

**Human Rights Council****Fifty-second session**

27 February–31 March 2023

Agenda item 3

**Promotion and protection of all human rights, civil,  
political, economic, social and cultural rights,  
including the right to development****Towards a just transformation: climate crisis and the right to  
housing****Report of the Special Rapporteur on adequate housing as a component  
of the right to an adequate standard of living, and on the right to non-  
discrimination in this context, Balakrishnan Rajagopal***Summary*

The climate crisis is severely threatening the enjoyment of the right to adequate housing around the world. Climate mitigation and adaptation policies and misguided responses to climate events may sometimes undermine the right to adequate housing. Marginalized groups and their homes are at particular risk and exposed to the impact of climate change and therefore need to be involved in climate responses at all levels.

Housing itself makes a significant contribution to climate change, through housing construction, urban sprawl, soil sealing, energy consumption, water use, pollutants, deforestation, desertification and loss of biodiversity. A timely and well-devised intervention in the housing sector is therefore necessary. This includes stepping up efforts to improve energy efficiency, taking measures to electrify households, incorporating sustainability in building codes and standards, using low-carbon construction methods and materials, making more equitable use of the existing housing stock and integrating climate change and climate resilience into urban planning.

It is imperative to achieve a just transition towards rights-compliant, climate-resilient and carbon-neutral housing. International cooperation, financial support and significant investments are necessary to support this transition, including the creation of a fund to support climate mitigation and adaptation measures in the housing sector for those developing countries that are particularly vulnerable to the adverse effects of climate change. A just transition must also entail international remedies and compensation for climate-induced loss and damage in the area of housing.

The costs of the transition in the housing sector must be shared fairly among and within countries, and among public authorities, taxpayers, homeowners and renters or other affected groups, to ensure that nobody is left behind.



---

## Contents

	<i>Page</i>
I. Introduction .....	3
II. International law framework: the right to adequate housing in the context of climate change .....	3
A. Obligations in relation to the right to adequate housing .....	3
B. Obligations under international legal frameworks aimed at addressing the climate crisis ...	4
III. Impact of the climate crisis on the right to adequate housing .....	5
A. Extreme weather events .....	5
B. Slow-onset events .....	6
C. Adverse impacts of climate policies and responses on the right to housing .....	7
D. Marginalized groups and persons .....	9
IV. Housing as a contributor to the climate crisis .....	10
A. Energy consumption for cooking, heating, cooling and lighting .....	11
B. Construction and construction materials .....	11
C. Increase in average per capita living space .....	11
D. Emission of pollutants .....	12
E. Urban sprawl, deforestation and soil sealing .....	12
V. Towards just, human rights-based, climate-resilient and carbon-neutral housing for all .....	12
VI. Conclusions and recommendations .....	17

## I. Introduction

1. The climate crisis is also a housing crisis. Already, global warming of 1.1°C has resulted in increased frequency and severity of extreme weather events, as well as slow-onset processes, both severely threatening the realization of the right to housing around the world. These impacts are disproportionately affecting people in countries that are particularly vulnerable to the adverse effects of climate change and people in vulnerable situations, deepening existing inequalities and having a disproportionate impact on those who contribute least to climate change.

2. The rapid developments and improved knowledge in the area of climate impacts and causes prompted the Special Rapporteur to develop the present report, in which he builds upon the work of the previous Special Rapporteurs, in particular the previous report on climate change and the right to adequate housing.<sup>1</sup> Housing – through the construction sector and energy spending for buildings – makes a significant contribution to climate change, amounting in 2020 to 37 per cent of energy-related carbon dioxide emissions.<sup>2</sup> The Special Rapporteur makes the case for a timely and well-designed intervention in the housing sector and explains what would constitute a human rights-based approach to a just transition towards climate-resilient and carbon-neutral housing. Climate change requires unprecedented levels of investment in mitigation and adaptation, as well as in the reconstruction of housing following extreme events, if the universal standard of adequate housing is to be achieved and maintained.

3. To inform the report, the Special Rapporteur held a series of consultations with States, international organizations, national human rights institutions, civil society organizations, actors involved in the financing and building of housing, and academic experts. He also put out a call for input, and received approximately 70 responses and submissions to the questionnaire.<sup>3</sup>

## II. International law framework: the right to adequate housing in the context of climate change

### A. Obligations in relation to the right to adequate housing

4. The right to adequate housing, enshrined in article 25 of the Universal Declaration of Human Rights and article 11 (1) of the International Covenant on Economic, Social and Cultural Rights, is well established under international law. What constitutes “adequate” housing is determined in part by social, economic, cultural, climatic, ecological and other factors. Regardless of any particular context, however, it includes the following minimum criteria: security of tenure, availability of services, affordability, habitability, accessibility, appropriate location and cultural adequacy.<sup>4</sup> These elements remain ever-so relevant in the light of the novel challenges that the climate crisis poses to achieving the right to housing, as well as the mitigation and adaptation efforts being undertaken in response to the crisis.

5. In the view of the Special Rapporteur, the climate crisis necessitates the recognition of an additional element of adequate housing: sustainability. Housing should not be realized endlessly, in a way that destroys the planet; the climate crisis is already undermining, for many persons, the right to live “somewhere in security, peace and dignity”.<sup>5</sup> States need to build resilience and foster climate mitigation of and adaptation to climate change<sup>6</sup> and reduce

<sup>1</sup> A/64/255.

<sup>2</sup> United Nations Environment Programme (UNEP), *2021 Global Status Report for Buildings and Construction: Towards a Zero-Emissions, Efficient and Resilient Buildings and Construction Sector* (Nairobi, 2021), p. 15.

<sup>3</sup> See <https://www.ohchr.org/en/calls-for-input/2022/call-input-right-adequate-housing-and-climate-change>.

<sup>4</sup> Committee on Economic, Social and Cultural Rights, general comment No. 4 (1991), para. 8.

<sup>5</sup> *Ibid.*, para. 7.

<sup>6</sup> General Assembly resolution 71/256.

the carbon footprint of housing itself so that the right to adequate housing can be enjoyed by all, including by future generations. The right to adequate housing needs to be interpreted in consonance with the right to a clean, healthy and sustainable environment, recently recognized by the General Assembly, in its resolution 76/300. Adding “sustainability” as an element of what constitutes housing adequacy would underscore the interdependence of all human rights, given that housing is an enabling right crucial for the enjoyment of many other human rights in the context of climate change.

6. States have the obligation to take steps to the maximum of their available resources towards the progressive and full realization of the right to adequate housing for all, giving due priority to those groups living in unfavourable conditions.<sup>7</sup> The obligation encompasses taking measures to prevent foreseeable harm by climate change, and mobilizing the maximum available resources in an effort to do so. The full realization will almost invariably require the adoption of a national housing strategy, which should reflect extensive genuine consultation with, and participation by, all of those affected, including those living in situations of homelessness, those who are inadequately housed and their representatives.<sup>8</sup>

7. States have an obligation to provide an effective remedy in cases of violations of the right to adequate housing, including violations deriving from their failure to adopt adaptation measures and to avoid and reduce the effects of climate change. Effective remedies include making full reparations to those whose rights are violated and taking steps to prevent future violations.<sup>9</sup>

8. Under articles 2 and 11 (1) of the International Covenant on Economic, Social and Cultural Rights, States parties have an obligation to seek and provide international cooperation and assistance in order to ensure the realization of the right to adequate housing.<sup>10</sup> The Committee on Economic, Social and Cultural Rights has emphasized that States parties, both recipients and providers of assistance, should ensure that a substantial proportion of financing is devoted to creating conditions leading to a greater number of persons being adequately housed.<sup>11</sup> Five of the treaty bodies of the United Nations have jointly underscored that high-income States should support adaptation and mitigation efforts in developing countries, not only by financing initiatives, but also by facilitating the transfer of green technologies.<sup>12</sup> The Special Rapporteur would like to stress that States also have extraterritorial obligations to avoid conduct that would create a foreseeable risk of impairing the enjoyment of the right to adequate housing in other States.<sup>13</sup>

9. Finally, States should adopt legislation to prevent climate harms and violations of the right to housing by corporations or investors that are domiciled in their territory or jurisdiction, irrespective of whether the harm is caused within their jurisdiction or abroad. The Guiding Principles on Business and Human Rights provide that businesses have human rights due diligence obligations (principle 17) and that individuals and communities should have access to appropriate and effective remedies (principle 25).

## **B. Obligations under international legal frameworks aimed at addressing the climate crisis**

10. States have agreed under the United Nations Framework Convention on Climate Change to achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system (art. 2). The Paris Agreement aims to limit warming to “well below” 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels. In the Paris Agreement, States parties acknowledge that, when taking action to address climate

<sup>7</sup> See International Covenant on Economic, Social and Cultural Rights, and Committee on Economic, Social and Cultural Rights, general comment No. 4 (1991), para. 11.

