

УДК 811.111'367.623'373.43:551.58=030.161.2
DOI: <https://doi.org/10.17721/1728-2659.2023.33.12>

Natalie Kramar, Dr. of Philosophy, Senior Researcher
ORCID: 0000-0001-5767-9200
e-mail: kra_nat@ukr.net

Research and Educational Center of Foreign Languages, National Academy of Sciences of Ukraine, Kyiv, Ukraine

Oleksandr Levko, PhD (Philol.), Associate Prof.
ORCID: 0000-0002-1259-0410
e-mail: o.levko@knu.ua

Taras Shevchenko National University of Kyiv, Kyiv, Ukraine

ENGLISH NEOLOGICAL UNITS WITH *CLIMATE* AND THEIR TRANSLATION INTO UKRAINIAN

The article is focused on English word combinations and compound adjectives with climate, which have come into use over the last 50 years, reflecting the growing significance of climate change and vigorous discussion of its mitigation in the public discourse. The study combines qualitative and quantitative approaches, with partial involvement of corpus techniques. We identify the most common collocations and compound adjectives with climate in the NOW (News on the Web) corpus of English, discussing the context of their use and semantic categories they fall into. Thus, among novel climate collocations we distinguish such categories as: 1) terminological units that denote the process of climate change as such ("climate emergency", "climate catastrophe"); 2) units that refer to the efforts of climate change mitigation on state and international levels ("climate summit", "climate finance"); 3) units that refer to negative emotional states related to a person's preoccupation with climate change ("climate grief", "climate doomism"). We particularly address the changing terminological landscape in this area, as powerful and emotionally laden phrases "climate emergency", "climate crisis" and others are replacing the more neutral "climate change". Furthermore, we trace the ways of translation of common units with climate into Ukrainian based on Ukrainian-language web sources and legislative documents. It has been established that a high extent of variability currently exists in the rendition of climate units into Ukrainian. The most common variation is between a calque and permutation ("climate resilience" – "кліматична стійкість" / "стійкість до зміни клімату") or between a calque and explicatory translation ("climate policy" – "кліматична політика" / "політика у сфері зміни клімату"). We point out some cases where explicatory translation and synonymous substitution are more preferable than calquing with regard to accuracy (for example, "climate smart" – "кліматично орієнтований" rather than "кліматично розумний").

Keywords: climate change, collocation, compound adjective, neological unit, translation, corpus.

Introduction. Of all the pressing issues facing the humanity today, climate crisis is arguably the most imminent. Record heat waves, extreme weather events, loss of biodiversity, glacier melting and soil degradation are some of the most significant impacts of incessant climate change that we can witness today. Numerous pledges and efforts made by various countries and organizations to reduce greenhouse gas emissions have hardly moved the needle. As the UN chief António Guterres has emphatically put it in November 2022, "We are on a highway to climate hell with our foot on the accelerator" [11]. This way, *climate hell* has joined the already huge company of *climate* collocations that have recently entered English.

The Oxford English Dictionary (OED) has been steadily adding new climate-related words and phrases for the last three decades. However, it is in 2021 that a whole range of collocations with *climate* were registered – including *climate crisis*, *climate emergency*, *climate action*, *climate denial*, etc. – reflecting the growing importance and frequency of climate discussions in media discourse and everyday speech [13]. A surge in climate strikes and other forms of climate activism (which can be quite extravagant), as well as the broad coverage of UN Climate Change Conferences (COP26 and COP27) in the press have also contributed to the rising circulation of these linguistic units in English. However, as most of them have been coined quite recently, there is some semantic confusion and a great extent of variability in their use. Moreover, their accurate translation into other languages is often challenging, not least due to their emotionally-laden character and semantic overlaps. Therefore, the exploration of English neological compounds with *climate* and their rendition into Ukrainian is highly relevant and timely.

The purpose of our study was twofold. First, we aimed to identify the most common compounds with *climate* that are dominating the English-language environmental discourse today. These are the terms that have come into

use over the last 50 years, reflecting the evolution of climate change discussion and mitigation efforts. Second, we also intended to trace the prevalent ways of their translation into Ukrainian with regard to their accuracy and extent of variability.

