Health submission: Sharm el-Sheikh mitigation ambition and implementation work programme

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This submission is made by the Global Climate and Health Alliance, with inputs from the The Pathfinder Initiative, London School of Hygiene and Tropical Medicine; Health and Climate Network; Health Care Without Harm; International Society of Doctors for the Environment (ISDE); Health In Harmony; International Network on Children's Health, Environment and Safety (INCHES); United Nations University UNU-MERIT, United for Global Mental Health; International Society for Environmental Epidemiology (ISEE), Collegium Ramazzini; Salud por Derecho; Eco-Accord; Nigerian Women Agro Allied Farmers Association; MMBSHS Trust (India); Action pour le Respect et la Protection de Environnement (Cameroon); Department of Global Health Entrepreneurship, Tokyo Medical and Dental University (Japan), Faculty of Public Health (United Kingdom).

Within the overarching theme of the 2023 Mitigation Work Programme workshops of a just transition, this submission focuses on the third and first sub-themes identified by the co-facilitators, namely opportunities to promote sustainable development and understand socioeconomic effects, and implementing policies and measures with global overview and country-specific experience.

Principles for a just transition

A just transition in any sector should maximise the social and economic opportunities of climate action, while minimizing negative impacts. As such, a just transition should be:

- (1) Rapid and in line with the science. Delays in inevitable transitions are inherently unjust, with an increasing threat to health and lives. Rapid and just transitions are required across all sectors to prevent worsening impacts of climate change and thus for the sake of equity between and within countries. Transitions in all sectors are inevitable. Any *just* transition must be well planned and rapidly implemented, to attenuate further progression of climate change which will otherwise necessitate unplanned transitions which leave the most vulnerable behind.
- (2) Managed with deliberate and meaningful consultation of the communities most impacted by the current business-as-usual models, to identify shortcomings in the current system to be addressed as part of the transition; and of communities which may be vulnerable either as a result of current norms, and/or due to measures under consideration as part of the transition in a given sector, such as fossil fuel workers and farmers.
- (3) Planned to maximise physical and mental health gains. Not all paths to emissions reductions are equally beneficial to health, and indeed some are harmful, as discussed below. Health impact assessments should be performed prior to implementation. Furthermore, quantification and monitoring of health gains which arise from the majority of mitigation measures can help build the case for accelerated action. Healthy populations have reduced healthcare costs, are more economically productive, and are more resilient to climate threats.
- (4) Leveraged as an opportunity to promote equity. Just transitions in a given sector are a prerequisite for addressing the inequalities in climate impacts observed between and within countries. Countries (and non-Party entities) which have benefitted as a result of high emission development

and business should enable transitions in other populations through provision of adequate finance, as well as accelerating just transitions domestically. Within countries, just transitions can support those without adequate access to, for example, clean energy, nutritious food, quality education, or safe employment.

Background: mitigation and health

Mitigation of climate change is essential to protect human health. Climate change threatens human health in all world regions¹. Health impacts of climate change include injury, illness and mortality arising from extreme weather events, including heatwaves, wildfires, droughts, floods, and storms; as well as vector-borne and water-borne disease, malnutrition due to food insecurity, and significant mental health impacts². Populations especially vulnerable to the health impacts of climate change should be deliberately and adequately consulted to ensure a just transition, including but not limited to Indigenous peoples, low-income populations, people living with disabilities, outdoor workers such as agricultural and construction workers, women, and children. In most cases, the populations most vulnerable to the health impacts of climate change undermines the human right to a clean, healthy and sustainable environment, and the human right to health, both of which are acknowledged in the Sharm El-Sheikh Implementation plan, and with the right to health also acknowledged in earlier COP cover decisions. As such, **delivering the 1.5°C target of the Paris Agreement, with little or no overshoot, is a public health imperative, and reducing emissions can prevent costly losses and damages, including mortality and morbidity.**

Furthermore, mitigation in the energy, transport, built environment, food and agriculture, and waste sectors, as well as ecosystem-based approaches and solutions, can yield health co-benefits, including through improved air quality, healthy diets, increased physical activity and improved mental health^{3,4}. This relates to the concept of 'health for all policies', which is rooted in the mutual benefits of intersectoral cooperation between health and other sectors. Improving health and reducing health inequalities allows for a better educated, more equal, and more productive populations⁵.

