



QUNO

Quaker United Nations Office

A Negotiator's Toolkit

**Engaging busy Ministries with concise
arguments for urgent climate action**

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Acknowledgements

This booklet was created to support climate negotiators in their work to engage busy Ministries with reasons for urgent, rights-based climate action.

Ministers and other decision makers face competing demands and priorities, but they may also be more receptive to one argument over another. One person may better respond to economic concerns, for example, another to scientific findings.

The booklet offers eight concise summaries compiled from expert voices in climate change related sectors.

We hope these summaries help negotiators engage with colleagues back home on why urgent, rights-based climate action is critical to the long-term well-being and stability of their countries.

The summaries are based on presentations given by experts at a side event in May 2017, during the climate change conference in Bonn. The Healthier World Argument was compiled following this event. We are thankful to colleagues at Brahma Kumaris World Spiritual University and at Newcastle University, for co-hosting this side event in May 2017.

This booklet is a working draft, and comments are welcome:

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Contents

The Climate Science Argument	4
The Economic Argument	6
The Food Security Argument	8
The Human Rights Argument	10
The Peace & Conflict Argument	12
The Civil Society Argument	14
The Ethical Argument	16
The Healthier World Argument	18
Endnotes	20

The Climate Science Argument

This summary identifies scientific reasons for urgent action. It is based on the Intergovernmental Panel on Climate Change (IPCC) 5th Assessment Report, on reports issued by the UNFCCC, related articles, and in collaboration with side event presenter IPCC author Professor Monika Rhein (Bremen University).

Where are we now?

- Between 1880 and 2012, the global average surface temperature warmed to 0.85°C above preindustrial levels.¹ In 2016, this average reached 1.1°C above preindustrial levels.²
- Our current rate of greenhouse gas (GHG) emissions is near the highest emissions scenario of the 5th Assessment Report (RCP 8.5³), which could lead to a global average surface temperature rise of around 4.8°C by 2100, compared to pre-industrial levels.⁴
- Temperatures can rise higher after 2100. The more carbon we burn, the higher surface temperatures will increase.^{5,6}
- About ⅔ of the carbon dioxide emission quota consistent with a 2°C temperature limit has already been consumed. The total quota will likely be exhausted in 30 years at current emissions rate.⁷
- The levels of carbon dioxide, methane, and nitrous oxide

concentrations in Earth's atmosphere are unprecedented in (at least) the last 800,000 years.⁸

- The rate of global average surface temperature rise between the last ice age and the current warm period (20,000 to 10,000 AD) was approximately 0.5°C to 1°C per 1,000 years.^{9,10} Without urgent emissions cuts we could warm +3°C in less than 100 years.

Why is this happening?

- Since the 1950s¹¹, human activities have been the dominant cause of observed warming. These activities include fossil fuel extraction and burning, black carbon, deforestation and forest degradation, intensive and animal agriculture, industry, transport, buildings,¹² and increasingly hydrofluorocarbons. Thus, the term “anthropogenic climate change.”
- Carbon dioxide emissions from fossil fuel combustion and industrial processes contributed to about 78% of the total GHG emission increase

due to human activities.¹³ Economic and population growth continue to be the most important drivers of increases in carbon dioxide emissions from fossil fuel combustion.¹⁴

How does this affect the ecosystems on which our lives depend?

- The oceans have absorbed more than 90% of the energy accumulated between 1971 and 2010, and about 30% of the emitted anthropogenic carbon dioxide. This causes ocean acidification which threatens marine ecosystems¹⁵, on which livelihoods depend.
- The ocean's oxygen content (globally) declined by 2% in the last 50 years. Increased carbon dioxide and warming oceans led to the greatest marine extinction, 252 million years ago.^{16,17}
- The Arctic is experiencing the fastest rate of warming. This results in the melting of ice sheets, which raise sea levels, and the melting of permafrost, which releases carbon dioxide and methane.

- Due to our human activities, the Earth is also experiencing environmental crises in land use change, soil erosion, chemical pollution (especially nitrogen), and the highest species extinction rate in our human history.¹⁸

Why is urgent and rights-based climate action needed now?

- Global emissions from fossil fuels and industry are increasing: 36.3 ± 1.8 GtCO₂ in 2015, 63% over 1990 levels. The projection for 2016 is 36.4 ± 2.3 GtCO₂, 0.2% higher than in 2015.^{19,20}
- To keep warming a below 2°C in this century, we need to urgently commit up to 70% GHG emissions reduction by 2050 (compared to 2010) and near zero or below by 2100.
- Current GHG emission levels, unless substantially reduced, will undermine our water resources and our ability to grow food and work outdoors,²¹ threatening the collapse of ecosystems and the long-term survival of our current human civilization.

The Economic Argument

This summary identifies why urgent, rights-based climate action makes good economic sense. It is based on a presentation by Yamide Dagnet of World Resources Institute, The New Climate Economy and other sources.