Literature review. The expanding vocabulary of climate change discourse has received much attention from researchers recently. The latest environmental neologisms have been explored by N. Bilous and N. Novohatska [1], L. Sandyha, I. Oliynyk and Yu. Sviatuk [15], M. Zhulinska [17] with regard to their word-formation patterns. Application of corpus methodology to the analysis of new environmental words and collocations has been discussed by P. Bureau [4]. C. Biros, C. Rossi and A. Talbot have addressed the issues of translation of climate change terminology [2].

Linguists have also paid attention to the recent shift from the neutral term *climate change* to its more alarming synonyms *climate crisis* and *climate emergency*. Thus, applying the psycholinguistic approach, L. Feldman and P. Hart [10] revealed that the use of stronger terminology does not increase the reader engagement with the topic, and quite contrarily, has a mild disempowering effect on the audience as compared with the term *climate change*. The issue of public understanding of climate change terminology has also been discussed by W. Bruine de Bruin et al. [3].

Despite a great number of studies focused on new ecological terms, the ever-evolving climate change vocabulary merits further investigation. Thus, to the best of our knowledge, neological collocations and compound adjectives with *climate* have not received a comprehensive elucidation. Likewise, no study has addressed their translation into Ukrainian.

Methodology. For the purposes of our study, we have used a mixed approach, combining qualitative and quantitative methods, with the partial involvement of corpus techniques. We identified the latest collocations and

© Kramar Natalie, Levko Oleksandr, 2023

compound adjectives with *climate* by tracing Oxford English Dictionary updates, as well as by monitoring climate-related reports in leading English-language news outlets (*The Guardian*, *BBC*, *CNN*, etc.).

Using advanced search in the constantly updated NOW corpus [8] – containing news reports starting with 2010 – enabled us to determine the relative frequency of collocations and compound adjectives with *climate*. The corpus search was most instrumental in establishing compound adjectives, which are only scarcely featured in dictionaries and neologisms trackers (such as Word Spy).

To analyze the ways of translation of lexical units with *climate* into Ukrainian, we searched for their equivalents in Ukrainian environmental legislation [e.g., 7] and existing English-Ukrainian glossaries of climate change terms [e.g., 9]. Subsequently, web search of Ukrainian-language websites (mostly news and climate-oriented platforms) was conducted to identify suggested equivalents for more novel and/or colloquial terms (such as *climate doomism*, *climate-smart*, etc.).

Results and Discussion.

1. Collocations with *climate*.

Search for the string "climate NOUN" in the NOW corpus [8] yielded more than 2000 results (both two-word and three-word items, e.g., *climate denialism* and *climate change denialism*). Most of them have been introduced starting with the 1980s, when environmental concerns first came to the political spotlight, while a few items were coined in the past few years (e.g., *climate doomism* is from 2020). Table 1 presents top 20 collocations in order of decreasing frequency.

Table 1

Top 20 collocations with *climate* in the NOW corpus

Collocation	Raw frequency
climate change	934213
climate crisis	59770
climate action	59038
climate emergency	19697
climate policy	16962
climate summit	15580
climate science	12901
climate control	12735
climate agreement	12455
climate scientists	10655
climate finance	10311
climate justice	9941
climate talks	9635
climate goals	9599
climate conference	8796
climate accord	7603
climate activists	7521
climate risk	7360
climate scientist	7251
climate targets	6993

As expected, the collocation *climate change* turned out to be the most common (15 times more frequent than the next collocation on the list). In its current meaning – long-term change in the climate of the Earth related to growing average temperatures – it was first used in 1979 [6]. It is followed by *climate crisis* – the term first suggested in 1986 (according to OED) as a more relevant synonym for *climate change*. The same goes for *climate emergency*, ranking 4th on the list. Both of these terms had been quite moderately used prior to 2020, when 11, 000 scientists from all over the world endorsed a statement in the scientific journal *BioScience* calling for the description of climate change as either *climate crisis* or *climate emergency* to better reflect the urgency of the issue [14]. The terminological shift has

since then been endorsed by major political and scientific institutions, as well as media outlets [5]. There is also an array of other powerful and partially metaphorical terms that have been suggested to describe climate change, including *climate catastrophe* (ranking 33rd), *climate disaster* (ranking 49th), *climate breakdown* (ranking 56th), *climate chaos* (ranking 67th), etc.