Short-lived climate pollutants (SLCPs), including black carbon, methane, and tropospheric ozone present particular risks for both public health and the climate. Black carbon and tropospheric ozone are health-damaging air pollutants, while methane is a precursor of the latter. Methane has 80+ times the warming effect of CO_2 , and is responsible for approximately 30% of warming to date⁶. Limiting warming to 1.5°C with little to no overshoot cannot be achieved without targeted near term action to mitigate methane, alongside concurrent, ambitious mitigation of other CO_2 and non- CO_2 climate pollutants.

Finance (including public finance from developed to developing countries, and from the private financial sector), is vital to enable a just transition.

¹ IPCC, 2022. AR6 Working Group II Report, Chapter 7. Online

² Romanello et al, 2022. The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels. Online.

³ Hamilton et al, 2021. The public health implications of the Paris Agreement: a modeling study. <u>Online</u>.

⁴ WHO, 2021. COP26 Special Report on Climate Change and Health: The Health Argument for Climate Action. Online.

⁵ European Health Observatory, 2023. Making Health for All Policies: Harnessing the co-benefits of health. <u>Online</u>.

⁶ International Energy Agency, 2023. Methane and climate change. <u>Online</u>.

Since energy and the food and agriculture sectors are leading sources of global emissions, the latter sections of this submission focus on just transitions in these systems. Emissions reductions in these sectors will also support mitigation in the healthcare sector itself, which accounts for 5% of global emissions⁷.

Opportunities of a just energy transition

Just energy transitions must be managed to protect vulnerable populations, and to provide support to people affected by the transition, including fossil workers and vulnerable consumers such as those with unreliable or unaffordable energy access, as discussed further below.

Health impacts of air pollution

A just transition from fossil fuels to renewable energy, supported by improvements in energy efficiency, not only reduces the health impacts of climate change, but also the immediate and serious health harms. Fossil fuel driven ambient air pollution accounts for approximately 3.6 million deaths annually, including from cardiovascular disease, lung cancer and chronic respiratory diseases^{8,9}. Other estimates place the burden still higher; up to 8 million deaths annually or 1 in 7 of all deaths¹⁰. Emerging evidence links higher levels of air and noise pollution with poorer mental health, including increased levels of depression, anxiety, psychosis, bipolar disorder, schizophrenia, suicide, and worsened mental wellbeing¹¹. Data from the Lancet Countdown shows that the power generation, industry, transport, and agriculture sectors drive the vast majority of premature deaths from fossil fuel PM_{2.5} pollution¹². In China and India, costs of reducing greenhouse gas emissions could be compensated with the health co-benefits alone, with partial offsetting in the United States and Western Europe.¹³ Health co-benefits of fossil fuel methane mitigation include reduced human exposure to ground level ozone and avoided crop losses from ozone¹⁴.

Protecting populations, especially the most vulnerable

A just energy transition can be achieved through effective social dialogue among all groups impacted¹⁵. This includes people who are (1) currently employed in the fossil fuel industry, which itself carries a range of associated health risks, and who will require alternative means of employment; (2) live locally to fossil fuel extraction or transport sites and are at risk of associated air, water and soil pollution; (3) affected by air pollution due to fossil fuel combustion; (4) lack affordable access to clean energy; (5) live in the vicinity of mining sites for metals needed to build renewable energy infrastructure.

 ⁷ Romanello et al, 2022. The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels. <u>Online</u>.
⁸ Lelieveld et al, 2019. Effects of fossil fuel and total anthropogenic emission removal on public health and climate. PNAS; 116 (15): 7192-7197.
Online.

⁹ World Health Organization, n.d. Ambient air pollution. <u>Online</u>.

¹⁰ Vohra et al, 2021. Global mortality from outdoor fine particle pollution generated by fossil fuel combustion: Results from GEOS-Chem. <u>Online</u>. ¹¹ Lawrence et al. 2021, The impact of climate change on mental health and emotional wellbeing: current evidence and implications for policy and practice. <u>Online</u>.