- The tradeoff between promoting economic growth and fighting climate change is false. Both can be achieved together and tell a global story of well-being, inclusive growth and development.²²
 - For the third straight year, energy-related carbon dioxide emissions stayed relatively flat in 2016 as the global economy grew. All past periods when emissions remained flat were accompanied by economic downturns.²³
 - However, urgent climate action is critical as emissions remain the highest in human history, and the annual growth of atmospheric (airborne) carbon dioxide in 2016 is well above the 2006-2015 average.²⁴ In 2015, coal burning was responsible for 41% of total emissions, oil 34% and gas 19%, cement 6% and gas flaring 1%.²⁵
- Making infrastructure climate-smart and resilient is an opportunity we cannot afford to miss.*
- Infrastructure is associated with more than 60% of the world's greenhouse gas emissions. This makes climate-smart, resilient infrastructure a critical tool for a more climate-resilient future, especially for the poorest and most vulnerable communities.²⁶
 - Climate-smart, resilient infrastructure underpins core economic activity, boosting growth and global demand and spurring innovation and efficiency. It is a means to increase living standards, promote inclusion and reduce poverty, thereby delivering inclusive growth.²⁷
 - Climate-smart, resilient infrastructure provides a foundation for much of the Sustainable Development Goals' (SDGs) vision for inclusive development by enhancing access to basic services, education and work opportunities; by boosting human capital and quality of life; by achieving clean water and sanitation; and, by providing affordable and sustainable energy for all.²⁸
- The global South will account for roughly two-thirds of global infrastructure investment. This offers a great opportunity for developing countries to bypass the inefficient and polluting systems of the past.²⁹
- Why does urgent climate action make economic sense?*
- 2014 was the 12th-costliest year for global weather catastrophes since 1950. Seven out of the 10 costliest years have occurred since 2000.³⁰
 - The low-carbon transformation is already underway.³¹ It makes sense to leverage this momentum now, for public and private sector efforts lead in these sectors.
 - Renewable energy continues to get cheaper: solar and wind energy are now cost-competitive with fossil fuels in many regions.³²
 - After a decade of expansion, the amount of coal power under development saw a dramatic drop in 2016, mainly due to changes in China and India.³³
- Tackling a range of barriers will raise the quantity and quality of investments.³⁴*
- The fundamental price distortions can be tackled through reforming fossil fuel subsidies and setting a price of carbon while also freeing up scarce government revenues for other priorities.
 - The financial system can be transformed to deliver the scale and quality of investment needed through new financial tools, climate-related financial risk disclosure schemes, the shifting of investments and Development Finance Institutions.

The Food Security Argument

This summary outlines why urgent, rights-based climate action is critical for long term food security. It is based on a presentation by Teresa Anderson of ActionAid International, and related published research.

Why is urgent climate action necessary to feed our current and future generations?

- Through its impacts on agriculture, livelihoods and infrastructure, climate change threatens all dimensions of food security.³⁵
- In 2015-2016, 30% of the Earth's land area experienced drought (El Niño effect included), 14% of which was severe drought.³⁶
- With the current average global temperature rise of 1°C, we experience 0-2% crop yield reductions every decade, or 14% by the end of this century.³⁷
- With a 2°C-2.7°C rise (3-4°C locally in many areas), effects on crop functioning would include widespread reduction of agricultural productivity and substantial risks to global food production and security. Such risks would be greatest for tropical countries.³⁸
- With a 4°C rise (5-7°C locally), there are relatively few studies. However, it may be impossible for

many countries to adapt above a 4°C or 5°C temperature rise.³⁹

Climate change threatens our ability to grow and harvest our food

- Rising temperatures affect the water cycle^{40,41}, which can result in droughts, late rains and low rainfall; heavy rains, floods and cyclones; and false starts to rainy seasons.
- Temperature rises change the geographical adaptation of crops, which may need to shift to different production areas, within or across national boundaries.
- Pollination and seed setting stages are very temperature-sensitive.⁴² 87 of the world's leading crops depend on animal (insect) pollination, with many dependent on just 1 or 2 species of pollinator (bees).⁴³ Rising temperatures can disrupt this timing of plant flowering and/or pollinator activity. If they are no longer synchronised, this can be devastating for both species.

- Rising temperatures result in loss of land for cultivation. A 1-metre rise in sea level⁴⁴ would result⁴⁵, for example, in a loss of up to 15% of agricultural land in Egypt, 16% loss of national rice production in Bangladesh, and tens of thousands of hectares of agricultural land would be lost in China and Vietnam.
- Rising temperatures result in reduced fish yields due to ocean acidification and fish migration.⁴⁶ Worldwide, reduced crop and fish yields result in a loss of food security and livelihoods, in rising food prices, and more frequent, widespread and severe hunger emergencies.
- Without urgent climate action, we risk a dangerous reliance on bioenergy with carbon capture and storage (BECCS) to meet the Paris agreement goal of staying under 1.5°C or 2°C. Scenarios in the IPCC AR5 believe that 500 million to 3 billion hectares of land would be required to keep the planet cool, but this would drive conflict for land and "land grabs"⁴⁷ and hunger in the South.