While all of these items have the same structure in English, translating them into Ukrainian is not quite straightforward. *Climate change* is mostly rendered by means of permutation – "зміна клімату" rather than "кліматична зміна" (though the latter is also present in some sources). *Climate crisis*, *climate catastrophe* and *climate chaos* are rendered simply by calques: "кліматична криза", "кліматична катастрофа", "кліматичний хаос". In case of *climate disaster* and *climate breakdown*, translators have to resort to synonymous substitution, rendering them as "кліматична катастрофа". Much challenge is also presented by *climate emergency* – the literal translation (available in some media) would be "надзвичайна кліматична ситуація", but its inevitable bulkiness makes it preferable for translators to use synonymous substitution and render it as "кліматична криза" (unless the difference between the two terms is emphasized in the source text).

Most of the existing collocations with *climate* are related to the efforts of climate regulation on the state and intergovernmental levels: this tendency is also reflected in the top 20 list. The primary translation method used for such collocations is calquing: e.g., *climate agreement* – "кліматична угода", *climate talks* – "кліматичні переговори", *climate justice* – "кліматична справедливість". However, with some collocations that are very common and critical to climate legislation, a high degree of translation variance is evident (mostly between a calque and explicatory translation). Thus, *climate action* (ranking 3rd on the list) is rendered either as "кліматичні дії" or as "дії, спрямовані на подолання зміни клімату" / "боротьба зі зміною клімату", *climate policy* – as "кліматична політика" or "політика у сфері зміни клімату". *Climate finance* is rendered with slight variation between a factual and a processual noun – "кліматичні фінанси" / "кліматичне фінансування". Variation between calque and permutation is also common: *climate resilience* – "кліматична стійкість" / "стійкість до зміни клімату"; *climate adaptation* – "кліматична адаптація" / "адаптація до зміни клімату". In rare cases permutation is unavoidable, e.g., *climate (change) mitigation* – "пом'якшення зміни клімату" (not "кліматичне пом'якшення").

For some collocations, only explicatory translation is possible. For example, *climate envoy* is translated with much expansion as "посланець / посланник із питань зміни клімату". We have also found many cases when there is only one equivalent for two or more differentiated terms in English: e.g., both *climatologist* and *climate scientist* are rendered as "кліматолог"; *climate goals* and *climate targets* – as "кліматичні цілі", *climate impacts* / *climate effects* / *climate consequences* – as "кліматичні наслідки". Quite a challenging term is *climate (change) denial* (sometimes *denialism*), which is often rendered into Ukrainian as "кліматичний скептицизм", though its literal equivalent *climate skepticism* actually conveys a slightly lesser degree of doubt than denial.

A wide variety of collocations with *climate* have been coined recently to describe negative emotional states related a person's concern with climate change: they are typically rendered into Ukrainian by calques, e.g., *climate grief* ("кліматичне горе"), *climate anxiety* ("кліматична

тривожність"), *climate depression* ("кліматична депресія"). Some of the latest coinages of this kind include *climate alarmism* (rendered by transcription as "кліматичний алармізм") and *climate doomism* (rendered by synonymous substitution as "кліматична приреченість" – the same as *climate doom*).

2. Compound adjectives with *climate*.

The most common compound adjectives with *climate* were retrieved by searching for the string "climate*" in the NOW corpus [8]. The search yielded over 300 relevant results. Top 20 units are listed in Table 2.

Table 2
Top 20 compound adjectives with *climate* in the NOW corpus

Adjective	Raw frequency
climate-related	15202
climate-friendly	4755
climate-resilient	3792
climate-smart	3348
climate-induced	1692
climate-neutral	1434
climate-warming	1289
climate-changing	1173
climate-focused	1145
climate-vulnerable	1126
climate-driven	1119
climate-conscious	911
climate-sensitive	507
climate-damaging	491
climate-positive	395
climate-safe	327
climate-wrecking	314
climate-linked	285
climate-proof	273
climate-fueled	250

A large portion of the retrieved adjectives is used to refer to the negative impacts of climate change, i.e., *climate-driven*, *climate-fueled*, *climate-induced*, which have lately become a staple of environmental media discourse. Thus, a recent article in *The Guardian* states that "the past year has seen an unending drumbeat of climate-driven disasters" [12]. The only way to render such adjectives into Ukrainian is through explicatory translation, e.g., "той, який зумовлений / спричинений зміною клімату". The same is true for the items that denote the connection of something to climate: *climate-related* (ranking 1st on the list), *climate-linked*, etc.: they are necessarily translated with some expansion as "той, який пов'язаний зі зміною клімату". Analysis of their context in the corpus revealed that such adjectives are mostly used as synonymous to the above-mentioned group, i.e., they refer some negative processes resulting from climate change: e.g., *climate-related disasters*, *climate-linked droughts*. However, within the climate mitigation discourse they can also describe something as simply relevant to this process: e.g., *climate-related goals*, *climate-linked trading regulations*, etc.