¹² Romanello et al, 2022. The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels. Online.

¹³ Markandya et al, 2018. Health co-benefits from air pollution and mitigation costs of the Paris Agreement: a modelling study. Online.

¹⁴ Climate and Clean Air Coalition, 2021. Global Methane Assessment (full report). <u>Online</u>.

¹⁵ International Labour Organization, n.d. Frequently Asked Questions on just transition. <u>Online</u>.

In addition to the health impacts of fossil fuel combustion (i.e. climate change and air pollution), fossil fuel dependence threatens human health throughout extraction, processing, transport, and waste disposal. These risks are discussed at length in a 2022 report by the Global Climate and Health Alliance¹⁶, and summarised below. Living in proximity to fossil fuel extraction sites has been associated with respiratory conditions, some cancers, cardiovascular disease, liver damage. Children living close to coal fired power plants are at higher risk of neurobehavioral problems.¹⁷ Proximity to petrochemical refineries are associated with an increased risk of respiratory illnesses such as childhood asthma cardiovascular diseases, and blood cancers, Workers at extraction sites and in refineries face particularly severe occupational health risks, including terminal respiratory diseases such as black lung, silicosis, chronic obstructive lung disease, mesothelioma and other cancers, as well as safety risks from industrial fires and explosions. Transport of fossil fuels also carries risks such as explosions and spills with associated acute injuries or death and chronic health issues including mental health impacts¹⁸. Chemicals used in fracking persist long after the oil or gas has been extracted, many of which harm human health and which can contaminate drinking water supplies with grave effects. Meanwhile, the isolation of coal and oil after extraction from the ore, sands or silt, which themselves contain high levels of toxic metals, can require the use of harmful chemicals. The "tailings" which remain after this separation may leach into surrounding water and soil.

False solutions

We note emphatically that only a full phase-out of fossil fuels will yield full health gains: carbon capture use and storage technologies (CCUS) are not only unproven to work at scale and potentially costly, but will not necessarily address the health and social impacts of extraction, processing and air pollution. Similarly, blue hydrogen is derived from fossil gas, and depends on untested CCUS. Carbon offsetting allows continued fossil fuel use by the company or country purchasing the offset, with associated health impacts. Abatement "fixes" should be employed for only the hardest to avoid emissions, and should not be relied upon to achieve net zero. Energy efficiency measures can accelerate progress in emissions reductions. Methane mitigation strategies in fossil fuel production, transport and use are not a substitute for rapid progress on full fossil fuel phase out, nor should they be used as a rationale for fossil fuel expansion. The complete phase-out of all fossil fuels, and not only of emissions, is imperative to protect human health.

Financing and subsidy reform

In order to enable a just energy transition, combined international and national processes are needed to overcome the Capital Cost Barrier for renewable electricity in developing countries, alongside public and private financial sector and investment reforms to upscale renewable energy systems, efficiency, infrastructure and product development investments, and to reduce incumbent fossil fuel and nuclear energy financing. Such measures include free trade of and no VAT on certified clean products and green electricity.

¹⁶ Global Climate and Health Alliance, 2022. Cradle to Grave: the health harms of fossil fuel dependence and the case for a just phase-out. Online.

¹⁷ Zhang et al, 2021. Proximity to coal-fired power plants and neurobehavioral symptoms in children. Online.

¹⁸ Chong & Srebot, 2019. Environmental Disasters and Mental Health: Evidence from Oil Spills in the Peruvian Amazon. <u>Online</u>.

Energy pricing should reflect the true cost of the fuel in question, including health impacts¹⁹. According to research by the Health and Environment Alliance, in G20 countries, costs of health impacts of fossil fuel use were found to be six times greater than the sums invested in fossil fuel subsidies. Targeted subsidies to vulnerable communities be provided to maintain affordable energy access. In Indonesia, reductions in energy subsidies were managed by redirecting subsidies to improved health and social protection, reducing healthcare costs²⁰. This also helped to build public support for the reform, and reduced the burden on household budgets.