Solutions

- Substantial emission reductions can be achieved through changing human behavior practices, including deforestation, intensive fossil-fuel dependent agriculture and livestock-dependent diets, and unsustainable levels of consumption.⁴⁸
- Agroecology recognizes the contributions of small-scale farmers and provides a framework for integrating local and scientific innovation systems and mitigating the negative environmental effects of industrial agriculture.⁴⁹

GHG emissions from agriculture practices

- Carbon dioxide emissions from agriculture are roughly neutral, that is, plants absorb as much as they emit. But methane and nitrous oxide emissions are released at dangerous levels due to industrially produced livestock and industrial agribusiness.

The Human Rights Argument

This summary outlines how urgent, rights-based action can protect people's lives, health, food and homes. It is based on a presentation by Benjamin Schachter of the Office of the High Commission for Human Rights (OHCHR), and related articles.

How does climate change affect human rights?

- Rising global temperatures threaten the effective enjoyment of human rights, including the right to life, the right to adequate food, the right to the enjoyment of highest attainable standard of physical and mental health, the right to adequate housing, the right to self-determination, the rights to safe drinking water and sanitation, and the right to development.⁵⁰

What human rights obligations are triggered by the impacts of climate change?

- Since human activities are responsible for the majority of current warming and its causes, and the limited time to act^{51,52} is known to us, our choices now will define the ability of our children and all future generations to live on this planet.

- States and enterprises have moral and legal responsibilities to take effective actions to prevent the harmful human rights impacts of climate change.⁵³
- International law entails obligations to act cooperatively to protect and advance fundamental human rights, including in the context of climate change and its effects on people's ability to exercise such rights.⁵⁴
- Through the widespread ratification of international human rights treaties, States have committed to respect, protect and fulfill the human rights of all persons. The Paris Agreement and the 2030 Agenda for Sustainable Development highlight that this commitment extends to respecting, promoting and considering human rights in climate action.

- Urgent, ambitious and rights-based climate action is the right thing to do legally, morally, and ethically because those who contributed the least to climate change are those who suffer the most. The consequences of our inaction now will fall hardest on children and future generations, especially on children already in vulnerable situations (children with disabilities, who are indigenous, who are girls, who are poor).⁵⁵

What is rights-based climate action, and how does it make climate action more effective?

- Incorporating human rights in climate policies and actions is known as a rights-based approach.
- Integrating a rights-based approach to local, national and international policies promotes policy coherence, legitimacy and sustainable outcomes.⁵⁶ This is a “win-win” action.

Human rights law demands we address the human impacts of rising temperatures

- Unless the world's governments make urgent and ambitious emissions reductions, all the human rights safeguards in the world will not be enough to prevent grievous denials of human rights on a staggering scale. What is at stake for many people, especially in sub-Saharan Africa, low-lying areas and many small island developing states, is often their very existence.⁵⁷
- Lack of resources (financial, human, technical and political) and failure to act in the face of preventable harm (starvation, drowning, diseases, displacement and death), reflects a lack of compassion, solidarity and commitment that must be addressed globally.

The Peace & Conflict Argument

This summary explores how urgent, rights-based action can help sustain peace and avoid influencing violent conflict. It is based on a presentation by Lindsey Fielder Cook at the Quaker United Nations Office, and on related research.

Climate change and conflict

- Conflict in itself is not negative.⁵⁸ Conflict becomes destructive when root causes are not addressed, including a breakdown of communication among groups, damaging social relations and exacerbating tensions that can lead to violence.
- “The impact of climate change on water and land, already visible in regions across the globe, will place increasing pressure on resource availability. To the extent that these changes will render vulnerable populations more vulnerable, especially those that rely on agriculture, it can prolong existing conflicts and hinder post-conflict reconstruction.”—*Dr. Elisabeth Gilmore, Clark University.*
- Over the long term, climate change will result in more disruption, more instability and more displacement as impacts intensify.⁵⁹ There is an emerging global consensus that climate change will stress economic, social, and political systems that underpin each nation state.⁶⁰

- Adequate resources must be channeled into adaptation, water security and food security to ensure migration doesn't become the only option for those affected by climate change.⁶¹

Prevention of violent conflict

- Three approaches are critical:

Urgent, rights-based and appropriate burden-sharing climate action to reduce human created GHG emissions. *The best way to diminish the threats posed by climate-fragility risks is to mitigate climate change.*⁶²

Strong institutions. *Where institutions and governments are unable to manage the stress, or absorb the shocks of a changing climate, the risks to the stability of states and societies will increase.*⁶³