A significant group of *climate* adjectives are used to refer to something as having a bad influence upon climate, e.g., *climate-warming*, *climate-damaging*, *climate-wrecking*. Such items can be rendered through permutation as "шкідливий для клімату", "руйнівний для клімату", etc. Permutation is also necessary in rendering the terms *climate-vulnerable* ("вразливий до зміни клімату"), *climate-proof* ("захищений від зміни клімату"), *climate-sensitive* ("чутливий до зміни клімату"), *climate-resilient* ("стійкий до зміни клімату") and others, denoting varying degree of an entity's or an object's ability to withstand climate change.

We can also single out a group of terms that have turned into "buzzwords", rapidly picking up in popularity. These adjectives describe companies or people as being aware of the climate change (e.g., *climate-conscious*) and making an effort to do no harm to it (e.g., *climate-neutral*) or even bending over backwards to reverse it (e.g., *climate-positive*). Climate-neutral companies maximally reduce their greenhouse emissions, while climate-positive companies try to remove more greenhouse emissions than they cause (at least they claim to). The items of this kind can be rendered into Ukrainian quite compactly by calquing: "кліматично свідомий", "кліматично нейтральний", "кліматично позитивний". However, this method does not work with such buzzwords as *climate-friendly* (ranking 2nd on the list) and *climate-smart* (ranking 4th). *Climate-friendly* is usually rendered into Ukrainian as "кліматично чистий" by analogy with the well-entrenched *eco-friendly* ("екологічно чистий"), though it is currently extremely rare in the Ukrainian segment in general. *Climate-smart* (commonly used in the phrase *climate-smart agriculture* to refer to the practice of raising crop and livestock with minimal greenhouse emissions) does not yield itself easily to literal translation. While we have come across some instances of "кліматично розумний" used on various Ukrainian websites, the preferred rendition is "кліматично орієнтований" [16]. In this way, however, the Ukrainian equivalent will be the same for two different English terms – *climate-smart* and *climate-oriented*. Therefore, both for collocations and compound adjectives with *climate*, it is not always possible to reflect in Ukrainian the abundant synonymic range of English terms.

Conclusion. We have analyzed the most common English neological collocations and compound adjectives with *climate* with a particular focus on their translation into Ukrainian. It can be stated that climate terminology is rapidly evolving, with new relevant words and phrases being coined all the time. These units reflect the growing urgency of climate issues and the worldwide effort aimed at tackling them.

With regard to climate collocations, the ones that are used the most frequently in English-language media are alternative terms for *climate change*, which are touted as more accurate in emphasizing the gravity of the situation, i.e., *climate crisis*, *climate emergency*. Another popular strand of collocations refers to the various ways the world is trying to curb it on the international (*climate summit*, *climate talks*) and state levels (*climate finance*, *climate policy*). Furthermore, over the last years, multiple units have been coined to reflect the emotional state of people concerned about climate change (*climate doomism*, *climate grief*). Most *climate* collocations are translated into Ukrainian by calquing the source units (e.g., "кліматичні переговори"), with occasional permutation and expansion being necessary (*climate adaptation* – "адаптація до зміни клімату" rather than "кліматична адаптація").

The use of corpus analysis also enabled us to find out the most common compound adjectives with *climate* in modern English discourse. The bulk of such units are used to refer to the negative impacts of climate change, with much synonymic variation being obvious (*climate-related*, *climate-fueled*, *climate-driven*, etc.). Such terms are rendered into Ukrainian by means of explicatory translation ("той, який пов'язаний зі зміною клімату", "той, який спричинений зміною клімату"). The most remarkable adjectives are "buzzwords" that are used to emphasize a company's or a field's awareness of climate change and contribution towards its mitigation (*climate-smart*, *climate-neutral*, *climate-positive*). They are often rendered into

Ukrainian by calques, though in case with *climate-smart* synonymous substitution ("кліматично орієнтований") is more felicitous.