<sup>8</sup> Committee on Economic, Social and Cultural Rights, general comment No. 4 (1991), para. 12.

<sup>9</sup> See Human Rights Committee, *Billy et al. v. Australia* (CCPR/C/135/D/3624/2019).

<sup>10</sup> International Covenant on Economic, Social and Cultural Rights, arts. 2 and 11 (1).

<sup>11</sup> General comment No. 4 (1991), para. 19.

<sup>12</sup> HRI/2019/1, para. 17.

<sup>13</sup> A/HRC/43/43, para. 76.

change, they should respect, promote and consider their respective obligations on human rights. States parties are expected to prepare, communicate and maintain successive nationally determined contributions – domestic mitigation and adaptation measures – they intend to achieve. It is expected that the contributions will reflect the highest possible ambition of States parties and take into account their common but differentiated responsibilities. States parties are also expected to engage in adaptation planning and implementation, including by formulating and implementing national adaptation plans.<sup>14</sup>

### III. Impact of the climate crisis on the right to adequate housing

11. The climate crisis is already having a severe impact on all aspects of the enjoyment of the right to housing around the world. In addition to the damage and destruction caused by more frequent extreme-weather events, the right to adequate housing is undermined by slow-onset events, such as desertification and rising sea levels, which threaten the habitability of housing and human settlements. More and more, climate change is forcing people to migrate from rural areas due to loss of livelihoods and fresh water for agriculture and drinking. They move to cities, which are often overburdened and unable to ensure the provision of adequate housing for all. Many persons are thus forced to establish their homes in informal settlements, where many are living in inadequate or even inhumane conditions, often with a blatant lack of any security of tenure. Of the 40.4 million persons newly displaced in 2020, 30 million were displaced owing to weather-related events, ranging from droughts to cyclones – far more than the number of those displaced by conflict.<sup>15</sup> This figure is only predicted to increase.

#### A. Extreme weather events

12. Beyond the loss of human life, the destruction that climate-induced extreme weather events, including cyclones, typhoons, flooding and wildfires, wreak on housing has become painfully clear in recent years, as evidenced in many of the submissions received by the Special Rapporteur.

##### 1. Winds and floods

13. Climate-induced storms, changing monsoon patterns and other weather and weather-related events, including the increased rate of glacier melting, have caused damage to and destruction of housing at catastrophic levels. Weather events have become more frequent and intense in recent years, leaving no world region safe. Torrential monsoon rains in Pakistan triggered the most severe flooding in the country's recent history, leaving one third of the country under water, damaging at least 1.5 million houses in Sindh Province alone.<sup>16</sup> In New Zealand, severe floods were experienced in July 2021 and February 2022 on the west coast of South Island; the floods in July required the evacuation of 2,000 people and damaged 563 homes.<sup>17</sup> Brazil was hit several times by intense rains, landslides and storms in 2021 and 2022 that resulted in over 134,000 people being displaced.<sup>18</sup> In 2021, floods after heavy rainfalls caused serious damage in parts of Belgium, Germany and the Netherlands, causing estimated damages of €13 billion to residential properties in Germany<sup>19</sup> and €200 million in damages in the Netherlands.<sup>20</sup> During the 2020 rainy season, thousands of houses collapsed in the Sudan, leaving millions of people homeless.<sup>21</sup> Hurricane Harvey, which hit Houston and

<sup>14</sup> Paris Agreement, preamble and arts. 2 (1) (a), 4 (2) and (3), 7 (9) and 11.

<sup>15</sup> See <https://www.internal-displacement.org/global-report/grid2021/>.

<sup>16</sup> See <https://www.ohchr.org/en/press-releases/2022/09/pakistan-un-experts-call-more-international-solidarity-flood-victims>.

<sup>17</sup> New Zealand submission.

<sup>18</sup> Facts and Norms Institute submission.

<sup>19</sup> Witten Tenants Union submission.

<sup>20</sup> College voor de Rechten van de Mens (Netherlands Institute for Human Rights) submission.

<sup>21</sup> Adequate Housing Organization Sudan submission.

Harris County in Texas, United States of America, damaged more than 300,000 homes, including 25 per cent of the affordable housing stock in Houston.<sup>22</sup>

## 2. Extreme heat and cold

14. The increased frequency and severity of heatwaves<sup>23</sup> is a “silent killer” that leads to the death of thousands in their homes, when homes lack adequate insulation or cooling.<sup>24</sup> Extreme heat poses specific risks to older persons, persons with disabilities and children and worsens neonatal health outcomes.<sup>25</sup>

15. Heatwaves also produce conditions conducive to wildfires, which can cause serious and widescale damage to housing, especially in rural areas. In Australia, the 2019/20 “Black Summer” fires destroyed more than 3,000 homes.<sup>26</sup> In 2017, wildfires in Portugal destroyed almost 2,000 dwellings.<sup>27</sup>

16. While climate change will lower the risk of snow and ice, and overall need for heating in traditionally colder regions, it may actually increase the risk and intensity of sporadic extreme cold due to disruptions it causes to traditional weather patterns such as the polar vortex.<sup>28</sup> This was the case, for example, with the extreme cold that hit Texas in 2021. Extreme cold can be just as deadly as extreme heat, and also poses threats to infrastructure, including road, electrical and water systems. Low-income renters, older persons and persons with disabilities are the most vulnerable, and the most likely to be living in low-quality housing stock, with inadequate insulation or appliances. Combined with rising energy prices, extreme weather conditions have implications for the habitability and affordability of housing and further entrench the energy poverty many people face today.<sup>29</sup>

## B. Slow-onset events

17. Many of the known slow-onset events – sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity, and desertification<sup>30</sup> – have an impact on the enjoyment of adequate housing, particularly with regard to its habitability and location. Other biophysical changes, including to ground and soil, as well as to ecosystem functioning, have flow-on effects that have an impact on housing.

18. Perhaps most notably, rising sea levels will result in partial or total inundation of some coastal areas with the corresponding loss of property, damage to infrastructure and disruption of basic services.<sup>31</sup> Globally, it is projected that, in the midterm (2040–2060), 1 billion people will be at risk from coast-specific climate hazards in low-lying cities and settlements and on

<sup>22</sup> Earthjustice submission.

<sup>23</sup> Intergovernmental Panel on Climate Change, *Climate Change 2021: The Physical Science Basis – Working Group I Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2021).

<sup>24</sup> Office for the Coordination of Humanitarian Affairs, International Federation of Red Cross and Red Crescent Societies and the Red Cross Red Crescent Climate Centre, *Extreme Heat: Preparing for the Heatwaves of the Future* (2022).

<sup>25</sup> A/77/226, para. 48. See also <https://www.hrw.org/news/2022/08/12/europe-heatwaves-disastrous-older-people-people-disabilities>.

<sup>26</sup> Australia, Australian National Audit Office, *Administration of the National Bushfire Recovery Agency* (2021). Available at [https://www.anao.gov.au/sites/default/files/Auditor-General\\_Report\\_2020-21\\_46.pdf](https://www.anao.gov.au/sites/default/files/Auditor-General_Report_2020-21_46.pdf).

<sup>27</sup> Portugal submission.

<sup>28</sup> Judah Cohen and others, “Linking Arctic variability change with extreme winter weather in the United States”, *Science*, vol. 373, No. 6559 (September 2021).

<sup>29</sup> Amulya K.N. Reddy, “Energy and social issues”, in United Nations Development Programme (UNDP), Department of Economic and Social Affairs and World Energy Council, *Energy and The Challenge of Sustainability* (UNDP, 2000).

<sup>30</sup> See [https://unfccc.int/files/adaptation/application/pdf/soe\\_synopsis.pdf](https://unfccc.int/files/adaptation/application/pdf/soe_synopsis.pdf).

