни казахстанцев был создан частный Благотворительный фонд «Халык». За годы своей деятельности на реализацию благотворительных проектов в областях образования и науки, социальной защиты, культуры, здравоохранения и спорта, Фонд выделил более 45 миллиардов тенге.

Особое внимание Благотворительный фонд «Халык» уделяет образовательным программам, считая это направление одним из ключевых в своей деятельности. Оказывая поддержку отечественному образованию, Фонд вносит свой посильный вклад в развитие качественного образования в Казахстане. Тем самым способствуя росту числа людей, способных менять жизнь в стране к лучшему – профессионалов в различных сферах, потенциальных лидеров и «великих умов». Одной из значимых инициатив фонда «Халык» в образовательной сфере стал проект *Ozgeris powered by Halyk Fund* – первый в стране бизнес-инкубатор для учащихся 9-11 классов, который помогает развивать необходимые в современном мире предпринимательские навыки. Так, на содействие малому бизнесу школьников было выделено более 200 грантов. Для поддержки талантливых и мотивированных детей Фонд неоднократно выделял гранты на обучение в Международной школе «Мирас» и в *Astana IT University*, а также помог казахстанским школьникам принять участие в престижном конкурсе «*USTEM Robotics*» в США. Авторские работы в рамках проекта «Тәлімгер», которому Фонд оказал поддержку, легли в основу учебной программы, учебников и учебно-методических книг по предмету «Основы предпринимательства и бизнеса», преподаваемого в 10-11 классах казахстанских школ и колледжей.

Помимо помощи школьникам, учащимся колледжей и студентам Фонд считает важным внести свой вклад в повышение квалификации педагогов, совершенствование их знаний и навыков, поскольку именно они являются проводниками знаний будущих поколений казахстанцев. При поддержке Фонда «Халык» в южной столице был организован ежегодный городской конкурс педагогов «*Almaty Digital Ustaz*».

Важной инициативой стал реализуемый проект по обучению основам финансовой грамотности преподавателей из восьми областей Казахстана, что должно оказать существенное влияние на воспитание финансовой грамотности и предпринимательского мышления у нового поколения граждан страны.

Необходимую помощь Фонд «Халык» оказывает и тем, кто особенно остро в ней нуждается. В рамках социальной защиты населения активно проводится работа по поддержке детей, оставшихся без родителей, детей и взрослых из социально уязвимых слоев населения, людей с ограниченными

возможностями, а также обеспечению нуждающихся социальным жильем, строительству социально важных объектов, таких как детские сады, детские площадки и физкультурно-оздоровительные комплексы.

В копилку добрых дел Фонда «Халык» можно добавить оказание помощи детскому спорту, куда относится поддержка в развитии детского футбола и карате в нашей стране. Жизненно важную помощь Благотворительный фонд «Халык» оказал нашим соотечественникам во время недавней пандемии COVID-19. Тогда, в разгар тяжелой борьбы с коронавирусной инфекцией Фонд выделил свыше 11 миллиардов тенге на приобретение необходимого медицинского оборудования и дорогостоящих медицинских препаратов, автомобилей скорой медицинской помощи и средств защиты, адресную материальную помощь социально уязвимым слоям населения и денежные выплаты медицинским работникам.

В 2023 году наряду с другими проектами, нацеленными на повышение благосостояния казахстанских граждан Фонд решил уделить особое внимание науке, поскольку она является частью общественной культуры, а уровень ее развития определяет уровень развития государства.

Поддержка Фондом выпуска журналов Национальной Академии наук Республики Казахстан, которые входят в международные фонды Scopus и WoS и в которых публикуются статьи отечественных ученых, докторантов и магистрантов, а также научных сотрудников высших учебных заведений и научно-исследовательских институтов нашей страны является не менее значимым вкладом Фонда в развитие казахстанского общества.

С уважением, Благотворительный Фонд «Халык»!

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© **L.T. Akilzhanova^{1*}, A.T. Zhanseitov², A.B. Myrzhykbayeva³,
S.B. Baibossynov², 2023**

¹Karaganda University of Kazpotrebooyuz, Karaganda, Kazakhstan;

²Academy of Public Administration under the President of the Republic of
Kazakhstan, Karaganda, Kazakhstan;

³Buketov Karaganda University, Karaganda, Kazakhstan.

E-mail: 77783100@mail.ru

FINANCIAL STATE PLANNING FOR STABILITY OF THE NATIONAL ECONOMY AND SUSTAINABLE DEVELOPMENT

Akilzhanova Lyazzat Tokenovna — PhD Doctoral student, Karaganda University of Kazpotrebooyuz,
Karaganda, Kazakhstan

E-mail: 77783100@mail.ru. ORCID: 0000-0002-6326-6565;

Zhanseitov Azamat Toleshovich — Master of science, Academy of Public Administration under the
President of the Republic of Kazakhstan, Karaganda, Kazakhstan

E-mail: azamat.zhanseitov@icloud.com. ORCID: 0000-0001-9495-0530;

Myrzhykbayeva Ainur Beisenovna — Associate professor, Karaganda Buketov University,
Karaganda, Kazakhstan

E-mail: ainurm2000@mail.ru. ORCID: 0000-0002-7183-7911;

Baibossynov Serikzhan Berikbayevich — Professor, Academy of Public Administration under the
President of the Republic of Kazakhstan, Karaganda, Karaganda, Kazakhstan

E-mail: s.baibossynov@apa.kz. ORCID: 0000-0002-3881-454X.