In the overall, the development of Ukrainian climate terminology is a state of flux and there is currently a high extent of variability. Some of the existing literal equivalents for key collocations with *climate* sound too ambiguous ("кліматичні дії" for *climate action*) or bulky ("надзвичайна кліматична ситуація" for *climate emergency*) in Ukrainian and therefore should be replaced by explicatory or synonymous means of translation. We believe that accurate translation of climate-related English words and phrases is important in the context of Ukraine's EU integration efforts, which necessitate bringing the state environmental legislation in line with the European one.

References

1. Bilous, N., Novokhatska, N. (2022). Vplyv klimatichnykh zmin na formuvannya anhliiskykh ekolohichnykh neolohizmiv 2020–2021 rokiv [Impact of climate change on the formation of English environmental neologisms 2020–2021]. *Problemy humanitarnykh nauk: zbirnyk naukovykh prats Drohobyt'skoho derzhavnogo pedahohichnoho universytetu imeni Ivana Franka. Seriya "Filolohiia"*, 49, p. 23–28. – URL: <https://doi.org/10.24919/2522-4565.2022.49.3> (In Ukr.).
2. Biros, C., Rossi C., Talbot, A. (2021). Translating the International Panel on climate change reports: standardisation of terminology in synthesis reports from 1990 to 2014. *Perspectives*, 29(2), p. 231–244. – URL: <https://doi.org/10.1080/0907676X.2020.1800059>
3. Bruine de Bruin, W., Rabinovich, L., Weber, K. et al. (2021). Public understanding of climate change terminology. *Climatic Change*, 167, 37. – URL: <https://doi.org/10.1007/s10584-021-03183-0>
4. Bureau, P. (2022). Changement climatique, changement linguistique? Extraction semi-automatique et analyse des néologismes issus du domaine du changement climatique. *Neologica*, 16, p. 61–83.
5. Carrington, D. (2019). Why the Guardian is changing the language it uses about the environment. *The Guardian*, May 17th. – URL: <https://www.theguardian.com/environment/2019/may/17/why-the-guardian-is-changing-the-language-it-uses-about-the-environment>

6. Chasan, E., Rossa, J. (2016). When 'Global Warming' Became 'Climate Change'. *Bloomberg*, March 15th. – URL: <https://www.bloomberg.com/news/articles/2016-03-15/climate-change-replaces-global-warming-as-preferred-term-for-a-changing-world>
7. Climate policy of Ukraine. Ministry of Environmental Protection and Natural Resources of Ukraine. Kyiv. – URL: <https://mepr.gov.ua/content/klimatichna-politika-ukraini.html>
8. Davies, Mark. (2016-). *Corpus of News on the Web (NOW)*. – URL: <https://www.english-corpora.org/now/>
9. English-Ukrainian Glossary on Terms of Climate Change and Agriculture. (2019). German-Ukrainian Agricultural Policy Dialogue (APD). Kyiv. – URL: https://apd-ukraine.de/images/2020/Glossary_on_Terms_of_Climate_Change/eng_01-web.pdf
10. Feldman, L., Hart, P. S. (2021). Upping the ante? The effects of "emergency" and "crisis" framing in climate change news. *Climatic Change*, 169 (10), p. 1–20. – URL: <https://doi.org/10.1007/s10584-021-03219-5>
11. Harvey, F., Carrington, D. (2022). World is on 'highway to climate hell', UN chief warns at Cop27 summit. *The Guardian*, November 7th. – URL: <https://www.theguardian.com/environment/2022/nov/07/cop27-climate-summit-un-secretary-general-antonio-guterres>
12. Hausfather, Z. (2022). The big idea: stopping climate change isn't enough – we need to reverse it. *The Guardian*, November 14th. – URL: <https://www.theguardian.com/books/2022/nov/14/the-big-idea-we-need-to-reverse-climate-change-not-just-stop-it>
13. New words list October 2021 (2021). *Oxford English Dictionary*. – URL: <https://public.oed.com/updates/new-words-list-october-2021/>
14. Ripple, W. J., Wolf, C., Newsome, T. M., Barnard, P., Moomaw, W. R. (2020). World Scientists' Warning of a Climate Emergency. *BioScience*, 70 (1), p. 8–12. – URL: <https://doi.org/10.1093/biosci/biz088>
15. Sandyha, L. O., Oliinyk, I. V., Sviatuk, Yu. V. (2020). English green neologisms reflecting new trends in sustainable development. *Vcheni zapysky TNU imeni V.I. Vernadskoho. Seriya "Filolohiia. Sotsialni komunikatsii"*, 31(3/1), p. 187–192. – URL: <https://doi.org/10.32838/2663-6069/2020.3-1/34>
16. Stavchuk, I. (2021). Silske gospodarstvo v Ukraini maie staty klimatichno oriyentovanykh [Agriculture in Ukraine should become climate-oriented]. – URL: <https://mepr.gov.ua/news/37007.html>
17. Zhulinska, M. O. (2022). Reprezentatsiia kontseptu "ENVIRONMENT" neolohizmu anhliiskoi movy [Representation of the concept "ENVIRONMENT" by neologisms of the English language]. *Naukovi zapysky Natsionalnoho universytetu "Ostrozka akademiia". Seriya "Filolohiia"*, 13(81), p. 20–23. (In Ukr.).