<sup>31</sup> See generally Intergovernmental Panel on Climate Change, *Special Report on the Ocean and Cryosphere in a Changing Climate* (2019), chap. 4.

small islands.<sup>32</sup> Small island developing States are especially vulnerable: in Pacific island countries, 57 per cent of built infrastructure is located in risk-prone coastal areas.<sup>33</sup> In relation to Kiribati, the Human Rights Committee observed that “given that the risk of an entire country becoming submerged under water is such an extreme risk, the conditions of life in such a country may become incompatible with the right to life with dignity before the risk is realized”.<sup>34</sup> The Committee has noted that Indigenous Peoples in the Torres Strait region face the prospect of having to abandon their homes, due to erosion and flooding on the islands, and lack of adequate adaptation measures, constituting a violation of their right to private, family and home life and their cultural rights.<sup>35</sup>

19. Climate change will exacerbate several desertification processes, compounding other factors that are causing land degradation and desertification. Approximately 9 per cent of drylands, which cover about 46 per cent of the global land area and are home to 3 billion people, have been classified as desertification hotspots, affecting about 500 million people, particularly in South and East Asia, the Sahara region, including North Africa, and the Middle East. The combined pressures of desertification, climate variability and climate change are contributing to poverty, food insecurity and increased disease burden, rendering housing location inadequate and thereby forcing people to migrate.<sup>36</sup> Climate change is also expected to further exacerbate salinization, which is already one of the major global environmental and socioeconomic issues, with drylands in southern and western Australia, Mexico, South Africa, south-west United States and South America expected to be salinization hotspots,<sup>37</sup> which will further drive climate-induced migration.

### C. Adverse impacts of climate policies and responses on the right to housing

20. Victims of climate-induced disasters often experience considerable delays in the reconstruction of housing, and are thus forced to live in temporary shelters for extended periods of time. In some contexts, rehabilitation is becoming slower as climate-induced disasters become more frequent. In Fiji, some rural residents are still living in tents more than five years after a tropical cyclone.<sup>38</sup> Nearly 10 years post-Hurricane Sandy, New York City still has not finished fixing the \$3 billion in damage caused to public housing by the storm, and does not expect to until December 2023, due to delays in obtaining disaster relief funding.<sup>39</sup> There are vast inequalities between the funds countries can mobilize for reconstruction after extreme-weather events. Post-disaster government financial support, even in developed countries, is often inadequate and does not compensate all losses. In 2020, less than half of all disaster-related losses were insured. Insurance coverage is concentrated in developed countries, with coverage in most developing and emerging economies at well below 10 per cent.<sup>40</sup> Climate change is causing an insurability crisis, with insurers raising premiums or, in some cases, refusing to insure properties in high-risk areas.<sup>41</sup>

21. Contrary to the approach of building back better, too often post-disaster reconstruction can favour the interests of elites and promote privatization or land grabs. In the United States, following hurricanes, landlords have evicted tenants under the guise of remodelling and

<sup>32</sup> Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation and Vulnerability – Working Group II Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press), “Summary for policymakers”, para. B.4.5.

<sup>33</sup> Intergovernmental Panel on Climate Change, *Special Report on the Ocean and Cryosphere*, chap. 4.

<sup>34</sup> *Teitiota v. New Zealand* (CCPR/C/127/D/2728/2016), para. 9.11.

<sup>35</sup> *Billy et al. v. Australia*.

<sup>36</sup> Intergovernmental Panel on Climate Change, *Special Report on Climate Change and Land*, chap. 3.

<sup>37</sup> Amirhossein Hassini, Adisa Azapagic and Nima Shokri, “Global predictions of primary soil salinization under changing climate in the 21st century”, *Nature Communications*, vol. 12 (2021).

<sup>38</sup> Will Ventures submission.

<sup>39</sup> Earthjustice submission.

<sup>40</sup> United Nations Office for Disaster Risk Reduction, *Global Assessment Report on Disaster Risk Reduction 2022*, pp. 32–34.

<sup>41</sup> New Zealand and Federal Housing Advocate of Canada submissions.

rebuilding, and subsequently increased rents to attract wealthier tenants once the reconstruction work was over.<sup>42</sup> On the islands of Providencia and Santa Catalina, Colombia, the reconstruction efforts were delayed and ultimately culturally inadequate, since the aspirations and recommendations of the Raizal people were not taken into account and other interests and visions prevailed.<sup>43</sup>

22. The failure to take timely and adequate adaptation measures, as is often the case when the risks are faced by marginalized groups and communities, can constitute a violation of the right to housing. However, if such actions are not designed from a rights-compliant, holistic and long-term perspective, they can increase the risk of adverse climate-related impacts, lock in, increase or shift vulnerabilities, or entrench existing inequalities<sup>44</sup> – also referred to as maladaptation. There are concerns that the measures taken by several States have resulted in unnecessary displacement and forced evictions without proper consultation, participation or procedural fairness for those affected.<sup>45</sup> In 2021, close to 100,000 people who lived along two narrow water courses in Karachi, Pakistan faced forced evictions and demolition of their homes as part of a project to reduce climate-induced flood risks.<sup>46</sup>

23. The term “climate gentrification” refers to how factors such as geographical exposure, engineered resilience or even public investments in resilience or energy efficiency might affect the marketability and valuation of property, and therefore decrease housing affordability.<sup>47</sup> Due to its elevation, which provides relative protection from flooding and sea-level rise, Little Haiti, a neighbourhood of Miami that is home to approximately 30,000 residents, about 75 per cent of whom are Black or African American and 47 per cent of whom live in poverty, is one of the fastest gentrifying neighbourhoods in the south of Florida.<sup>48</sup>

24. There are ongoing policy debates about “managed retreat” – relocation or resettlement as a form of climate adaptation.<sup>49</sup> Several countries are already engaged in active relocation measures to assist those who are threatened by climate displacement. Resettlement and relocation should be mandated only when strictly necessitated by the unsustainability of maintaining human settlements in at-risk zones. Moreover, such drastic actions should be carefully planned, with full consultation with and participation of affected and receiving communities, to avoid negative impacts and resulting human rights violations.<sup>50</sup> However, where residents initiate such a move, States should support and enable those processes to ensure that the relocation promotes climate resilience and that the right to housing is protected throughout. After Hurricane Dorian hit the Bahamas in September 2019, the authorities bulldozed the remnants of informal settlements, arguing that they had been built on high-risk grounds. The residents, mainly persons belonging to the Haitian minority or migrants, did not even have the chance to save their belongings, and their efforts to rebuild have been threatened with further demolitions.<sup>51</sup>

25. Climate mitigation measures must not result in “green grabbing”, described as the appropriation of land stimulated by global policies of climate change mitigation.<sup>52</sup> Projects

<sup>42</sup> Earthjustice submission.

<sup>43</sup> Communication COL 11/2021, which will be available from <https://spcommreports.ohchr.org/Tmsearch/TMDocuments>.

<sup>44</sup> Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation and Vulnerability*, “Summary for policymakers”, para. C.4.

<sup>45</sup> International Alliance of Inhabitants submissions, containing recommendations emanating from the consideration by the International Tribunal on Evictions on evictions due to climate change in various States. See also [A/73/310/Rev.1](#), para. 97.

<sup>46</sup> Communication PAK 6/2021, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadPublicCommunicationFile?gId=26501>.

<sup>47</sup> Jesse M. Keenan, Thomas Hill and Anurag Gumber, “Climate gentrification: from theory to empiricism in Miami-Dade County, Florida”, *Environmental Research Letters*, vol. 13 (2018).

<sup>48</sup> Earthjustice submission.

<sup>49</sup> [A/77/189](#).

<sup>50</sup> Commission on Human Rights of the Philippines submission. See also [A/HRC/43/43](#), para. 72, [A/64/255](#), para. 74 ff; and [A/73/310/Rev.1](#).

<sup>51</sup> See [BHS 2/2021](#). Available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadPublicCommunicationFile?gId=26398>.

<sup>52</sup> See <https://www.uni-bielefeld.de/einrichtungen/cias/publikationen/wiki/g/green-grabbing.xml>.

related to, for example, mega-dams, cultivation of biofuel feedstock, and lithium mining for electric batteries and solar panels have displaced local communities, leading to a loss of housing, too often without adequate prior consultation, remedies or compensation. The unsustainability of carbon removals and “offsets” as a climate mitigation approach is highlighted by the fact that the projected biological carbon removal pledges in nationally determined contributions would require almost 1.2 billion hectares of land, equivalent to current global cropland.<sup>53</sup> Those measures are no substitute for preventing emissions from fossil fuels and may even reinforce or perpetuate the marginalization of and inequities faced by ethnic minorities and Indigenous Peoples.<sup>54</sup> Projects implemented under climate mitigation programmes, such as Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD+), have in many cases resulted in displacement of forest communities and severe restrictions on their livelihoods because of the lack of recognition of customary land tenure rights and the absence of communities’ participation in the design and implementation of such programmes.<sup>55</sup> In Thailand, forest communities have been criminalized as “destroyers of the forest” and forced eviction orders have been issued against them, without consultation and without provision of alternative land and housing, under forest conservation policies and legislation in the context of the Government’s climate change mitigation action.<sup>56</sup> In India, millions of people, mostly from forest-dwelling peoples, are at risk of forced evictions because of nature conservation claims in a context marked by the weak implementation of the Forest Rights Act.<sup>57</sup>

#### D. Marginalized groups and persons

26. People at risk of marginalization due to geography, poverty, age, gender, sex, disability, migration status, religion, race or cultural or ethnic background are most exposed to the impact of climate change on housing.<sup>58</sup> Persons experiencing homelessness often live in areas that are vulnerable to floods, hurricanes and cyclones, storm surges, mudslides, earthquakes and tsunamis,<sup>59</sup> and are the first to be affected if they cannot get to shelter. About 1 billion dwellers of informal settlements, including 350 million to 500 million children,<sup>60</sup> often living in conditions that constitute a pervasive violation of their right to adequate housing and other human rights,<sup>61</sup> are particularly vulnerable to climate impacts.<sup>62</sup>

27. Estimating that approximately 1 billion children – nearly half of the world’s children – live in countries that are at “extremely high risk” with regard to the impacts of climate change, the United Nations Children’s Fund (UNICEF) has documented that the climate crisis is also a combined housing and child’s rights crisis.<sup>63</sup> Being more likely to have insecure tenure and to be exposed to discrimination, and fearing harassment and violence in shelters, women and girls are also at particular risk during climate events. Similarly, lesbian, gay, bisexual, transgender, intersex and gender-diverse persons are disproportionately

<sup>53</sup> Kate Dooley and others, *The Land Gap Report 2022*.