Abstract. The financing strategy is at the heart of a comprehensive national financing system. It brings together existing policy and institutional structures to support the financing of national development strategies and plans. However, the problem is that there is no single financial strategy that covers all specialized and related areas of public administration. That is why this topic is relevant for the implementation of the state strategy of the Government of the Republic of Kazakhstan at all levels. The research methodology is based on general scientific methods of classification, logical and comparative analysis, synthesis, generalization. The research is based on the dialectical method, which consists in the study of phenomena in their constant development and interrelation, which ensures the integrity, comprehensiveness and reliability of the work. An integrated approach is to study financing strategies within the framework of the work of international organizations. The key hypothesis is that it is possible to develop a universal instruction for all countries for the most effective financial planning that implements the Sustainable

Development Goals. Main conclusions: it is necessary to take into account all cycles of national development plans; it is extremely important to interact on an inclusive basis with the legislature, the private sector, civil society, development partners and other relevant stakeholders; periodically audit all goals, perhaps some of them may already be irrelevant; take into account the technical possibilities of implementing the strategy at all levels. Officials of national and local authorities are the main audience of this material. The process of developing a financing strategy also opens up opportunities for improved coordination and interaction between ministries and departments; and can be a guide for non-governmental stakeholders, especially development partners, in coordinating and coordinating their support.

Keywords: financial planning, international organizations, national economy, state strategy

© Л.Т. Акильжанова^{1*}, А.Т. Жансейтов², А.Б. Мыржыкбаева³,
С.Б. Байбосынов², 2023

¹Қазтұтынуодағы Қарағанды университеті, Қарағанды, Қазақстан;

²Қазақстан Республикасы Президентінің жанындағы Мемлекеттік басқару академиясы;

³Е.А. Бөкетов атындағы Қарағанды университеті, Қарағанды, Қазақстан.

E-mail: 77783100@mail.ru

ҰЛТТЫҚ ЭКОНОМИКАНЫҢ ТҰРАҚТЫЛЫҒЫ МЕН ОРНЫҚТЫ ДАМУЫН ҚАМТАМАСЫЗ ЕТЕТІН ҚАРЖЫЛЫҚ МЕМЛЕКЕТТІК ЖОСПАРЛАУ

Ақылжанова Ләззат Төкенқызы — PhD Докторанты. Қазтұтынуодағы Қарағанды университеті, Қарағанды, Қазақстан

E-mail: 77783100@mail.ru. ORCID: 0000-0002-6326-6565;

Жансейтов Азамат Толешевич — ғылым магистрі, Қазақстан Республикасы Президентінің жанындағы Мемлекеттік басқару академиясы, Қарағанды, Қазақстан

E-mail: azamat.zhansaitov@icloud.com. ORCID: 0000-0001-9495-0530;

Мыржыкбаева Айнура Бейсеновна — доцент, Е.А. Бөкетов атындағы Қарағанды университеті, Қарағанды, Қазақстан

E-mail: ainurm2000@mail.ru. ORCID: 0000-0002-7183-7911;

Байбосынов Серикжан Берикбаевич — профессор, Қазақстан Республикасы Президентінің жанындағы Мемлекеттік басқару академиясы, Қарағанды, Қазақстан

E-mail: s.baibossynov@apa.kz. ORCID: 0000-0002-3881-454X.

Аннотация. Қаржыландыру стратегиясы кешенді ұлттық қаржыландыру жүйесінің негізінде жатыр. Ол ұлттық стратегиялар мен даму жоспарларын қаржыландыруды қолдау үшін қолданыстағы саяси және институционалдық құрылымдарды біріктіреді. Алайда, мәселе мемлекеттік басқарудың барлық мамандандырылған және сабақтас салаларын қамтитын бірыңғай қаржылық стратегияның жоқтығында. Сондықтан бұл тақырып Қазақстан Республикасы Үкіметінің барлық деңгейдегі мемлекеттік стратегиясын іске асыру үшін өзекті. Зерттеу әдістемесі жіктеудің, логикалық және салыстырмалы

талдаудың, синтездің, жалпылаудың жалпы ғылыми әдістеріне негізделген. Зерттеудің негізінде диалектикалық әдіс жатыр, ол құбылыстарды олардың тұрақты дамуы мен өзара байланысын зерттеу болып табылады, бұл жұмыстың тұтастығын, жан-жақтылығын және сенімділігін қамтамасыз етеді. Кешенді тәсіл халықаралық ұйымдардың жұмысы шеңберінде қаржыландыру стратегияларын зерттеуден тұрады. Негізгі гипотеза-тұрақты даму мақсаттарын жүзеге асыратын ең тиімді қаржылық жоспарлау үшін барлық елдер үшін әмбебап Нұсқаулық әзірлеуге болады. Негізгі қорытындылар: барлығын ескеру қажет ұлттық даму жоспарларының циклдары; заң шығарушы органмен, жеке сектормен, азаматтық қоғаммен, даму серіктестерімен және басқа да тиісті мүдделі тараптармен инклюзивті негізде өзара әрекеттесу өте маңызды; барлық мақсаттарға мезгіл-мезгіл тексеру жүргізу, мүмкін олардың кейбіреулері онсыз да маңызды болмауы мүмкін; стратегияны барлық деңгейлерде іске асырудың техникалық мүмкіндіктерін ескеру. Ұлттық және жергілікті өзін-өзі басқару органдарының шенеуніктері осы материалдың негізгі аудиториясы болып табылады. Қаржыландыру стратегиясын әзірлеу процесі сонымен қатар министрліктер мен ведомстволар арасындағы үйлестіру мен өзара әрекеттесуді жақсартуға мүмкіндік береді; және мемлекеттік емес мүдделі тараптар үшін, әсіресе Даму серіктестері үшін оларды қолдауды үйлестіру мен үйлестіруде нұсқаулық бола алады.