Надійшла до редколегії 20.11.22

Наталія Крамар, д-р філології (філологія), ст. наук. співроб.

ORCID: 0000-0001-5767-9200

e-mail: kra_nat@ukr.net

Центр наукових досліджень та викладання іноземних мов НАН України, Київ, Україна

Олександр Левко, канд. філол. наук, доц.

ORCID: 0000-0002-1259-0410

e-mail: o.levko@knu.ua

Київський національний університет імені Тараса Шевченка, Київ, Україна

АНГЛІЙСЬКІ НЕОЛОГІЗМИ З КОМПОНЕНТОМ CLIMATE ТА ЇХНІЙ ПЕРЕКЛАД УКРАЇНСЬКОЮ МОВОЮ

Досліджено англійські словосполучення і складні прикметники з компонентом *climate*, які ввійшли в ужиток упродовж останніх 50 років, відображаючи зростання уваги до процесів зміни клімату й активне обговорення шляхів її подолання в публічному дискурсі. Поєднано якісний і кількісний підходи з частковим залученням корпусних методик. Визначено найпоширеніші словосполучення та складні прикметники з компонентом *climate* в корпусі англійської мови NOW (News on the Web), проаналізовано контекст їхнього еживання та встановлено семантичні категорії, до яких вони належать. Серед новітніх словосполучень із компонентом *climate* виділено такі категорії: 1) мовні одиниці, що позначають процес зміни клімату ("*climate emergency*", "*climate catastrophe*"); 2) мовні одиниці, що позначають зусилля щодо пом'якшення наслідків зміни клімату на державному й міжнародному рівнях ("*climate summit*", "*climate finance*"); 3) мовні одиниці, що вербалізують негативні емоційні стани, пов'язані з перейманням людини зміною клімату ("*climate grief*", "*climate doomism*"). Наголошено на мінливому термінологічному ландшафті в цій сфері, оскільки потужні та емоційно навантажені фрази "*climate emergency*", "*climate crisis*" й інші все більше витісняють з ужитку більш нейтральне словосполучення "*climate change*". Крім того, на основі україномовних інтернет-джерел і законодавчих документів простежено шляхи перекладу мовних одиниць із компонентом *climate* українською мовою. Встановлено, що в перекладі англійських словосполучень і складних прикметників із компонентом *climate* українською мовою зараз існує велика варіативність. Найпоширенішими є варіації між калькою та зміною порядку слів ("*climate resilience*" – "кліматична стійкість" / "стійкість до зміни клімату") або між калькою і описовим перекладом ("*climate policy*" – "кліматична політика" / "політика у сфері зміни клімату"). Також ми вказуємо на деякі випадки, коли описовий переклад і синонімічна заміна є кращими, ніж калькування, з погляду точності відтворення семантики терміна (наприклад, "*climate smart*" – "кліматично орієнтований", а не "кліматично розумний").

Ключові слова: зміна клімату, словосполучення, складний прикметник, неологізм, переклад, корпус.