<sup>54</sup> See [A/77/226](#).

<sup>55</sup> See [A/HRC/36/46](#), [E/C.19/2013/7](#) and Julia Dehm, *Reconsidering REDD+: Authority, Power and Law in the Green Economy* (Cambridge University Press, 2021).

<sup>56</sup> See THA 3/2022, which will be available at <https://spcommreports.ohchr.org/Tmsearch/TMDocuments>.

<sup>57</sup> See IND 13/2019, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadPublicCommunicationFile?gId=24665>.

<sup>58</sup> See Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation and Vulnerability*, “Summary for policymakers”; and Kimberley Thomas and others, “Explaining differentiated vulnerability to climate change: a social science review”, *WIREs Climate Change*, vol. 10, No. 2 (March 2019).

<sup>59</sup> A/HRC/43/43, para. 70.

<sup>60</sup> Habitat for Humanity, United Nations Human Settlements Programme (UN-Habitat), United Nations Children’s Fund (UNICEF). *Children, Cities and Housing: Rights and Priorities* (May 2022).

<sup>61</sup> See [A/73/310/Rev.1](#).

<sup>62</sup> UN-Habitat, *Pro-Poor Climate Action in Informal Settlements* (2018).

<sup>63</sup> UNICEF, *The Climate Crisis is a Child Rights Crisis: Introducing the Children’s Climate Risk Index* (2021).

exposed to inadequate housing and homelessness.<sup>64</sup> In the event of climate change-related emergencies and displacement they face more difficulties in reaching a safe environment and are thus at higher risk of gender-based violence and harassment.<sup>65</sup> Older persons and persons with disabilities have less capacity to move away from exposed areas and face additional barriers accessing shelter and safe spaces,<sup>66</sup> which can be compounded by ageism<sup>67</sup> and ableism. They are particularly vulnerable to extreme heat and cold, as are many persons with chronic diseases.

28. Racial and ethnic minorities,<sup>68</sup> migrants,<sup>69</sup> refugees and internally displaced persons<sup>70</sup> are more frequently segregated and confined to climate-vulnerable land and housing. In particular, undocumented migrants are at high risk of being denied access to emergency shelters, and are likely to avoid seeking access to safe spaces or emergency support due to fear of detention and deportation.

29. Persons in detention, including immigration detention, are extremely vulnerable to climate change and climate-related events. In one stark example, during an evacuation, persons in detention were left behind to fend for themselves, neck-deep in flood waters.<sup>71</sup> Indigenous Peoples<sup>72</sup> and peasants often live on lands and depend on ecosystems that are heavily exposed to climate impacts. They are also at greater risk of eviction and displacement owing to climate mitigation and environment conservation programmes, such as REDD+, hydroelectric or large wind-energy projects or biofuel plantations.<sup>73</sup>

30. Marginalized groups and persons are often left out of climate adaptation actions, more likely to be negatively affected by climate mitigation and (mal)adaptation, more vulnerable to climate events and less likely to benefit from relief and reconstruction. To minimize their exposure to risks, it is crucial that policies are tailored to their specific needs, that safeguards are operationalized, and that marginalized groups are consulted and can participate in decision-making, implementation, monitoring and evaluation at all levels of climate action.

31. The climate crisis has the potential to further entrench socio-spatial segregation, housing discrimination and housing exclusion if States fail to take targeted measures to prevent the climate crisis from spilling over into the housing crisis and vice versa. States need to tackle housing exclusion and discrimination to ensure that everyone can withstand the climate crisis and nobody is left behind. On the other hand, if the international community fails to address the climate crisis, that would trigger and entrench a housing and displacement crisis of global proportions that may potentially not be possible to control.

#### IV. Housing as a contributor to the climate crisis

32. All stages of housing construction, management and demolition have environmental impacts: these processes consume resources (land, water, energy and building materials) and produce greenhouse gas emissions. In 2020, the use and construction of buildings accounted for at least 37 per cent of energy-related carbon dioxide emissions.<sup>74</sup>

<sup>64</sup> International Lesbian, Gay, Bisexual, Trans, and Intersex Association of Asia (ILGA Asia) submission.

<sup>65</sup> See <https://www.ohchr.org/en/statements/2022/05/forcibly-displaced-lgbt-persons-face-major-challenges-search-safe-haven>.

<sup>66</sup> See [A/HRC/44/30](#). See also [A/72/128](#) paras. 30–32.

<sup>67</sup> See [A/HRC/47/46](#).

<sup>68</sup> Earthjustice, Habitat for Humanity International Nepal, and Women's Legal Centre (South Africa) submissions.

<sup>69</sup> [A/77/189](#), para. 34.

<sup>70</sup> See [A/75/207](#).

<sup>71</sup> See <https://www.aclu.org/other/prison-conditions-and-prisoner-abuse-after-katrina#:~:text=The%20prisoners%20spent%20days%20without,action%20lawsuit%20over%20prison%20conditions>.

<sup>72</sup> See [A/HRC/36/46](#).

<sup>73</sup> See [A/HRC/36/46](#) and [E/C.19/2013/7](#).

<sup>74</sup> UNEP, *2021 Global Status Report for Buildings and Construction*, p. 15.

## A. Energy consumption for cooking, heating, cooling and lighting

33. The housing sector is a key contributor to climate change primarily due to direct and indirect emissions related to heating, cooling and lighting and the running of appliances. In 2019, the carbon dioxide emissions from the operation of buildings increased to 10 gigatons of carbon dioxide, representing approximately 28 per cent of global energy-related carbon dioxide emissions. In developed countries, buildings consume over 70 per cent of electrical power generated and 40 per cent of primary energy, and are responsible for 40 per cent of carbon dioxide emissions from combustion.<sup>75</sup>

34. Energy-efficient homes are those that use less energy for heating and cooling and for running appliances. At present, approximately 75 per cent of the building stock in the European Union is energy inefficient according to current building standards.<sup>76</sup> There is growing global demand for appliances: the International Energy Agency expects that 650 million air conditioners will be added by 2030 and another 2 billion by 2050.<sup>77</sup> Heavy reliance on fossil fuel sources for energy needs, including for cooking, heating, cooling, lighting, water heating and the running of appliances, increases emissions, while also causing dangerous air pollution. In the United States, the majority of buildings rely on fossil fuels to power heating appliances such as water heaters and furnaces, with over two thirds of greenhouse gas emissions from residential and commercial sectors in the United States resulting from fossil fuel combustion.<sup>78</sup>

## B. Construction and construction materials

35. Every phase of the life cycle of construction materials – extraction or harvesting, manufacture, transport, construction and demolition – relies on energy and produces greenhouse gas emissions. In 2020, construction emissions were responsible for 10 per cent of total global energy-related carbon dioxide emissions.<sup>79</sup> Materials such as steel, cement bricks and non-certified wood have a large carbon footprint. Cement production is responsible for approximately 7 per cent of global greenhouse gas emissions and steel is responsible for approximately 7 to 9 per cent of such emissions. Reaching net-zero embodied carbon in buildings requires lowering the demand for materials, switching to low-carbon materials, maximizing energy efficiency in manufacturing, enabling the reuse and recycling of construction materials, and reevaluating traditional techniques and materials.<sup>80</sup>

## C. Increase in average per capita living space

36. The increase in average per capita living space is contributing to greenhouse gas emissions due to the additional land and materials needed for construction of housing, as well as additional energy needed for heating and cooling. Between 2015 and 2020, gross floor area of buildings increased almost 10 per cent, from 224 billion square metres to 246 billion square metres. The floor area of the global buildings sector is projected to double by 2060 (an increase of 230 billion square metres) with much of the increase expected to occur in Asia and Africa.<sup>81</sup> However, there are vast differences in average home sizes in different countries.