Түйін сөздер: қаржылық жоспарлау, халықаралық ұйымдар, Ұлттық экономика, мемлекеттік стратегия

© Л.Т. Ақылжанова^{1*}, А.Т. Жансейтов², А.Б. Мыржыкбаева³,
С.Б. Байбосынов², 2023

¹Карагандинский экономический университет Казпотребсоюза,
Караганда, Казахстан;

²Академия государственного управления при Президенте
Республики Казахстан;

³Карагандинский университет имени Букетова, Караганда, Казахстан.
E-mail: 77783100@mail.ru

ФИНАНСОВОЕ ГОСУДАРСТВЕННОЕ ПЛАНИРОВАНИЕ ОБЕСПЕЧИВАЮЩЕЕ СТАБИЛЬНОСТЬ НАЦИОНАЛЬНОЙ ЭКОНОМИКИ И УСТОЙЧИВОЕ РАЗВИТИЕ

Ақильжанова Ляззат Төкеновна — докторант PhD, Карагандинский университет
Казпотребсоюза, Караганда, Казахстан

E-mail: 77783100@mail.ru. ORCID: 0000-0002-6326-6565;

Жансейтов Азамат Толешович — магистр наук, Академия государственного управления при
Президенте Республики Казахстан, Караганда, Казахстан

E-mail: azamat.zhanseitov@icloud.com. ORCID: 0000-0001-9495-0530;

Мыржыкбаева Айнур Бейсеновна — доцент, Карагандинский университет имени Букетова,
Караганда, Казахстан

E-mail: ainurm2000@mail.ru. ORCID: 0000-0002-7183-7911;

Байбосынов Серикжан Берикбаевич — профессор, Академия государственного управления при Президенте Республики Казахстан, Караганда, Казахстан
E-mail: s.baibossynov@apa.kz. ORCID: 0000-0002-3881-454X.

Аннотация. Стратегия финансирования лежит в основе комплексной национальной системы финансирования. Она объединяет существующие политические и институциональные структуры для поддержки финансирования национальных стратегий и планов развития. Однако проблема заключается в том, что отсутствует единая финансовая стратегия, которая охватывает все специализированные и смежные сферы государственного управления. Именно поэтому данная тема актуальна для реализации государственной стратегии Правительства Республики Казахстан на всех уровнях. Методология исследования базируется на общенаучных методах классификации, логического и сравнительного анализа, синтеза, обобщения. В основе исследования лежит диалектический метод, заключающийся в изучении явлений в их постоянном развитии и взаимосвязи, что обеспечивает целостность, всесторонность и достоверность работы. Комплексный подход заключается в исследовании стратегий финансирования в рамках работы международных организаций. Ключевая гипотеза заключается в том, что возможно разработать универсальную инструкцию для всех стран для наиболее эффективного финансового планирования, реализующей цели устойчивого развития. Основные выводы: необходимо учитывать все с циклов национальных планов развития; крайне важно взаимодействовать на инклюзивной основе с законодательной властью, частным сектором, гражданским обществом, партнерами по развитию и другими соответствующими заинтересованными сторонами; периодически проводить ревизию всех целей, возможно некоторые из них могут быть уже неактуальны; учитывать технические возможности реализации стратегии на всех уровнях. Должностные лица национальных и местных органов власти являются основной аудиторией этого материала. Процесс разработки стратегии финансирования также открывает возможности для улучшения координации и взаимодействия между министерствами и ведомствами; и может быть ориентиром для негосударственных заинтересованных сторон, особенно партнеров по развитию, в координации и согласовании их поддержки.

Ключевые слова: финансовое планирование, международные организации, национальная экономика, государственная стратегия

Introduction

Climate change is already affecting people's well-being and economic development. Empirical evidence suggests that climate change is increasing the intensity of extreme weather events around the world, including exacerbating drought and leading to massive losses of coral reefs. These effects are felt by about 1°C warming compared to pre-industrial levels. The understanding of the scale of risks and the need for urgent action was further confirmed by the special report of the Intergovernmental Panel on Climate Change (IPCC) on global warming by 1.5

°C, published in 2018. The report highlights the various impacts that will occur if global temperatures rise by 1.5 °C with subsequent stabilization, which is the lower part of the target temperature range stipulated by the Paris Agreement in 2015. The consequences include an increase in the frequency and intensity of hot days in mid-latitude countries and from the frequency of extremely cold days in high latitudes. Along with an increase in temperature, it would be possible to observe an increase in sea level by 0.4 meters, a reduction in coral reefs by up to 90 %, the loss of 6 % of insect species, an increase in the intensity of extreme events (hurricanes, floods, etc.) and an increase in the average duration of periods. from the drought. The consequences will not be the same in different parts of the world (Ed. Wynne, 2012).