Maximising health and equity gains in the transitions

The health (and thus economic) returns of a just transition can be further increased through strategic prioritisation of interventions which maximise health gains^{21,22}. In the transition away from fossil fuelled vehicles, measures which increase safe active transport (walking and cycling) and reliable, safe and efficient public transport^{23,24} can reduce physical inactivity (which currently causes 3.2 million deaths annually²⁵), reduce air pollution, reduce road crashes, and improve mental health. OECD recent work on transformative change in the transport sector tends to focus on access rather than mobility which provides a more equitable platform, for example in considering people with disabilities²⁶. Access to clean energy is a positive social determinant of health²⁷. For the 759 million people currently living without access to electricity²⁸, local renewable energy grids can address challenges of energy access without extensive investment in infrastructure to transport electricity or fossil fuels over long distances, or dependence on solid household fuels for cooking, heating and lighting, which are a leading cause of deaths from indoor air pollution household air pollution was responsible for an estimated 3.2 million deaths per year in 2020, including over 237 000 deaths of children under the age of 5²⁹. At the healthcare facilities level, reliable energy access is also essential for the provision of many healthcare services, and will help to improve resilience. In the buildings sector, improved insulation and passive cooling not only reduce energy consumption but protects inhabitants from extreme outdoor temperatures, reducing associated health risks.

A just transition to renewable sources must include measures to protect local communities and Indigenous peoples from mineral extractivism to support renewable energy infrastructure³⁰, such solar panels, batteries for renewable energy grids, and EV batteries.

The transition away from fossil fuels should be enabled by those with highest historical emissions, through financing and ambitious action. All countries which depend on fossil fuels stand to gain from energy transitions in terms of reduced associated health impacts of air, water and soil pollution.

¹⁹ Health and Environment Alliance, 2018. Hidden Price Tags: How Ending Fossil Fuel Subsidies Would Protect Our Health. <u>Online</u>.

²⁰ International Institute for Sustainable Development, 2016. Financing Development With Fossil Fuel Subsidies: The reallocation of Indonesia's gasoline and diesel subsidies in 2015. <u>Online</u>.

²¹ Health and Climate Network, 2022. A Just Energy Transition for a healthy fossil fuel free world. Online.

²² Health Care Without Harm, 2022. Just Transition for Healthy People on a Health Planet. <u>Online</u>.

²³ Rissel et al, 2012. Physical Activity Associated with Public Transport Use—A Review and Modelling of Potential Benefits. <u>Online</u>.

²⁴ Patterson et al, 2019. Physical activity accrued as part of public transport use in England. Online.

²⁵ World Health Organization, n.d. Physical Inactivity. <u>Online</u>.

²⁶ OECD, 2022. Redesigning Ireland's Transport for Net Zero. Online.

²⁷ Rockefeller Foundation & Oxford Poverty and Human Development Initiative, 2021. Interlinkages between multidimensional poverty and electricity: A study using the Global Multidimensional Poverty Index. <u>Online</u>.

²⁸ SEforALL, n.d. SDG 7.1 Access to Energy. Online.

²⁹ World Health Organization, 2022. Household Air Pollution. <u>Online</u>.

³⁰ Brot für die Welt & Heinrich Böll Foundation, 2022. Pastoralism and large-scale REnewable energy and green hydrogen projects. Online.

Monitoring and evidence

Quantification of health co-benefits and associated economic gains, for example using the Climaq H (formerly CaRBonH³¹), LEAP³², Health and Economic Assessment Tool³³ (in the transport sector), and forthcoming Integrated Sustainable Transport and Health Assessment Tool (iSThAT)³⁴, can make the case for scaled up climate action which maximises health gains. The CRAFT tool also permits comparison of the benefits from policies at city level³⁵.

Opportunities of a just transitions in agriculture and food systems

Just transitions in agriculture and food systems can simultaneously address climate change and diet-related diseases such as cardiovascular disease, diabetes, and some cancers, while also reducing food and nutrition insecurity and protecting the livelihoods of farmers.