Rights-based approaches. *Local, national and international policies that include a rights-based approach promote policy coherence, legitimacy and sustainable outcomes.*⁶⁴

- The extent to which these changes are likely to lead to destructive conflict will often depend on the capacity of individuals, communities and institutions to respond to them in a positive way.⁶⁵
- Prevention of destructive conflict around natural resources, including escalation to violence, can be understood as a process of peacebuilding—creating the personal and institutional capacities needed to handle conflict constructively and addressing the root causes that lead to destructive conflict such as inequality and marginalisation.⁶⁶
- Addressing conflict over resources constructively not only helps to prevent violence but can also facilitate wider social change, building sustainable peace by bridging divides and changing attitudes between groups.⁶⁷
- However, the difference to natural resources stress of a 1.5°C or 4.8°C temperature rise in this century is the difference between potentially manageable, and catastrophic impacts.
- Worsening climate conditions directly threaten the realization of the Sustainable Development Goals (SDGs), and with them the conditions for peaceful societies.⁶⁸ “Reducing greenhouse gases as rapidly as possible is probably the most urgent global disaster risk treatments. It is core to achieving the global targets in the Sendai Framework and of course to the Paris Agreement and the Sustainable Development Goals more broadly.”⁶⁹
- Urgent climate action is critical for sustaining peace,⁷⁰ yet climate finance for this remains inadequate to avoid catastrophic climate change. Annual world military expenditure in 2016 was over US\$1.6 trillion,⁷¹ while public finance for climate change averaged \$41 billion over 2013–14 with an aim to \$67 billion in 2020.⁷²

The Civil Society Argument

This summary outlines how working partnerships between civil society and government can lead to more effective climate action. It is based on a presentation by Dr. Katharine Rietig of Newcastle University (UK), and related research.

Partnerships between governments and civil society can lead to more successful climate action.

- Governments and civil society (non-state actors) could work more effectively and meaningfully together to implement climate action and get the job done.⁷³
- There are ways to better engage with each other, which increase the efficiency of policy implementation, and ensure a legitimacy of the policies by working to meet the needs of the population.
- Government use of civil society is often a political one—governments know the policies they seek, and want legitimacy and support from the population.^{74,75}
- Civil society also have their own objectives. This includes NGOs but also businesses and lobbying interests, and activists.^{76,77}

- For this successful engagement, governments need to be open to civil society input. That means engaging with civil society (NGOs), activists who give legitimacy, research and think tanks bodies, all of which can provide expertise, knowledge of and experience with successful policy practices and evaluation of past policies and impacts.⁷⁸
- Governments need to think how policies can be in the interests of both civil society and the governments.⁷⁹

Civil society participation in resource management

- When civil society groups and local communities are not able to have a voice in resource management or hold decision makers accountable, implementation of good policy frameworks often remains limited. This can result in management rules and practices that are unclear, contradictory or perceived as illegitimate by certain groups.⁸⁰

- Community involvement in decision making around natural resources is key to building peaceful, equitable and effective management. To make this involvement possible, the power dynamics between local communities and higher-level decision makers, as well as the dynamics between and within communities, need to be recognised and addressed.⁸¹
- Environmental NGOs often have greater capacity than governments on areas of compliance and concerns. Also, the NGO network across sectors can facilitate implementation and can increase support for a policy.
- It is critical that the climate policies are of benefit to the local communities, in order for them to help implement, support and ultimately ensure success of those actions.⁸⁴

What is gained?

- When governments engage with the interests of civil society, they can increase legitimacy and accountability of their policies without imposing pre-determined policies on their population.⁸²
- Once the policies are clear, the implementation of policies can benefit from civil society inclusion and civil society can provide input, knowledge and experience from past implementation in various regions.⁸³

The Ethical Argument

This summary outlines the ethical and moral reasons for urgent climate action. It is based on a presentation by Maureen Goodman of the Brahma Kumaris Environment Initiative, with contributions from climate justice communities.

*What is an ethical framework for urgent action?*⁸⁵

- There are two key ethical, or moral, perspectives: responsibility towards the people of the Earth at this present moment, and our responsibility toward future generations.
- We know our human activities and behaviours are driving current climate change, so we have an ethical duty, or moral obligation, to act urgently to protect all living species from a rate of global temperature rise that would lead to profound suffering and loss, transforming the environment and human civilization as we know it.

An ethical approach to political engagement

- The current dominant world view has taken us to the current state of the Earth and it needs to transform.