In the case of warming by 2 °C, all these consequences will intensify, reaching in many cases more than twice the effect observed at 1.5 °C. 5. Warming of this magnitude will also increase the likelihood of reaching potentially irreversible biophysical thresholds (or tipping points), for example, permafrost melting or climate change, loss of ice the cover of Greenland, which will lead to an inevitable cycle of temperature rise with all the consequences for society that follow from this. Each further increase in temperature in Greenland can lead to even more warming. Temperature changes lead to increasingly significant impacts and risks.

In this context, the chosen topic of the scientific article is also relevant for the Republic of Kazakhstan. Taking into account, first of all, the risks of climate change, the rapid development of the national economy, as well as rapidly changing external economic conditions, it is also important for the government to develop a high-quality overall development strategy that covers not only financial planning, but will also take into account the development of the economy without harming the environment.

The novelty of the scientific research lies in the fact that the authors of the work take into account the factors of the Sustainable Development Goals in the formation of a strategy for the development of economies, both global and national.

Materials and main methods

The theoretical and methodological basis of the research is scientific ideas, concepts and developments contained in the fundamental works of domestic and foreign scientists in the field of economic theory, the public sector of the economy, management and financial planning. The source base was provided by documents of international organizations, such as the Addis Ababa Action Agenda-the outcome document of the Third International Conference on Financing for Development, United Nations documents, as well as data from the International Monetary Fund (Benito et al., 2007).

In the course of writing, the international legal framework and recommendations of international institutions for financial planning were studied. As a result of the study, a step-by-step instruction was developed for financial planning of the national economy that implements the Sustainable Development Goals.

The methodology of scientific work includes a general philosophical method of cognition and methods of specific science, in our case — strategic planning. The most important points of application of the methodology are:

- statement of the problem and justification of its relevance;
- definition of the object, subject and boundaries of the study;
- study of the available literature on this issue and critical analysis of existing points of view on certain issues;
- clarification of the conceptual framework of the study;
- selection of research tools and methods, means (resources) and stages of research work, construction of a scientific theory.

Results and Discussion

Concretely, sustainable development is a way of organizing society in such a way as to allow it to exist in the long term. This implies taking into account both the present imperatives but also those of the future, such as the preservation of the environment and natural resources or social and economic equity.

The "official" definition of sustainable development was first elaborated in the Bruntland Report in 1987. This report was the synthesis resulting from the first world commission on environment and development of the UN (Roth et al., 2016).



Fig.1 – The 3 pillars of sustainable development

Unlike economic development, sustainable development is a development that takes into account three dimensions: economic, environmental and social. The three pillars of sustainable development that are traditionally used to define it are therefore: the economy, the social and the environment. The particularity of sustainable development is to be located at the crossroads of these 3 pillars (Fig. 1).

The word sustainable development appears in the early 1970s and 1980s in scientific writings. One of the first referenced texts making use of this concept in the current sense is the Report of the Club of Rome "Halt to Growth", but we find instances of it in other texts of the same period in various disciplines (Çelik, Serdar, 2014). This report published in 1972 and written by two MIT scientists attempted to question our model of economic development based on infinite economic growth in a world with finite resources. He then showed the ecological limits of our model.

At the international level, we are starting to talk about sustainable development for the first time in the reports of the Congresses of the IUCN (International Union for the Conservation of Nature). But long before that, sustainable development had begun to emerge as an idea.

Sustainable development: the causes of the emergence of the concept

The emergence of the idea of sustainable development is concomitant with that of industrial society. From the second half of the 19th century, Western societies began to notice that their economic and industrial activities, in particular, had a significant impact on the environment and on social balance. Several ecological and social crises will take place in the world and will raise awareness that a more sustainable model is needed.

Here are some examples of the economic and social crises that shook the world in the twentieth century:

1907: American banking crisis

1923: American hyperinflation crisis

1929: the financial crisis of the 1930s begins

1968: social movement of May 1968 in France and around the world

1973 and 1979: oil shocks

1982: debt shock of developing countries

And some examples of ecological crises

1954: Rongelap nuclear fallout

1956: Minamata mercury crisis

1957: Torrey Canyon Oil Spill

1976: Seveso disaster

1984: Bhopal disaster

1986: Chernobyl nuclear disaster

1989: Exxon Valdez oil spill

1999: Erika disaster

If sustainable development was a relatively little-known idea until the second half of the 20th century, it quickly gained importance in the face of the multiplication of these ecological crises and their consequences on human societies. As scientific knowledge advances on issues such as the ozone layer, global warming or the disappearance of biodiversity, the international community has become aware of the need to find an economic model that can meet our needs without destroying our ecosystem countries (World Economic and Financial Surveys, 2020).