Health impacts of unsustainable agriculture and food systems and current challenges

Food production, in particular industrial farming and processing of food, is responsible for one third of all global greenhouse gas (GHG) emissions, due to emissions from farming and land use change³⁶ (see figure 1). Livestock (meat and dairy) occupies 77% of the world's farmland to produce 18% of all calories and 37% of all proteins produced globally³⁷. High intake of red and processed meat and dairy products contribute to 55% of global agriculture emissions and drive negative health outcomes³⁸. Livestock are responsible for 32% of methane emissions³⁹. These challenges are further exacerbated by the waste of 1.3 billion metric tons of food produced for human consumption - one third of the total⁴⁰. According to the IPCC, during 2010–2016, global food loss and waste equalled 8–10% of total anthropogenic GHG emissions, including substantial methane emissions; and cost approximately 1 trillion USD2012 per year⁴¹. The IPCC notes "shifting toward sustainable healthy diets requires effective food-system oriented reform policies that integrate agriculture, health, and environment policies," and identifies that shifting towards sustainable healthy diets had the highest mitigation potential across demand-side measures in AFOLU, followed by reduced food loss and waste⁴². Overall, the IPCC found with a high degree of agreement that mitigating food sector emissions "requires change at all stages, from producer to consumer and waste management".⁴³

³¹ World Health Organization, 2018. Achieving health benefits from carbon reductions: manual for CaRBonH calculation tool. <u>Online</u>. ³² Stockholm Environment Institute, 2018. LEAP. <u>Online</u>.

³³ World Health Organization, 2021. Health Economic Assessment Tool (HEAT) for walking and cycling. <u>Online</u>.

³⁴ World Health Organization, 2023. iSThAT: the Integrated Sustainable Transport and Health Assessment Tool. Online.

³⁵ Symonds et al, 2020. A tool for assessing the climate change mitigation and health impacts of environmental policies: the Cities Rapid Assessment Framework for Transformation (CRAFT). <u>Online</u>.

³⁶ Jarmul, 2022. Climate change mitigation through dietary change: a systematic review of empirical and modelling studies on the environmental footprints and health effects of 'sustainable diets'. <u>Online</u>.

³⁷ Our World In Data, 2019. Half of the world's habitable land is used for agriculture. <u>Online</u>.

 ³⁸ Romanello, 2022. The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels. <u>Online</u>
³⁹ Climate and Clean Air Coalition, 2021. Global Methane Assessment (full report). <u>Online</u>.

⁴⁰ Global Panel on Agriculture and Food Systems for Nutrition, 2018. Preventing nutrient loss and waste across the food system: Policy actions for high-quality diets. <u>Online</u>.

⁴¹ IPCC, 2019. Special Report on Climate Change and Land. Online.

⁴² IPCC, Working Group III. Sixth Assessment Report: Mitigation of Climate Change. Section 7.4.1.3 Online.

⁴³ IPCC, Working Group III. Sixth Assessment Report: Mitigation of Climate Change. Section TS.5.6.2. Online.

Meanwhile, the current global food system does not provide adequate access to healthy diets - in 2019 close to 750 million people were food insecure⁴⁴, and an estimated 2 billion people lacked adequate access to safe and nutritious food. The impact of climate change on food systems is further threatening millions of people with food insecurity⁴⁵, as well as impacting the livelihoods of farmers and making conditions unsafe for agricultural labourers, particularly with regard to extreme heat. Indigenous communities and others who depend on local land for their food supply are especially vulnerable.

Just transitions in food and energy systems can be achieved through supporting transitions to sustainable healthy diets and reducing food loss and waste. This must be achieved while improving access to healthy, fresh and affordable food and protecting the livelihoods of farmers who are threatened by the progression of climate change, and may also be at risk if a transition is not well managed.