<sup>75</sup> Economic Commission for Europe (ECE), *#Housing2030: Effective Policies for Affordable Housing in the UNECE Region* (Geneva, 2021), p. 133.

<sup>76</sup> Faidra Filippidou and Juan Pablo Jiménez Navarro, *Achieving the Cost-Effective Energy Transformation of Europe's Buildings* (Publications Office of the European Union, Luxembourg, 2019).

<sup>77</sup> International Energy Agency, *Net Zero by 2050: A Roadmap for the Global Energy Sector* (2021), p. 141.

<sup>78</sup> Earthjustice submission.

<sup>79</sup> UNEP, *2021 Global Status Report for Buildings and Construction*, p. 41.

<sup>80</sup> Global Alliance for Buildings and Construction, UNEP and International Energy Agency, *GlobalABC Roadmap for Buildings and Construction 2020–2050* (Paris, 2020), p. 68.

<sup>81</sup> UNEP, *2021 Global Status Report for Buildings and Construction*, pp. 13 and 29.

37. The increase in floor area per capita is driven by the increase of the size of dwellings and a decrease in the size of households, especially in developed countries. In general, larger households tend to have lower per capita greenhouse gas emissions, due to the sharing of living space and resources. It is predicted that the average global household size will fall from 4.0 persons (1990) to 2.5–3.0 in 2030 and to 2.0–2.8 in 2050, with single-person households expected to become the most prevalent by 2030.<sup>82</sup> Studies have shown that changes in household size between 1995 and 2015 have caused approximately 11.3 gigatons of additional carbon dioxide equivalent.<sup>83</sup> The globalization and imposition of a western model of housing has been detrimental to the development of more localized housing solutions that are culturally and place appropriate.

#### **D. Emission of pollutants**

38. The waste produced by households is responsible for 5 per cent of global greenhouse gas emissions (methane, carbon dioxide and nitrous oxide). Currently, more than 50 per cent of collected waste is not properly managed, and openly burned or dumped at landfills in most developing countries.<sup>84</sup> Improvements in waste management services thus also hold a mitigation potential.

#### **E. Urban sprawl, deforestation and soil sealing**

39. Infrastructure development and urbanization are drivers of deforestation, conversion of ecosystems and land degradation. Since 1975, urban centres and surrounding suburbs have expanded by a factor of 2.5, with large regional variations. Urban expansion is causing landscape fragmentation and having an impact on forest resources and land use, while coastal development is leading to significant loss of mangrove forests.<sup>85</sup> The resulting soil sealing and lack of vegetation and the replacement of green areas with asphalt and concrete contributes to the urban heat island effect, which causes overall urban temperatures to rise.

40. Further, the growth of urban populations and urban sprawl has increased urban transportation demands, and the associated growth in motor vehicles has increased energy consumption and escalated emissions. Fragmented, isolated and low-density living environments are generally far more energy-intensive and promote a heavier reliance on fossil-fuelled transport, which can be reduced by planning more compact communities, where housing is in close proximity to education, employment and services.<sup>86</sup> Transport is a substantial and growing cause of global greenhouse gas emissions, accounting for 23 per cent of global energy-related carbon dioxide emissions in 2019. The majority of transport emissions are caused by road vehicles (70 per cent), followed by aviation (12 per cent), shipping (11 per cent) and rail (1 per cent).<sup>87</sup>

### **V. Towards just, human rights-based, climate-resilient and carbon-neutral housing for all**

41. Meeting the climate and human rights obligations discussed above requires, among others, immediate and substantial reductions in emissions from the global building and

<sup>82</sup> Diana Ivanova and Milena Büchs, “Implications of shrinking household sizes for meeting the 1.5°C climate targets”, *Ecological Economics*, vol. 202 (2022).

<sup>83</sup> Ibid.

<sup>84</sup> Meenu Gautam and Madhoolika Agrawal, “Greenhouse gas emissions from municipal solid waste management: a review of global scenario”, in *Carbon Footprint Case Studies: Municipal Solid Waste Management, Sustainable Road Transport and Carbon Sequestration*, Subramanian Senthilkannan Muthu ed. (Singapore, Springer, 2021).

<sup>85</sup> Intergovernmental Panel on Climate Change, *Climate Change 2022: Mitigation of Climate Change*, chap. 7.

<sup>86</sup> ECE, *#Housing2030*, p. 139.

<sup>87</sup> Intergovernmental Panel on Climate Change, *Climate Change 2022: Mitigation of Climate Change*, chap. 10.

construction sectors. It is possible to reach net-zero operational and embodied carbon emissions in buildings, with clear and ambitious policies to promote passive building design, material efficiency, low-carbon materials, efficient building envelope measures, highly efficient lighting and appliances and better waste management.<sup>88</sup> Concurrently, a dramatic increase in the global housing stock is needed in order to ensure adequate housing for all. In the present report, the Special Rapporteur identifies several pathways to achieving just, human rights-based, climate-resilient and carbon-neutral housing for all.

42. Realizing the right to housing in the context of climate change requires States to step up efforts to improve the energy efficiency of households. To reach net zero emissions by 2050, retrofit rates would need to increase to 2.5 per cent in developed countries (10 million dwellings) and 2 per cent in developing countries (20 million dwellings) annually.<sup>89</sup> While there has been considerable investment in the energy efficiency of buildings, most of the growth in this investment comes from a small number of European countries.<sup>90</sup> At present, energy inefficiency, combined with rising energy prices and demands, are creating financial stress for low-income households and contributing to energy poverty. Similarly, energy efficiency standards and retrofits can also negatively affect housing affordability, especially of rentals.<sup>91</sup> These risks need to be explicitly acknowledged, and programmes must be designed to include protections for renters and not undermine affordability and security of occupancy, and to proactively address energy poverty.<sup>92</sup> Rent control is essential to combat green gentrification. Higher costs resulting from building retrofits or green building requirements can also be prevented through tenant protection regulations, requiring the construction of affordable housing in mixed-use developments and by tying retrofit loans to future energy savings.<sup>93</sup> States should take care to prevent greenwashing in the real estate sector in the form of deceptive marketing targeting the growing demand for more “green” or sustainable homes.<sup>94</sup>

43. Measures to electrify households to transition away from fossil fuels or wood for cooking, heating water and temperature controls could significantly reduce the greenhouse gas emissions from the housing sector, alongside policies to promote the use of highly efficient and low-emissions lighting, appliances and equipment systems. In its net zero scenario, the International Energy Agency envisions almost eliminating gas, coal and oil heating, and high efficiency electric heat pumps becoming the primary technology for space heating, with bioenergy boilers, solar thermal systems, and district heating, low-carbon gas and hydrogen fuel cells all playing a role.<sup>95</sup> Given that 750 million people (1 in 10) still lack access to electricity, mostly in sub-Saharan Africa,<sup>96</sup> the electrification of households needs to be accompanied by investment in green energy, especially for Africa.

44. Two thirds of States have no mandatory building codes or standards for minimum energy performance or requirements for new buildings. Locally appropriate strategies for whole-life cycle assessment and the decarbonization of buildings and construction, which engage both the formal and informal sector, are needed, as is effective education about, and implementation and enforcement of, such strategies or codes. These could include optimization of the building envelope (the building’s outer elements, foundation, walls, roof,

<sup>88</sup> Global Alliance for Buildings and Construction, UNEP and International Energy Agency, *GlobalABC Roadmap*.

<sup>89</sup> International Energy Agency, *Net Zero by 2050*, p. 143.

<sup>90</sup> UNEP, *2021 Global Status Report for Buildings and Construction*, p. 12.

<sup>91</sup> European Federation of National Organisations Working with the Homeless, *Renovation: Staying on Top of the Wave – Avoiding Social Risks and Ensuring the Benefits* (2020); and Witten Tenants Union submission.

<sup>92</sup> ECE, *#Housing2030*, p. 139; and European Federation of National Organisations Working with the Homeless, *Renovation: Staying on Top of the Wave*.

<sup>93</sup> Institute for Human Rights and Business, *Better Building(s): Financing Human Rights-Based Decarbonisation in Europe’s Built Environment* (2021), p. 25.

<sup>94</sup> Farzana Quoquab, Rames Sivadasan and Jihad Mohammad, “Do they mean what they say? Measuring greenwash in the sustainable property development sector”, *Asia Pacific Journal of Marketing and Logistics*, vol. 34, No. 4 (2022).