The definition of a more sustainable development, ecology, alter-globalism and international consideration

Sustainable development and the origins of ecology

Thus, the first thinkers of ecology will emerge at the end of the nineteenth century (Haeckel, Paul Vidal de la Blache), while their ideas will really take root only during the twentieth. Here is a chronology of the development of ecology:

1850s–60s: development of the thought of "ecology" by the biologist Ernst Haeckel and the poet Henry David Thoreau

1872: Yellowstone National Park is founded

1948: foundation of the IUCN (International Union for Conservation of Nature)

1951: first IUCN report on the environment in the world

1963: publication of "The Silent Spring", which denounces the consequences of pollution

1965: first UNESCO conference on the biosphere

1968–72: founding of the Club of Rome and publication of its first report "The limits of Growth"

From there, an increasingly international movement is being set up to denounce the excesses of consumer society, industry and the international economy. The representatives of this movement are in particular the alter-globalists, the ecologists, the tiermondists ... Faced with the multiplication of ecological and social disasters, more and more individuals and international citizens are demanding that the environment and social justice be taken into account by governments.

International consideration

Gradually, the public authorities will therefore include these issues in their political agenda, in particular with:

1971: creation of the Ministry of the Environment in France

1972: first Earth Summit in Stockholm

1974: first ecologist candidate for the Presidency of the Republic in France

1987: UN World Commission on Environment and Development and publication of the Brundtland Report on Sustainable Development.

1982: Second Earth Summit in Nairobi

1992: Earth Summit in Rio

2002: Earth Summit in Johannesburg

2012: Rio +20 Earth Summit

The UN World Commission on Environment and Development began in 1983. The international context is increasingly agitated about social justice and environmental issues. 11 years after the Stockholm Earth Summit, things have not changed much. On the contrary, it is neo-liberal governments that are elected in the United States or in the United Kingdom, and which advocate an unregulated conception of economic and financial markets. The second oil shock has taken its toll and we realize that we live in a world with finite resources, and that our development must therefore be limited. At the time, the idea was to find a way to reconcile economic development and market development with ecological and social concern. The UN is therefore voting on a resolution constituting the Commission in order to work on this issue.

Four years later, the Commission publishes its report, entitled *Our Common Future*. This is the first time that the term sustainable development has been officially used by an international institution. Here is the definition that is given in the report:

"Sustainable development is a mode of development that meets the needs of present generations without compromising the ability of future generations to meet theirs. Two concepts are inherent in this notion: the concept of "needs", and more particularly the essential needs of the poorest, to whom the greatest priority should

be given, and the idea of the limitations that the state of our techniques and our social organization imposes on the ability of the environment to meet current and future needs" (Oulasvirta, 2013).

The idea of sustainable development according to the definition given by the Brundtland Report is that it is possible to find an economic model that reconciles the growth of markets and production, with respect for natural boundaries and human rights. If at the beginning, the Brundtland report did not have a very important media echo, the term ended up spreading as the various International conferences on the environment or on the climate took place. Citizen awareness of the ecological problem has helped to make it a "fashionable" topic and therefore to develop the word.

There is a controversy about the adjective "sustainable" in sustainable development. In English (the original language of the Brundtland report), the term used is "sustainable development", which could be translated as "sustainable development". According to Franck-Dominique Vivien, "the term 'sustainable' tends to refer to the duration of the phenomenon to which it applies, as if the problem boils down to wanting to make development last. However, the notion of sustainability makes it possible to focus on other issues relating to the distribution of wealth between generations and within each of the generations" (Andrews et al., 2017).

On the other hand, the adjective sustainable in French refers to two possible definitions:

Which can be defended, supported by serious arguments. Ex: This point of view is not sustainable.

Who can be borne, endured. Ex: Unsustainable scenes of violence.

Originally, sustainable development is a development that respects both economic needs, social needs and the environment. But as this concept has been developed, other dimensions have been added to it. In particular, sustainable development is now often accompanied by a reflection on the geographical scale: what is sustainable development on a local scale may not be sustainable on a global scale and vice versa. On the other hand, the definition of sustainable development is also increasingly taking on a political dimension (which system allows the best political freedom?) as well as an ethical and moral dimension.

Today, sustainable development is increasingly approaching the definition of resilience.

For some thinkers, the notion of sustainable development is itself biased because it is based on the concept of "development", itself subject to doubt. Gilbert Rist, for example, considers that the notion of development is an ethnocentrism and a Western belief.

According to him, when we talk about "development" (as when we mention "developing countries") we presuppose that there is a universally desirable form of development. In short, we start from the principle that Western society, consumer society, state, industrial and political society is the form of society towards which we should ideally strive. However, there are other forms of societies in the world,

which have experienced different forms of development: agrarian societies based on subsistence agriculture, for example, or even non-state and autonomous societies. The term "sustainable development" therefore carries with it this connotation, and above all it denotes an unthinking of other forms of life than those established by Western capitalist society (Benedek et al., 2021).

The thinkers of degrowth also question the notion of sustainable development, in the sense that it is often associated with economic growth. Indeed, the definition of sustainable development includes a dimension of economic development (growth). However, for thinkers of degrowth, economic growth cannot in itself be a sustainable phenomenon. Indeed, how can we hope for sustainable (therefore infinite) growth in a world where resources are not unlimited? How to produce more and more on a limited planet? These are all reasons to question the definition of sustainable development.

Sustainable development: practical examples

Today, the thought of sustainable development is beginning to be translated into reality by changes in practices. There are therefore many examples of actions or practices that can correspond to the definition of sustainable development.