- A transformation is needed in our behaviours, lifestyles, and our political and economic systems, to live more sustainably and fairly, and to flourish on the Earth.⁸⁶
- An awareness of caring for the Earth can bring greater clarity in support of political decisions for the greater good. This awareness can help decision makers to move beyond short-term political interests or economic considerations, and to prioritize long-term policies which are accountable to present and future generations.
- A “climate justice” approach to climate policy action encourages both individual and collective responsibility. It asks the questions “Who should bear what costs?”, “How should benefits be adequately distributed?”, “What level of harm, or responsibility to act, are we as a global community willing to accept?” and “Who gets a voice in asking these questions and setting these priorities?”⁸⁷

A call to the those with a voice

- To collectively progress towards achieving the objectives of the Paris Agreement, Parties can protect and promote the rights of specific groups that are particularly exposed to the impacts of climate change, including the poorest, women, indigenous peoples, children and migrants.⁸⁸
- As those most vulnerable to anthropogenic climate change have contributed the least to the current crisis, those who have contributed the most have a responsibility to protect them.⁸⁹
- Catastrophic anthropogenic climate change is not inevitable if we, the family of humanity, choose to act now. This challenge is a call to conscience, recognizing a personal and collective responsibility to ensure the poorest and most vulnerable peoples now, and all our future generations, do not suffer because of our actions.⁹⁰

An ethical voice

- True human well-being depends on the quality of our connection to the Earth and our attitude towards our relationship with nature - the original indigenous world view that existed worldwide.⁹¹
- In listening and acting according to our conscience, it is as if a burden lifts from the self and we become more whole human beings who can then begin to work towards change.
- Our past actions have contributed to the present environmental crisis. It is important to learn important lessons from this and then to move forward together in co-operation.
- Whatever we do, whatever place we are in, we should ask first not what shall I do, but what does this place, what does this Earth require of me? In other words, we are called not simply to action, but to service.^{92,93}

The Healthier World Argument

This argument is often forgotten in the fearful narrative of climate change, yet it is potentially the most powerful motivator for change. The following is based on a collation of research, including publications, Drawdown (Paul Hawken) and Zero Carbon Britain (Centre for Alternative Technology), summarized by Paul Allen.

The importance of a vision

- Transforming fear, anger, and confusion into compassion, clarity, and hope will inspire environmental action.⁹⁴
- The 2030 Agenda for Sustainable Development calls for transformative policies to deliver on our collective promise to build a life of dignity for all on a cleaner, greener planet.⁹⁵
- “Effective climate change responses can be a way to build a richer, more resilient, fundamentally more vibrant world. Access to low-carbon energy can improve health and livelihoods, while also protecting the climate.”—*Katharine Mach, Director of Science, IPCC AR5 Working II Technical Support Unit*
- Addressing the root causes of climate change can result in significant additional benefits including better housing, affordable, accessible transport, reduced obesity, improved health, better air quality and more jobs.

- Isolated, stressful, consumer-focused lifestyles can be replaced by a sense of connection with community and nature, delivering enormous benefits in physical and psychological well-being.⁹⁶
- In addressing root causes, humanity can live more sustainably and justly, with economic, political and social systems that do not rely on unprecedented levels of consumption, nor on assumptions of unlimited material growth on a planet with limited natural resources.⁹⁷

What are the solutions?

- The Paris Agreement provides an international framework for action in which Parties to the Agreement agree to aim for net zero carbon emissions shortly after mid-century.⁹⁸
- All the necessary technologies and all the necessary policies to reach zero carbon emissions are proven and waiting to go.⁹⁹ Providing clear evidence of existing workable

solutions empowers citizens and policy-makers to act.¹⁰⁰

- As the extraction and burning of fossil fuels is the predominant root cause of current climate change, an energy transition is critical.
- Done right, the energy transition can generate funds to help deliver public services. Changing our approach to the production and ownership of energy—who generates it, and who profits—could have many wider benefits, including communities that could benefit financially from local renewable energy projects.¹⁰¹
- The most effective long-term solutions are not always the most obvious, nor the most complex. *Project Drawdown* presented the 80 most effective existing climate actions, calculated through combined total GHG emission reductions, net costs, and net savings by 2050.

Their top 15 are:¹⁰²

1. Refrigerant management
2. Energy - Wind Turbines (on shore #2, offshore #22)
3. Reduced food waste
4. A plant-rich diet
5. Restoration of tropical forests
6. Educating girls
7. Family planning
8. Solar farms
9. Integration of trees and pasture
10. Rooftop Solar
11. Regenerative agriculture (and agroecology)
12. Restoration of temperate forests
13. Protection of peatland areas
14. Regeneration of tropical staple trees
15. Afforestation

• These solutions are not solely technological, nor can they be. They are also ecological, economic and social¹⁰³ actions which can lead to regenerative economic outcomes. This in turn can create security, produce jobs, improve health, save money, facilitate mobility, eliminate hunger, prevent pollution, restore soil, clean rivers and much more.¹⁰⁴

Endnotes

The Climate Science Argument

1 IPCC, (2013). Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. [Stocker, T.F., et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, US. p3.

2 Met Office, (2017). '2016: one of the warmest two years on record', *Met Office*, UK, 18 January.

3 Peters, G., et al., (2013). The challenge to keep global warming below 2 °C. *Nature Climate Change*. 3, p4-6.

4 IPCC, 2014: Summary for Policymakers. In: *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. [Edenhofer, O., et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. p.8.