<sup>95</sup> International Energy Agency, *Net Zero by 2050*, p. 145.

<sup>96</sup> [A/77/284](#), para. 15.

windows, doors and floors), passive design, external shading, reflective surfaces, insulation, thermal and solar windows, daylighting and other design tools.<sup>97</sup>

45. In developing countries, the majority of mitigation potential is in new buildings, while in developed countries the majority of mitigation potential is in retrofitting existing buildings.<sup>98</sup> Developed countries in particular need to eliminate building new as an absolute ideal and take a bird's-eye view of existing housing stock, to allow for: disused buildings to be safely restored and used as living spaces; dated buildings to be renovated and retrofitted; vacation homes to be used as main places of residence; and brand-new empty housing, only serving the purpose of "storing" the finance of private investors and financial institutions, to become actual homes.

46. While there are substantial policy challenges in reaching net-zero embodied carbon for major building components such as cement and steel,<sup>99</sup> there is a growing interest in sustainable materials such as hempcrete, wood, clay and straw or recycled materials, as well as in the reduction of energy use in the construction process (e.g. through prefabrication) and the use of smart technologies and traditional low-carbon technologies.<sup>100</sup> Traditional designs and structures of the housing of Indigenous Peoples, and the use of more sustainable materials, can guide the development of more climate-resilient and carbon-neutral housing.<sup>101</sup>

47. Finally, increased investment in new carbon-neutral, climate-resilient social housing is needed, in addition to the retrofitting of existing social housing. In the United States, scholars and housing activists are calling for 12 million new carbon-neutral public homes to be built in 10 years.<sup>102</sup> In Europe, it is estimated that renovating the social housing sector alone would require an additional €13 billion per year until 2050.<sup>103</sup>

48. There is a need for systemic and integrated urban and rural planning at the national and local levels that fully integrates climate change, disaster risk reduction, location of services and infrastructure, planning for transit, green space, vegetation, the mitigation of heat islands, water and waste management, net-zero building codes and resilience, especially in relation to the informal city. Contrary to planning decisions being driven by the financial interests of developers, as is frequently the case, a rights-based approach to planning ensures community participation, especially of marginalized communities, and the collective agency of residents to shape the future of their city. Urban planning needs to incorporate risk assessment, mapping and resilience planning, to ensure buildings can withstand changing weather conditions and to minimize the need for rebuilding and repair in the aftermath of climate-induced extreme weather events.<sup>104</sup> Increased security of tenure, both in urban informal settlements and in rural communities, including with regard to customary land tenure rights, better equips societies to withstand the impact of climate-induced events. Action needs to be taken immediately, since the way human settlements are designed and constructed will lock in patterns of energy use and greenhouse gas emissions for decades.<sup>105</sup>

49. More compact land use and the provision of less car-dependent transport infrastructure could reduce transport-related emissions by 25 per cent.<sup>106</sup> Numerous cities around the world have goals to become "10-, 15- or 20-minute cities/neighbourhoods" to

<sup>97</sup> Global Alliance for Buildings and Construction, UNEP and International Energy Agency, *GlobalABC Roadmap*, pp. 31 and 36.

<sup>98</sup> Intergovernmental Panel on Climate Change, *Climate Change 2022: Mitigation of Climate Change*.

<sup>99</sup> Global Alliance for Buildings and Construction, UNEP and International Energy Agency, *GlobalABC Roadmap*, p. 68.

<sup>100</sup> Witten Tenants Union submission.

<sup>101</sup> Habitat for Humanity Indonesia submission.

<sup>102</sup> Daniel Aldana Cohen, "A Green New Deal for Housing", in *The Green New Deal and the Future of Work*, Craig Calhoun and Benjamin Y. Fong, eds. (Columbia University Press, 2022).

<sup>103</sup> European Federation of National Organisations Working with the Homeless, "Social ambition, the must for climate transition", position paper, January 2022.

<sup>104</sup> Global Alliance for Buildings and Construction, UNEP and International Energy Agency, *GlobalABC Roadmap*, pp. 22 and 77.

<sup>105</sup> Intergovernmental Panel on Climate Change, *Climate Change 2022: Mitigation of Climate Change*, chap. 8.

<sup>106</sup> *Ibid.*, chap. 10.

promote more active forms of transport and reduce emissions.<sup>107</sup> Paris is investing €250 million to make the city entirely bikeable, through its Plan Velo: Act 2 (2021–2026), which provides for the building of an additional 130 km of bike-safe pathways.<sup>108</sup> From June to August 2022, a German initiative that allowed travellers to use all buses, trams, subways and regional trains for just €9 per month (a reduction of up to 90 per cent in transport fares) reportedly saved 1.8 million tons of carbon dioxide emissions<sup>109</sup> and also helped reduce social isolation.

50. A rights-based transition would require transparency in decision-making; consultation with and participation of affected individuals and communities; non-discrimination; and accountability mechanisms.<sup>110</sup> Specific mechanisms need to be developed to ensure the participation of tenants, including collectively through tenant unions or other associations, in decisions over housing and to engage persons living in informal housing. Persons at risk of marginalization can play an important role in promoting climate justice, and their perspectives, knowledge and lived experience need to inform climate and housing policymaking.<sup>111</sup> Homelessness should be taken into consideration, and housing rights groups should be included, in the development of decarbonization strategies. Ensuring the respect of international labour standards and the rights of workers in the housing and construction sector needs to be an integral part of a transition to carbon-neutral, climate-resilient housing.<sup>112</sup> Despite the marginalization they experience, Indigenous Peoples have been at the forefront of struggles for climate justice, and Indigenous traditional knowledge systems are a crucial resource for climate mitigation and adaptation, including for developing more climate-resilient and carbon-neutral housing.

51. States need to ensure coordination and coherence among housing strategies, climate change-related plans and other relevant policies, including those concerning the green transition, poverty reduction, environment protection, sustainable development and clean energy. Legislation that specifically guarantees the right to housing without discrimination, and measures and duties relating to climate and sustainability, for example those in the Right to Housing Plan 2016–2025 of Barcelona,<sup>113</sup> can help ensure a just transition.

52. States need to step up safeguards and oversight to protect against greenwashing in the housing sector, where entities may misrepresent the energy efficiency of buildings or the levels of carbon emissions during construction.

53. A 2019 analysis showed that 113 out of 164 nationally determined contributions submitted included, either directly or indirectly, urban considerations.<sup>114</sup> In 2020, 136 countries mentioned building emission reductions in their nationally determined contribution.<sup>115</sup>

54. Given the vulnerability of people to climate-related impacts in both urban and rural areas, it is critical to support countries to effectively address human settlement issues in the formulation and implementation of national adaptation plans.<sup>116</sup> However, of the 39 countries that have submitted such plans, only 15 set out more detailed measures in the field of housing.

<sup>107</sup> T.M Logan and others, “The x-minute city: measuring the 10, 15, 20-minute city and an evaluation of its use for sustainable urban design”, *Cities*, vol. 131 (2022); and C40 Mayors’ Agenda for a Green and Just Recovery.

<sup>108</sup> See <https://www.weforum.org/agenda/2021/10/paris-plans-completely-cyclable-by-2026/>.

<sup>109</sup> “Germany’s cheap summer train fares prevented 1.8 million tons of carbon pollution”, *Yale Environment 360*, 31 August 2022.

<sup>110</sup> Institute for Human Rights and Business, *Dignity by Design: Human Rights and the Built Environment Lifecycle* (2019).

<sup>111</sup> [A/HRC/50/57](#), para. 32.

<sup>112</sup> See International Labour Organization, *Guidelines for a just transition towards environmentally sustainable economies and societies for all* (2015); and Institute for Human Rights and Business, *Dignity by Design*.

<sup>113</sup> See <https://www.habitatge.barcelona/en/strategy/right-to-housing-plan>.

<sup>114</sup> UN-Habitat, *Sustainable Urbanization in the Paris Agreement* (Nairobi, 2017), p. IX.

<sup>115</sup> UNEP, *2021 Global Status Report for Buildings and Construction*, pp. 12–13.

<sup>116</sup> See UN-Habitat, *Addressing Urban and Human Settlement Issues in National Adaptation Plans: A Supplement to the UNFCCC Technical Guidelines on the National Adaptation Plan Process* (2018).