Sustainable development: the ecological and solidarity transition of societies

One of the most common examples of "sustainable development" in practice are the policies put in place by governments to take into account environmental and social issues.

Many countries are now becoming aware that if they want to exist and develop in the long term, they must preserve their natural spaces, their resources, but also found a fairer and more egalitarian society. In France, this awareness has translated into the progressive development of a certain "sustainable development" policy.

In the 1970s, France created for the first time its Ministry of the Environment, responsible for the protection of ecosystems and natural resources. Since then, this ministry has transformed to become today the Ministry of Ecological and Solidarity Transition, responsible for both implementing ecological policies and partly the country's social policies.

Among the concrete examples of policies related to sustainable development implemented in France, we can mention in particular:

The energy transition, which aims to transform the way we produce energy to make it more sustainable, in particular by using renewable energies

The biodiversity protection policy, which aims to protect certain species and certain areas in order to avoid the disappearance of endangered species, for example

The circular economy policy, which aims to maximize the recycling of materials and optimize the use of resources, while limiting waste.

The major housing renovation and energy efficiency plan which aims to better isolate French housing in order to reduce our energy consumption

The various regulatory plans for the use of pesticides and chemical substances, which aim to reduce pollution or phenomena such as ocean acidification.

Companies also have a role to play in the ecological transition and sustainable development: this is called CSR.

Now, more and more companies are forced to adopt the principles of sustainable development in their activities. For example, there are laws that oblige companies to measure their environmental impacts and make them public, which encourages them to adopt more ecological practices.

Thus, many companies have to manage their productions according to the principles of sustainable development, in order to improve their impact on the planet, on the economy and on society. But this is also the case for public institutions and all other actors.

Generally, we group these "sustainable" practices in the company under the term CSR, or corporate social responsibility. Concretely, it may be a question of choosing renewable energies or practicing energy efficiency, reducing its greenhouse gas emissions and its Carbon footprint, practicing eco-design or even taking measures to less affect biodiversity and ecosystems. ecosystems.

For consumers, an example of translating sustainable development into action is responsible consumption. In summary, it is a question of adopting more ecological and more supportive behaviors on a daily basis, of living better and consuming better to limit its impacts on the environment. Nevertheless, the Sustainable Development Goals, as well as global risks that may be caused by climate change, have a place on the global agenda. The international community needs to make common efforts to prevent the development of the worst-case scenario, which could lead to an economic, social and environmental catastrophe.

The realization of at least one of the climate risks can already have serious consequences for the functioning of the economy, society and ecosystems; however, it is expected that all of them will arise simultaneously and reinforce each other. The consequences may be flooding of previously habitable territories (flooding or sea level rise), increased desertification, damage to the population and the environment. Structures resulting from more intense and frequent extreme weather events (cyclones, floods, fires, etc. d.) or the impact on an increasing and larger population of longer-term consequences (drought or heat) leading to crop failures and acute water shortages. These consequences can lead to the destruction of ecosystems on which people's lives and livelihoods depend.

Together, these elements can redefine residential and industrial areas. If climate change is not stopped, it can cause mass displacement of people within the same country or on the other side, with the consequences of instability and local and regional conflicts. We should be aware that, unless current patterns of behavior change, warming is likely to exceed 3 °C in the next century, reaching temperatures that have not been observed for about three million years, that is, long before the appearance of Homo sapiens. The consequences are likely to be disastrous for the livelihoods of a large part of the world's population.

In this regard, special attention should be paid to the limitations of existing business models for understanding economic costs. There are several attempts to assess the economic impacts of climate change. In 2014, the IPCC estimated that warming by 2°C would lead to economic losses ranging from 0.2 % to 2 % of global

GDP. Other studies have been devoted to forecasting losses at a more regional or national level; The Fourth National Climate Assessment of the United States of America (the fourth part of the United States National Climate Assessment) thus estimates that climate change could cost up to 10% of U.S. GDP by the end of the century. However, it is important to emphasize that these forecasts are most often based on integrated assessment models aimed at combining the biophysical effects of climate change with their effects on economic systems (Committee of Experts on International Cooperation in Tax Matters, 2019).

However, if ICOs are interesting for their attempt to combine both systems and if they have contributed to a deep understanding of certain economic consequences, users should be aware of the limitations of these models and their consequences when it comes to assessing economic costs and opportunities. As Stern (2016) shows, when it comes to assessing the economic impacts of climate change, modern ICOs have significant gaps in three main areas. They are very imperfect and greatly underestimate the potential damage caused by climate change. First, these models struggle to account for several major risks, including those based on recent discoveries in the physical sciences, such as the effects of changing climate thresholds or tipping points. These risks are among the most significant and potentially irreversible risks caused by climate change (for example, the melting of permafrost, deforestation of the Amazon or the melting of the Greenland and Arctic ice sheets). Second, current ICOs are trying to integrate the dynamic benefits of innovation, learning, and feedback that drive institutional and behavioral change, discovery, and economies of scale. The advantages of these processes are already visible in the rapid reduction of costs for renewable energy sources and energy storage technologies, as well as the introduction of such technologies. However, these reductions have been largely underestimated by the current set of ICO tools. However, this underestimation of the pace of technological progress and cost reduction leads to an overestimation of the cost of drastic measures, which as a result seem less attractive to politicians. The error is compounded by the fact that the models use increasing marginal costs to reduce carbon emissions, while we are seeing high returns to scale in both innovation and product discovery. These models make assumptions about the costs of corrective actions that are extremely misleading. Finally, MEI users often apply high discount rates to future scenarios. This practice may lead to the assumption that the lives of future populations are of less value or importance than the lives of current populations, even in the context of identical consumption. The models also assume baseline rates of future economic growth and conclude that future populations will be much more prosperous than the current ones, and therefore more resilient to shocks. These assumptions combine a misunderstanding of the principles of discounting and unrealistic assumptions about the scale of climate risks.