Transitions to sustainable healthy diets

The term 'sustainable healthy diets' refers to dietary patterns that promote all dimensions of individuals' health and well-being; have low environmental pressure and impact; are accessible, affordable, safe and equitable; and are culturally acceptable. In populations where alternative sources of protein are accessible and affordable, plant rich diets promote health, with comparatively low associated emissions^{46,47,48}. According to the EAT-Lancet Commission Report, following the "Universal Healthy Reference Diet" (largely consisting of vegetables, fruits, whole grains, legumes, nuts, and unsaturated oils; a low to moderate amount of seafood and poultry; and no or a low quantity of red meat, processed meat, added sugar, refined grains, and starchy vegetables) could avoid 10.8-11.6 million premature deaths annually (more than the number of deaths attributable to tobacco)⁴⁹. Greenhouse gas emissions associated with vegetarian diets have been shown to be 31% lower than baseline consumption patterns, with vegan diets emissions an average of 45% lower. Caution must be taken concerning industrial food technologies which are presented as solutions but do not deliver the transformative change needed. For example, there is a growing market for 'alternative proteins' that are presented as meat substitutes⁵⁰. However, these protein-sources are often highly processed, high in fat, salt, and chemical additives, and therefore not necessarily healthy for people or the planet.

⁴⁴ Food and Agriculture Organization, 2022. The State of Food Security and Nutrition in the World. Online.

⁴⁵ Health and Climate Network, 2023. Diverse, healthy diets for all: How a focus on healthy diets can transform food systems and climate action. <u>Online</u>.

⁴⁶ Kim et al, 2020. Country-specific dietary shifts to mitigate climate and water crises. Online.

⁴⁷ Clark et al, 2019. Multiple health and environmental impacts of foods. Online.

⁴⁸ Jarmul et al, 2020. Climate change mitigation through dietary change: a systematic review of empirical and modelling studies on the environmental footprints and health effects of 'sustainable diets'. <u>Online</u>.

⁴⁹ Willett et al, 2019. Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. Online.

⁵⁰ Monarch et al, 2021, Food for Thought: The Protein Transformation, Boston Consulting Group. <u>Online</u>.



Figure 1: Greenhouse gas emissions across the food supply chain (source).

Transitions to healthy and sustainable diets can be supported by the following measures⁵¹

- Implementing food and nutrition education programs, inside and outside schools.
- Strengthening transformative potential of agroecology and other integrated approaches that consider ecological and social aspects.
- Redirecting public finance and subsidies away from food commodities that are unhealthy and unsustainable towards nutritious, sustainable, and culturally appropriate whole-food diets produced through sustainable agroecological practices.
- Introducing policies that address obesity and diet-related NCDs such as restrictions on marketing of highly processed foods (ultra-processed foods.
- Implementing national front-of-packaging labeling models that provide clear and full information to support selection of healthier options.

⁵¹ Health and Climate Network, 2023. Diverse, healthy diets for all: How a focus on healthy diets can transform food systems and climate action. Online.

- Developing national Food-Based Dietary Guidelines (FBDGs) which are recommended by the FAO, WHO, and IPCC to meet health, biodiversity, and climate goals.
- Improving protections for nature and ecosystems regulations for farming.
- Public awareness campaigns on healthy and sustainable diets.
- Funding research and advocacy to influence government policy and industry practice toward improved food environments

Reducing food loss and waste

Policies to improve distribution of food could reduce both undernutrition and emissions. Interventions to reduce food waste and strengthen fair food distribution are therefore core components of reducing food and nutrition security and promoting equity as part of just transitions in the food and agriculture sector. Potential strategies could include redistribution through local food hubs, increasing availability of discounted produce of secondary quality and uptake of food-sharing apps.

Improving access to healthy, fresh and affordable food and protecting the livelihoods of farmers

Protecting local resilient farming and local markets can improve access to healthy, fresh and affordable food for populations vulnerable to nutrition insecurity, and protect the livelihoods of smallholder farmers. Strategic re-allocation and redirecting of subsidies, including support for horticulture and for regenerative farming methods, can support in these regards. A recent analysis showed that emissions-intensive and unhealthy commodities (such as industrially produced and processed sugar, beef, rice, and dairy) receive the most public fiscal support compared to fruits and vegetables⁵². Farmers and communities facing nutrition insecurity should be deliberately and meaningfully consulted as part of careful planning for a just transition.

⁵² Global Alliance for the Future of Food, 2022. Untapped Opportunities: Climate Financing for Food Systems Transformation. <u>Online</u>.