55. Climate plans, particularly at the national level, have limited cross-references to housing implications and opportunities, and rarely incorporate a human rights lens.<sup>117</sup> The climate action plans produced by some member cities of the C40 network can serve as examples of how the housing dimension can be specifically incorporated in mitigation and adaptation strategies.<sup>118</sup>

56. Holistic policies are needed to ensure that decarbonization does not exacerbate housing unaffordability and homelessness, and that the benefits of the transition are shared by all. The costs of the green transition in the housing sector must be shared fairly between public authorities, taxpayers, homeowners and tenants or other affected interest groups.<sup>119</sup> Examples of measures include the following: in the European Union, a social climate fund has been proposed to address social impacts that may arise from the “Fit for 55” decarbonization package;<sup>120</sup> in the United States, the Justice40 whole-of-government project aims to ensure that at least 40 per cent of the overall benefits from federal investments in climate and clean energy go to disadvantaged communities;<sup>121</sup> in the Colombian road map to net-zero carbon buildings, the first priority is placed on vulnerable communities in urban and rural areas experiencing energy poverty;<sup>122</sup> and the India Cooling Action Plan, aimed at reducing cooling demand, has specific provisions for low-income group housing.<sup>123</sup> In the Netherlands, the Energisprong programme funds investments in retrofitting social housing through bill savings, ensuring no net additional cost to tenants.<sup>124</sup> The development of inclusive and redistributive models, such as housing communities or cooperatives, can enable sustainable, affordable, inclusive housing for marginalized groups.

57. In 2010, States established the Green Climate Fund under the United Nations Framework Convention on Climate Change as an operating entity of the financial mechanism to assist developing countries in adaptation and mitigation practices to counter climate change. The commitment made in 2010 to mobilize \$100 billion per year by 2020 to address the needs of developing countries<sup>125</sup> has not been realized. In existing mechanisms, there are considerable delays in and barriers to delivering finance at the local level. There is a need for simplified, efficient mechanisms for the provision of international finance for mitigation and adaptation interventions in the housing sector that can be accessed by local actors, including cities, subnational governments, housing providers, housing cooperatives and residents’ associations. In addition, the creation of a global fund for social protection – as suggested by the International Labour Organization and the Special Rapporteur on human rights and extreme poverty – could, among other things, maintain social protection floors for climate-impacted people.<sup>126</sup>

58. It is possible to finance a just transition to rights-compliant, climate-resilient and carbon-neutral housing for all; what is lacking is political will. The Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment demonstrated that \$7 trillion could be raised annually for realizing the Sustainable Development Goals, through measures including a global wealth tax; redirection of environmentally damaging subsidies; a global carbon tax; reduction of tax evasion and avoidance; special drawing rights for climate action; debt relief; and fulfilment of official development assistance commitments.<sup>127</sup>

<sup>117</sup> Institute for Human Rights and Business submission.

<sup>118</sup> See [https://www.c40knowledgehub.org/s/article/Mapped-Cities-with-a-climate-action-plan?language=en\\_US](https://www.c40knowledgehub.org/s/article/Mapped-Cities-with-a-climate-action-plan?language=en_US).

<sup>119</sup> Institute for Human Rights and Business, *Better Building(s)*.

<sup>120</sup> See <https://www.consilium.europa.eu/en/policies/green-deal/fit-for-55-the-eu-plan-for-a-green-transition/>.

<sup>121</sup> See <https://www.thejustice40.com/>.

<sup>122</sup> See [https://drive.google.com/file/d/1m\\_IXAjLhtGxdh0k-YAMNCpI29vMc0kk4/view](https://drive.google.com/file/d/1m_IXAjLhtGxdh0k-YAMNCpI29vMc0kk4/view).

<sup>123</sup> National Human Rights Commission, India submission.

<sup>124</sup> European Federation of National Organisations Working with the Homeless submission.

<sup>125</sup> Conference of the Parties to the United Nations Framework Convention on Climate Change, decision 2/CP.15, para. 8. See also <https://unfccc.int/topics/climate-finance/workstreams/needs-report>.

<sup>126</sup> See [A/HRC/47/36](#).

<sup>127</sup> See [A/77/284](#).

59. A human rights-based transition to climate-resilient and carbon-neutral housing for all requires remedies and compensation for climate-induced impacts on housing from those most responsible for causing the climate crisis. Countries in the global North have disproportionately contributed to cumulative greenhouse gas emissions, with some analyses showing they are responsible for up to 92 per cent of excess historical emissions.<sup>128</sup> There is “extreme carbon inequality”, with the richest 1 per cent of people globally responsible for twice as many emissions between 1990 and 2015 as the poorest half of humanity.<sup>129</sup> About 63 per cent of global greenhouse gas emissions since the Industrial Revolution can be traced to 90 carbon majors.<sup>130</sup> Further research is needed to document the responsibility of private equity and real estate finance in contributing to the climate crisis through overbuilding, as the basis for accountability mechanisms.

60. It is estimated that developing countries will face between \$290 billion and \$580 billion in economic losses from climate change in 2030, in addition to non-economic losses, with some predictions suggesting such losses could reach \$1.7 trillion by 2050.<sup>131</sup> The super-profits made by the fossil fuel industry between 2000 and 2019 could cover the costs of climate-induced economic losses in 55 of the most climate-vulnerable countries nearly 60 times over.<sup>132</sup> Therefore, “equitable, flexible and accountable mechanisms to address climate change-related loss and damage, now and in the future, are a climate justice imperative”.<sup>133</sup>

61. The Special Rapporteur welcomes in principle the decision taken at the twenty-seventh session of the Conference of the Parties to the United Nations Framework Convention on Climate Change to establish a fund to respond to loss and damage<sup>134</sup> as an important step from the perspective of the right to adequate housing. However, it remains to be worked out how to ensure that assistance provided through the fund actually reaches the people and communities who have been affected, in particular those whose homes have been damaged or destroyed due to climate-related impacts. In the view of the Special Rapporteur, this will require mechanisms of public control and strong civil society participation in the implementation, management and oversight of the fund.

62. Currently, the overwhelming majority of climate finance is not offered as grants, but rather as loans or non-grant instruments.<sup>135</sup> In addition, extreme weather events are forcing already heavily indebted countries deeper into debt. The suspension or cancellation of debt payments, especially in the aftermath of extreme climate events, is needed to ensure countries have the necessary resources for emergency response and reconstruction.<sup>136</sup>

## VI. Conclusions and recommendations

63. **Under the framework of the right to adequate housing, States have an obligation to use the maximum of their available resources to address the impacts of climate change on housing, to mitigate it and avoid foreseeable harm. In the light of the climate crisis, the core elements of the right – security of tenure, availability of services,**

<sup>128</sup> Jason Hickel, “Quantifying national responsibility for climate breakdown: an equality-based attribution approach for carbon dioxide emissions in excess of the planetary boundary”, *The Lancet Planetary Health*, vol. 4 (September 2020).

<sup>129</sup> Tim Gore, “Confronting carbon inequality: putting climate justice at the heart of the COVID-19 recovery” (Oxfam International, 2020).

<sup>130</sup> Richard Heede, “Tracing anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers: 1854–2010”, *Climatic Change*, vol. 122 (2014).

<sup>131</sup> Anil Markandya and Mikel González-Eguino, “Integrated assessment for identifying climate finance needs for loss and damage: a critical review”, in *Loss and Damage from Climate Change: Concepts, Methods and Policy Options*, Reinhard Mechler and others, eds. (Springer, 2018).

<sup>132</sup> Loss and Damage Collaboration, “The cost of delay: why finance to address loss and damage must be agreed at COP27” (October 2022).

<sup>133</sup> See <https://www.ohchr.org/sites/default/files/2022-11/2022-11-02-HC-Open-Letter-to-UNFCCC-COP27.pdf>.

<sup>134</sup> See <https://unfccc.int/documents/624440>.

<sup>135</sup> Oxfam International, “Climate finance shadow report 2020”.

<sup>136</sup> Tess Woolfenden and Sindra Sharma Khushal, “The debt and climate crises: why climate justice must include debt justice” (October 2022).

affordability, habitability, accessibility, appropriate location and cultural adequacy – acquire a new meaning. The Special Rapporteur believes that it is time to recognize that sustainability of housing should become an additional core element of the right to adequate housing, in order to ensure that the right to adequate housing is interpreted in full consonance with the right to a clean, healthy and sustainable environment. Sustainability implies that States should not realize the right to adequate housing in an endless manner that would undermine collective survival and with it the right to housing as such. Instead, it requires reducing housing’s own carbon footprint, and ensuring housing’s resilience against climate events.