Despite these shortcomings, ICOs and their findings have become common practice and are widely used to develop policies to combat climate change. Thus, William Nordhaus was jointly awarded the 2018 Nobel Prize in Economics for his pioneering work in this field.

However, taken together, these assumptions lead to an underestimation of the significant shocks that climate change can have on well-being and livelihoods, as well as to an understatement of the enormous benefits of the corrector's actions. Models usually determine the "optimal" temperature stabilization range of about 3 °C 14, which corresponds to a level not seen for millions of years and contradicts scientific conclusions. Scientists are rightly surprised by such statements, from which it is clear that they directly follow from incorrect models and assumptions. At such temperatures, the shocks to lives and livelihoods can be so significant that they will fundamentally undermine economic systems or lead to great loss of life.

The consequence of this will be not just deviations from the constant growth of GDP, but also a constant reduction in capital reserves (physical, human, natural, social and financial), which will lead to a decrease in well-being and opportunities for future generations.

That is why new approaches are needed today to decarbonize the global economy. To prevent such a development, unprecedented actions are being taken on a global scale, this is necessary to reduce greenhouse gas (GHG) emissions. The current global levels of GHG emissions are moving along a dangerous trajectory. In 2018, annual carbon dioxide (CO₂) emissions due to the use of fossil fuels amounted to about 37 gigatons of CO₂ (GtCO₂), while total annual GHG 15 emissions were close to 50 gigatons of CO₂ equivalent (GtCO₂ e). Over the past three years, annual CO₂ emissions from the use of fossil fuels have increased at a consistent annual rate 0,6 % (2016), 1,3 % (2017) and 2.7 % (2018).

The United Nations Environment Programme eloquently illustrates the impact of maintaining current levels of greenhouse gas emissions on future temperatures. If new measures are not taken and greenhouse gas emissions continue at the current pace, by the end of the century, the world may well experience a temperature increase of more than 4 °C. If additional measures are taken to prevent climate change in accordance with national commitments under the Paris Agreement, temperatures could rise by about 3 °C above pre-industrial levels (Schwab, 2019).

By comparison, the Paris Agreement aims to raise temperatures "well below 2°C compared to pre-industrial levels, while efforts continue to limit temperature increases to 1.5°C. At current levels of greenhouse gas emissions, there are 10-12 years of atmospheric space left to limit warming to 1.5 °C, and in about 20 years to limit it to 2 °C. By observing controlled annual emission reductions, net GHG emissions should be achieved by the middle of the century at 1.5°C or by 2075 at 2 °C.

Note that temperature stability requires stability of concentrations and, consequently, zero net emissions. The sooner we reach net zero, the lower the stabilized temperature will be. It is obvious that achieving the goals of the Paris Agreement will require reducing GHG emissions and rapid changes, and that it would be extremely dangerous not to achieve these goals.

Thus, the next two decades will be crucial, the transition to zero carbon emissions will be the key to inclusive growth in the 21st century Over the next two decades,

if global growth continues at about 3% per year, world production is projected to increase by about half. At the same time, total investment in infrastructure must more than double to ensure and support this growth. The bulk of these investments should be directed to urban areas of developing countries.

How these investments are implemented will determine our ability to manage or avoid the potential serious impacts of climate change. If we stay true to the growth model of the past and continue investing in high-carbon pollution, we will put ourselves in great danger.

However, we have the opportunity to choose a new, very attractive path of growth and development. The experience of many countries around the world, including the European Union, the United Kingdom and the United States, has proved that it is possible to eliminate the link between economic growth and reducing greenhouse gas emissions. But the opportunities that open up before us today are much more powerful than the word "disconnect", don't hint at it. Discoveries, innovations and investments made now are the driving force of growth, and this is just the beginning. This argument is detailed in the report on the new Climate economy. By focusing immediate action and investment on five areas and systems, which is energy, the analysis shows that more than 65 million new jobs can be created in cities, food waste and waste related to land use, water supply and industry, and 700,000 premature deaths can be prevented by reducing air pollution by 2030, while 2,600 people could die. billions of dollars of additional production by 2030 (Rodrigo Pizarro, 2019).

We consider these forecasts conservative because they are based on very conservative assumptions about technological progress. For example, the iPhone, which just turned ten and revolutionized entire sectors of the economy, was not captured by models developed ten or twelve years ago. More generally, the basic logic of this new growth can be illustrated as follows. In the short term, the economic and social benefits of investment should be obtained by increasing supply and demand, which will become more noticeable thanks to intelligent and adapted investments in infrastructure.