5 The Royal Society, (2014). Is there a point at which adding more CO₂ will not cause further warming? In: *Climate change: evidence and causes*.

6 IPCC, (2014). Climate Change 2014 Synthesis Report Summary for Policymakers. In: *IPCC's Fifth Assessment Report (AR5)*. Figure SPM.5(b) on page 9 shows the warming predicted in 2100 as a function of the total accumulated amount of CO₂ emitted by humankind 1870-2100, very simply the greater the total amount emitted the greater the warming.

7 Friedlingstein, P. and Andrew, R., (2014). Persistent growth of CO₂ emissions and implications for reaching climate targets. *Nature Geoscience*. 7, p709-715. doi:10.1038/ngeo2248.

8 IPCC, 2013: Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, US.

9 Shakun, J., et al., (2012). Global warming preceded by increasing carbon dioxide concentrations during the last deglaciation. *Nature*. 484. p49-55.

10 Marcott, S., et al., (2013). A Reconstruction of Regional and Global Temperature for the Past 11,300 Years. *Science*. 339. p1198-1201.

11 IPCC, (2013). Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. [Stocker, T.F., et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. p17.

12 IPCC, (2014). *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, p88.

13 Idem, p.5

14 Idem, p.5

15 Idem, p.4.

16 The University of Edinburgh, (2016). Greatest extinction driven by acidic oceans. In: *2015 news*.

17 Schmidtko, S., Stramma, L. and Visbeck, M., (2017). Decline in global oceanic oxygen content during the past five decades. *Nature*. 542. p335-339.

18 Steffen, W., et al., (2015). Planetary boundaries: Guiding human development on a changing planet. *Science*.

19 36.3 ± 1.8 GtCO₂ in 2015, 63% over 1990 levels. The projection for 2016 is 36.4 ± 2.3 GtCO₂, 0.2% higher than in 2015

20 Le Quéré, C., et al., (2016). Global Carbon Budget 2016. *Earth System Science Data*. 8, p605-649.

21 IPCC, (2014). *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, p15.

The Economic Argument

22 The New Climate Economy, 2014. Chapter 5: Economics of Change. In: *Better Growth Better Climate*.

23 International Energy Agency, (2017). *IEA finds CO2 emissions flat for third straight year even as global economy grew in 2016*.

24 The Global Carbon Project, (2016). *Global Carbon Budget: Summary Highlights*.

25 The Global Carbon Project, (2016). *Global Carbon Budget: Summary Highlights*.

26 The New Climate Economy, 2016. Executive Summary. In: *The Sustainable Infrastructure Imperative*. p10-18.

27 The New Climate Economy, 2016. The Sustainable Infrastructure Opportunity. In: *The Sustainable Infrastructure Imperative*. p.19-28.

28 Ibid.

29 The New Climate Economy, 2016. Key Messages. In: *The Sustainable Infrastructure Imperative*. p.8.

30 Forbes, T., and Deconcini, C., (2014). A Year of Temperature Records and Landmark Climate Findings, *World Resources Institute Factsheet*.

31 Office of the Press Secretary, The White House, 31st March 2016. *U.S.-China Joint Presidential Statement on Climate Change*.

32 Shahan, Z., (2013). Solar PV Module Prices Have Fallen 80% Since 2008, Wind Turbines 29%. *Clean Technica*.

33 Shearer, C., et al., (2017). Boom and Bust 2017: Tracking the Global Coal Plant Pipeline. *Coalswarm*.

34 The New Climate Economy, (2016). Executive Summary. In: *The Sustainable Infrastructure Imperative*. p.10-18.

The Food Security Argument

35 Food and Agriculture Organization of the United Nations (FAO), (2016). *The state of food and agriculture: climate change, agriculture and food security*. FAO, Rome. p.v.

36 Greenhalgh, E., (2015). 2015 State of the Climate: Drought. National Oceanic and Atmospheric Administration.

37 All of the scenarios 1° - 4° average are from: Porter, J.R., et al., (2014). Food security and food production systems. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report*

of the Intergovernmental Panel on Climate Change [Field, C.B., et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, p485-533.

38 Ibid

39 Ibid

40 NASA, (2011). The Water Cycle and Climate Change. *Earth Observatory*.

41 Cisneros, J., et al., (2014). Freshwater resources. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Field, C.B., et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, p229-269.

42 Hatfield, J.L., and Prueger, J.H., (2015). Temperature extremes: Effect on plant growth and development. *Weather and Climate Extremes*. 10, (A). p4-10.

43 Kjøl, M., Nielsen, A., and Christian Stenseth, N., (2011). Climate Change and Crop Pollination. In: *Potential Effects of Climate Change on Crop Pollination*, Rome: Food and Agriculture Organisation of the United Nations (FAO). p1-8.