64. Extreme weather events and slow-onset events have significant and lasting impacts on the enjoyment of the right to housing. The frequency and risk of extreme weather events, as well as the long-term impact of slow-onset events, are already evident. Such events damage and destroy housing and make existing housing inadequate due to changing conditions, drive climate migration and may in some instances require even the permanent relocation of communities. Reconstruction may present an opportunity to redress inequalities and achieve security of tenure, housing resilience and carbon-neutrality. Reconstruction efforts should not have a detrimental impact on the right to housing of climate disaster victims. States have an obligation:

(a) To continuously work, in consultation with and with the participation of affected people, to improve the climate resilience of housing and climate-disaster preparedness. This entails regional or local strategies to map, identify, prepare for and mitigate climate risks and to engage in participatory neighbourhood planning exercises, with representation from vulnerable groups;

(b) To include informal settlements and their residents in any climate adaptation planning;

(c) To provide safe and adequate shelter and reconstruction assistance after climate events, including through the provision of funds, materials, facilities and infrastructure. In this context the Special Rapporteur wishes to reiterate the recommendations contained in the reports on post-conflict and post-disaster reconstruction<sup>137</sup> and disaster relief efforts<sup>138</sup> submitted by a previous mandate holder;

(d) To work, in the case of climate-induced migration, with interest groups to ensure rights-compliant, resilient and durable housing solutions, including security of tenure, in places of destination;

(e) To ensure that resettlement and relocation are pursued only when they cannot be avoided and are strictly necessitated by the unsustainability of maintaining human settlements in at-risk zones. Any resettlement and relocation should be planned and implemented with the full consultation and participation of affected and receiving communities and comply with the basic principles and guidelines on development-based evictions and displacement<sup>139</sup> and other applicable human rights norms, for example the United Nations Declaration on the Rights of Indigenous Peoples.

65. The above actions should be conducted in a manner that reinforces the right to adequate housing. As the right to adequate housing is closely interlinked with the right to participation, States have the obligation to ensure access to information and the participation of all affected persons, including marginalized groups, in the development, implementation, monitoring and evaluation of any climate-related actions and policies. This would include persons living in informal settlements, persons in situations of homelessness, persons with disabilities, older persons, women, children, lesbian, gay, bisexual, transgender, intersex and gender diverse persons, racial and ethnic minorities, Indigenous Peoples, peasants, fisherfolk, migrants, refugees and internally displaced persons. States must also recognize the valuable role of climate and housing rights defenders and ensure their protection in accordance with the Declaration

<sup>137</sup> A/HRC/16/42.

<sup>138</sup> A/66/270.

<sup>139</sup> A/HRC/4/18, annex I.

on the Right and Responsibility of Individuals, Groups and Organs of Society to Promote and Protect Universally Recognized Human Rights and Fundamental Freedoms (Declaration on Human Rights Defenders).

66. States must ensure that all climate mitigation and adaptation projects comply with the right to adequate housing and do not produce more inequality or result in climate gentrification, “green grabbing”, forced evictions and arbitrary displacement of communities. International agencies and mechanisms, donor States and businesses all have due diligence obligations and should put in place safeguards and grievance mechanisms to ensure that the mitigation and adaptation projects they fund do not violate the right to adequate housing or any other human rights norms.

67. States should adopt legislation to protect, respect and fulfil the right to adequate housing without discrimination. They should, in addition:

(a) Incorporate the right to adequate housing in national climate action plans, national determined contributions and national adaptations plans;

(b) Ensure that national housing strategies take climate risks into account and are coordinated with climate policies.

68. The housing sector is a significant contributor to climate change, accounting for 37 per cent of global energy-related carbon dioxide emissions through energy consumption and construction alone. Increases in per capita living space, the emission of pollutants, deforestation, desertification, loss of biodiversity and urban sprawl all contribute further emissions that negatively affect the climate. In the light of a growing world population ever in demand of housing, there is a need to ensure housing sustainability.

69. The realization of the right to adequate housing, especially if continued in the way it has been realized in many highly developed countries, has a strong climate impact in comparison to the realization of some other rights (e.g. the right to education or the right to equality before the law). The Special Rapporteur is of the view that defining adequate housing should not only entail considering minimum floor sizes per person, but also maximum floor sizes. The further improvement of housing conditions for some should not undermine the right to adequate housing for others and for future generations.

70. Human rights obligations and obligations under international climate agreements require States to achieve as quickly as possible a just transition towards rights-compliant, climate-resilient and carbon-neutral housing for all, including by:

(a) Stepping up efforts to improve the energy efficiency of households, such as the adoption of energy efficiency standards; the encouragement of retrofitting; the use of highly efficient and low-emissions lighting, appliances and equipment systems; and expansion of access to electricity produced in an environmentally friendly manner and other green sources of energy where households still depend on fossil forms of energy for heating, cooking and other needs;

(b) Encouraging greater housing-need satisfaction from the existing housing stock to allow for: disused buildings to be safely restored and used as living spaces; dated buildings to be renovated and retrofitted; and vacant and secondary homes to be used as main places of residence, for example through appropriate taxation policies. In the latter context, States should implement recommendations to address the financialization of housing<sup>140</sup> to ensure climate mitigation in the housing sector;

(c) In housing construction, promoting the use of affordable and accessible net-zero embodied carbon for major building components, as well as renewable materials such as wood, clay and straw, or recycled materials;

(d) Investing in the development of new carbon-neutral, climate-resilient social housing that is affordable for all;

<sup>140</sup> See A/HRC/34/51.

(e) Ensuring that urban planning policies integrate climate change, disaster risk reduction, energy response, land use, transport, location of services and infrastructure equity, and also including in those efforts any informal settlements and their residents.

71. Given that in many countries the primary responsibility for housing is vested with local and regional governments, in order to make the shift towards rights-compliant, climate-resilient and carbon-neutral housing for all, States must ensure that local and regional governments:

(a) Are equipped with adequate authority and human and financial resources, including by building technical expertise in the areas of human rights, housing and climate change at the local level;

(b) Proactively conduct participatory land use planning and urban planning to avoid entrenching existing inequalities or creating long-term climate risks;

(c) Are provided with sufficient leadership, coordination and oversight by State-level entities for the implementation of climate mitigation and adaptation policies.

72. Business and non-State actors should conduct human rights due diligence and remedy human rights violations for which they are responsible. Specifically, this requires:

(a) Businesses to incorporate the right to adequate housing in corporate, social and governance policies;

(b) Architecture and design firms to design with the objective of transitioning to climate-resilient and carbon-neutral housing in mind and to innovate in sustainable materials and processes, paying specific attention to the needs of marginalized groups;

(c) Construction and engineering companies to consider climate impacts when sourcing materials and consider utilizing low-carbon construction processes and methods;

(d) Investors and developers to shift investment away from short-term profit-maximization that promotes overbuilding and to proactively support climate-resilient, carbon-neutral housing;

(e) Owners and managers of buildings to seek to reduce the operational carbon emissions from buildings.

73. A rights-based approach entails adopting a holistic and long-term view, adopting safeguards to prevent harm, putting in place accountability mechanisms, providing information about decision-making processes, ensuring the participation and inclusion of affected persons and groups, ensuring non-discrimination, and prioritizing the needs of those who are most vulnerable, while promoting co-benefits.<sup>141</sup>

74. It is crucial to ensure that efforts to curb carbon emissions in the built environment and the housing sector do not drive up housing and energy costs for households, further expand the global deficit of adequate and affordable housing or increase existing vulnerabilities and marginalization. Measures to ensure the affordability of housing in the just transition may include:

(a) Providing targeted financial support, including to low-income households and those living in informal housing;

(b) Splitting the costs of the green transition in the housing sector fairly between public authorities, taxpayers, homeowners and tenants or other affected interest groups;

(c) Preventing building retrofits or green building requirements from increasing housing costs, through rent caps, tenant protections, requirements for a

<sup>141</sup> Institute for Human Rights and Business, *Dignity by Design*, p. 22.

---

proportion of genuinely affordable housing in mixed-use developments, and the tying of retrofit loans to future energy savings;

- (d) Investing in affordable public or social housing.

75. The Special Rapporteur calls on the international community:

(a) To create simplified, efficient mechanisms for the provision of international financial assistance for mitigation and adaptation interventions in the housing sector for developing countries that are particularly vulnerable to the adverse effects of climate change;

(b) To ensure that the recently established loss and damage fund becomes resourced and operational as quickly as possible, is disbursed efficiently, includes mechanisms of public control and for participation of civil society actors, and ensures that support actually goes to those whose homes have been damaged or have become inhabitable due to climate-related impacts;

(c) To create an international mechanism for obtaining redress and compensation for climate-induced impacts on housing from those most responsible for causing the climate crisis;

(d) To establish the historic responsibilities of States and private equity and real estate finance entities stemming from encouraging overbuilding, and ensure they participate in any redress and compensation mechanism proportionally, according to their level of contribution to the climate crisis;

(e) To allow for the suspension or cancellation of debt payments in the aftermath of extreme climate events so that governments can ensure climate-efficient and resilient reconstruction for those whose homes have been damaged or destroyed.

---