In the medium term, this new approach is expected to trigger a wave of innovation and discovery. In the long term, investments should protect lives and livelihoods, avoiding the worst effects of climate change. Economic growth, poverty reduction and strong measures to combat climate change are complementary factors, and they are all very attractive. To embark on this new path of development, it is necessary to make extensive structural changes in many systems. These changes will be accompanied by disruptions in some industries and in the livelihoods of the population. These shocks will coincide with other fundamental changes in the economy and society, such as the acceleration of the transition to services and automation. These changes should and can be implemented simultaneously and managed simultaneously.

We must learn from past mistakes in managing structural change. It is for this reason that the need to design and implement a "fair transition" quickly emerged in the framework of combating climate change, as emphasized in the Silesian Declaration presented to the Conference of the Parties to the United Nations

Framework Convention on Climate Change (UNFCCC) – COP24 – in December 2018. We can do a lot to help create new know-how and opportunities, as well as to improve social protection systems, giving priority to the most disadvantaged.

In this regard, the question of mobilizing the financial system in times of turmoil is acute. To support and manage the transition process, adequate consistent investments will be required, that is, modern, intelligent, efficient and sustainable. Infrastructure alone will require about \$90 trillion worldwide over the next fifteen years. Most of these investments, one way or another, must be realized, but in order for us to achieve the goals in the field of combating climate change and the Sustainable Development Goals, we will need about \$ 100 billion (Levine, 2005).

The challenge facing an effective climate change policy is to transform a wide range of attractive investment opportunities into specific projects and programs. This requires proper policies to mobilize investment, as well as the appropriate type of financing at the right scale and at the right time. Solving the problem of mobilizing financial resources in connection with these investments, it is necessary to realize the following problem: over the past few decades, the financial sector has disconnected from the real economy. It has become the dominant sector in itself, finance has ceased to fulfill its theoretical role as an intermediary between depositors and investors or its role of risk management for insurance companies, pension funds, etc. The lack of connection between finance and "real investments" contributes to the formation of speculative bubbles and emphasizes priority in the short term. This "short-term approach", in turn, helps to push investors and companies to act without taking into account the consequences of their activities for the environment or society as a whole, especially in the long term. This also leads to a reluctance to take on risks associated with innovations or investments, the return on which is likely to be stable in the long term.

Changes in the financial system are needed to accelerate the adoption of measures to combat climate change. Several key factors are in the process of coming together for this. However, any new period of financial turmoil can significantly slow down these actions. In 2018, ten years after the global financial crisis, a worrisome combination of structural, cyclical and indirect deficiencies emerged. The debt per unit of output continues to grow. According to the International Monetary Fund, in large economies, the total debt of the non-financial sector is \$167,000 billion (or 250 % of GDP), compared with \$113,000 billion in 2008 (or 200% of GDP). This dependence on the growth of debt creates new problems (Robb et al., 2017).

If we are not careful, this factor may distract our attention from the urgent need to increase investment in the fight against climate change and sustainable development. There are already signs that this new stage of market development is affecting the financing of measures to combat climate change, as the global green bond market has reached a plateau. In the period from 2016 to 2017, the volume of emissions almost doubled—from 87 to 162 billion dollars. On the other hand, in 2018 they became only insignificant. sales increased significantly and amounted to \$167 billion, which is significantly less than market forecasts (Lapsley, 2019). This was facilitated by debt

reduction in China. Economic growth is also slowing down, and forecasts continue to be revised downward.

Obviously, no one can predict whether the current turbulence will escalate into a serious crisis. However, if this happens, the consequences for financing climate change measures could be serious if politicians and market participants are not prepared. The task that everyone should pay attention to is the anticipation of potential shocks and readiness for their possible occurrence. However, we are in a better position to take decisive action in the short term. More and more signs emanating from the entire financial system indicate a desire for long-term action on climate change.

Conclusion

Unstable and uncertain politics remains one of the main obstacles faced by financiers wishing to support the transition period. As a result, this year should be the year when governments develop long-term decarbonization strategies with clear and credible policies to support markets in a new direction. The European Strategy to create a climate-neutral Europe by 2050 is an example of the type of response needed for the economy as a whole. It will be crucial for the summit Adoption by the UN Secretary-General of measures to combat climate change in September next year, which is a key stage on the way to COP (Global Financial Development Report 2019/2020). It is important to remember that a systematic approach also requires clear coverage of the links between measures to combat climate change and broader efforts to implement the SDGs. For financial institutions, the transition to a sustainable zero-emission economy has important environmental, social and managerial aspects. In particular, efforts to redirect significant capital flows need to be viewed in the broader social context of building an inclusive economy. For banks and investors, this means working with other stakeholders to support a fair transition.

The nature of climate change means that we cannot ignore or downplay the long-term effects or focus on short-term responses. Tools, institutions, resources and ideas must be mobilized over many decades to seize new opportunities, solve climate problems and manage the transition period. If policy makers are aware of the scale of the problem and work decisively to bring the financial sector back to the real economy, providing clear, credible and long-term guidance for everyone, this would be a breakthrough. If properly implemented, strategic measures aimed at preventing possible market disruptions and taking advantage of the opportunities that open up as a result of climate change actions can make this year a Year of irreversible Transition to a more sustainable system. We know how to achieve this, funding is available, and the challenge for everyone is to act decisively, seize opportunities and step up action.

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