44 Church, J.A., et al., 2013: Sea Level Change. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

45 Gomme, R., du Guerny, J., Nachtergaele, F., and Brinkman, R., (1998). *Potential Impacts of Sea-Level Rise on Populations and Agriculture*. Food and Agriculture Organization of the United Nations (FAO).

46 Goldfarb, B., (2017). Feeling the Heat: How Fish Are Migrating from Warming Waters. *Yale Environment 360*.

47 ActionAid, (2015). *Caught in the Net: How "net-zero emissions" will delay real climate action and drive land grabs*.

48 Wu, B., Reeves, J., Anderson, T., and Singh, H., (2015). Mind the Adaptation Gap: why rich countries must deliver their fair shares of adaptation finance in the new global climate deal. *ActionAid International*.

49 Smith, C., Elliott, D., and Bragdon, S.H., (May 2015), *Realizing the right to food in an era of climate change*, Quaker United Nations Office, Geneva.

The Human Rights Argument

- 50 United Nations General Assembly / Human Rights Council (2017). *Human rights and climate change*. Geneva: United Nations.
- 51 IPCC, (2014). *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, p5, p64, p88.
- 52 Carbon Brief, (2017). Analysis: Just four years left of the 1.5C carbon budget. In: *Global Emissions*.
- 53 Expert Group on Global Climate Obligations, (2014). *Oslo Principles on Global Climate Change Obligations*, Oslo, Norway.
- 54 Idem, p2
- 55 United Nations General Assembly / Human Rights Council, (2017). *Analytical study on the relationship between climate change and the full and effective enjoyment of the rights of the child*. Geneva: United Nations. Paragraph 50-51.
- 56 Knox, J., (2016). Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment. In: *Report to the 31st session of the UN Human Rights Council*. p13.
- 57 Summary for Policymakers. *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Cambridge, New York: Cambridge University Press.

The Peace & Conflict Argument

- 58 Roberts, E. and Finnegan, L., (2013). *Building Peace around water, land and food: Policy and practice for preventing conflict*, Quaker United Nations Office, Geneva. p4.
- 59 Espinosa, Patricia. "The Climate Change Story Is a Security Story". Munich Security Conference, 18 Feb 2017, Munich, Germany. Opening Address.
- 60 Baker, A., (2015). How Climate Change is Behind the Surge of Migrants to Europe. *Time*. 07/09/2015.
- 61 UN Environment, (2015). *Climate Change and Security Risks*.
- 62 Rüttinger, L., Smith, D., Stang, G., Tänzler, D., and Vivekananda, J., (2015). A New

- Climate For Peace: Taking Action on Climate and Fragility Risks. *adelphi, International Alert, Woodrow Wilson International Center for Scholars, European Union Institute for Security Studies*. p.vii.
- 63 Rüttinger, L., Smith, D., Stang, G., Tänzler, D., and Vivekananda, J., (2015). A New Climate For Peace: Taking Action on Climate and Fragility Risks. *adelphi, International Alert, Woodrow Wilson International Center for Scholars, European Union Institute for Security Studies*. p.vii.
- 64 Elliott, D., and Fielder Cook, L., (2016). *Climate justice and the use of human rights law in reducing greenhouse gas emissions*. Geneva: Quaker United Nations Office. p8.
- 65 Roberts, E. and Finnegan, L., (2013). *Building Peace around water, land and food: Policy and practice for preventing conflict*, Quaker United Nations Office, Geneva. p4.
- 66 Idem, p26.
- 67 Idem, p. 27
- 68 Rozen, J. (2016). Climate Action is Critical for Sustaining Peace. *adelphi*.
- 69 Glasser, R., (2017). Address to the UN Office for Disaster Risk Reduction (UNISDR), 17 October, Bonn.
- 70 Rozen, J. (2016). Climate Action is Critical for Sustaining Peace. *adelphi*.
- 71 Tian, N., Fleurant, A., Wezeman, P.D., and Wezeman, S.T., (2017). Trends in world military expenditure, 2016. *Stockholm International Peace Research Institute (sipri)*.
- 72 Carty, T., Kowalzig, J., and Peterson, A., (2016). Climate Finance Shadow Report 2016: Lifting the lid on progress towards the \$100 billion commitment. Oxfam International. p4.

The Civil Society Argument

- 73 Chan, S., Brandi, C. and Bauer, S., (2016). Aligning Transnational Climate Action with International Climate Governance: The Road from Paris. *RECIEL*. 25. 2. p238-247.
- 74 Rietig, K., (2016). The Link between Contested Knowledge, Beliefs and Learning in European Climate Governance: From Consensus to Conflict in Reforming Biofuels Policy. *Policy Studies Journal*.
- 75 Weible, C. M., (2008). Expert-based information and policy subsystems: A review and synthesis. *Policy Studies Journal*. 36, 4. p615-635.
- 76 Rietig, K., (2016). The Power of Strategy: Environmental NGO Influence in International Climate Negotiations. *Global Governance*. 22, 2. p168-189.

- 77 Rietig, K., (2014). 'Neutral' Experts? How Input of Scientific Expertise Matters in International Environmental Negotiations. *Policy Sciences*. 47, 2. p141-160.
- 78 Stone, D., (2001). Think Tanks, Global Lesson-Drawing and Networking Social Policy Ideas. *Global Social Policy*. 1. p338-358.
- 79 Rietig, K., (2016). The Power of Strategy: Environmental NGO Influence in International Climate Negotiations. *Global Governance*. 22, 2. p168-189.
- 80 Roberts, E. and Finnegan, L., (2013). *Building Peace around water, land and food: Policy and practice for preventing conflict*, Quaker United Nations Office, Geneva. p4.
- 81 Idem, p24.
- 82 Betsill, M. and Corell, E., (2008). *NGO Diplomacy: The Influence of Non-Governmental Organizations in International Environmental Negotiations*. Cambridge, MA: MIT Press.
- 83 Bomberg, E., (2007). Policy Learning in an Enlarged European Union: Environmental NGOs and New Policy Instruments. *Journal of European Public Policy*. 14, 2. p248-268.
- 84 Younger, P.L., (2007). Pro-poor Water Technologies Working both Ways: Lessons From a Two-way, South-North Interchange. *Geoforum*. 38, 5. p828-840.

The Ethical Argument

- 85 Yan, T., (2006). Towards an Egalitarian Global Environmental Ethics. In: *Environmental Ethics and International Policy*. UNESCO, p23-41.
- 86 Seyfang, G., 2004. *Shopping to save the planet?: a critical analysis of sustainable consumption policy and practice*. Paper presented to ECPR Joint Sessions, Uppsala April 13-18, 2004.
- 87 Elliott, D., and Fielder Cook, L., (2016). *Climate justice and the use of human rights law in reducing greenhouse gas emissions*. Geneva: Quaker United Nations Office. p4.
- 88 United Nations/Framework Convention on Climate Change, 2015. Adoption of the Paris Agreement, 21st Conference of the Parties, Paris: United Nations.
- 89 Elliott, D., and Fielder Cook, L., (2016). *Climate justice and the use of human rights law in reducing greenhouse gas emissions*. Geneva: Quaker United Nations Office. p4.
- 90 Quaker United Nations Office, (2014). *Call to Conscience*, Geneva.
- 91 Four Arrows (aka Donald Trent Jacobs), (2016). *Point of Departure: Returning to*

- Our More Authentic Worldview for Education and Survival*. USA: Information Age Publishing Inc.
- 92 IUCN/UNEP/WWF, (1991). *Caring for the Earth. A Strategy for Sustainable Living*. Gland, Switzerland.
- 93 Spirit of Humanity Forum. (2017). *Climate Action – the Ethical Perspective*. Last accessed 10th Oct 2017.

The Healthier World Argument

- 94 Bohn, A., Mclarty, M., and Oman, J., (2016). Creating A New Culture Around Climate Change. *Proposal for Shifting Behavior for a Changing Climate 2016 by Etho*. Climate CoLab.
- 95 United Nations Department of Economic and Social Affairs, (2016). 'New UN report: Inequalities cause and exacerbate climate impacts on poor and vulnerable people', New York, 3 October.
- 96 Centre for Alternative Technology, (2017). *Zero Carbon Britain: Making It Happen*, Powys: Allan Shepherd. p267.
- 97 QEW, QUNO and FCNL, (2015). *Quaker Statement on Climate Change*.
- 98 United Nations / Framework Convention on Climate Change, (2015). In: *Adoption of the Paris Agreement, 21st Conference of the Parties*, Paris: United Nations. Article 4.1.
- 99 Centre for Alternative Technology, (2017). *Zero Carbon Britain: Making It Happen*, Powys: Allan Shepherd.
- 100 Allen, P., Bottoms, I., James, P., and Yamin, F., (2015). Who's Getting Ready For Zero?: A report on the state of play of zero carbon modelling. *Centre for Alternative Technology and Track 0*.
- 101 Centre for Alternative Technology, (2017). *Zero Carbon Britain: Making It Happen*, Powys: Allan Shepherd. p226 and 229.
- 102 Hawken, P., (2017). Refrigerant management; food waste; plant-rich diet; restoration of tropical forests; educating girls; family planning; silvopasture; rooftop solar; Reg. Agriculture; temperate forests; Tropical staple trees; peatlands; afforestation. In: *Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming*. New York: Penguin Books. p10-11, p39, p42-43, p50-51, p54-55, p66-67, p78-79, p81-82, p114-115, p122-123, p128-129, p132-133, p164-165.
- 103 Idem, p.ix
- 104 Idem, p.x

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