Parallel Report Submitted to the Committee on Economic, Social and Cultural Rights for the consideration of the List of Issues on the Republic of Chile by the Committee's Pre-Sessional Working Group at its 66th Session (9 – 13 March 2020)

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The Republic of Chile's climate policy and its obligations under the International Covenant on Economic Social, and Cultural Rights

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The upcoming review of the Republic of Chile (Chile) by the Committee on Economic, Social and Cultural Rights (CESCR) is an important opportunity to ask the government of Chile to clarify how its climate change policy complies with its legal obligations under the International Covenant on Economic Social and Cultural Rights (ICESCR) and its obligations under the Paris Agreement.

Table of Contents

A. Human rights impacts of Chile's climate and coal policy

1. The CESCR has previously recognised that climate change constitutes a 'massive threat' to the enjoyment of economic, social and cultural rights, in particular the ICESCR rights to health, food, water and sanitation, as well as the right to life as a result of increased mortality rates due to heat-related events and natural disasters.[1] As the CESCR and other UN Treaty Bodies recently stated, 'adverse impacts on human rights are already occurring at 1°C of warming and every additional increase in temperatures will further undermine the realization of rights'.[2] States have human rights obligations under ICESCR and other international and regional treaties to mitigate climate change in order to prevent the severe human rights harms caused by climate change.[3]

2. Chile is **particularly vulnerable** to the effects of climate change due to its geophysical and environmental features, including its extensive low-lying coast, large forested areas, glaciers and mountains, and its reliance upon the oceans and fisheries for food security and economic development.[4] Climate change has **already had significant detrimental impacts** on people living in Chile, undermining the rights, protected by the ICESCR, to water, food, housing and health. One of the most significant impacts is **water scarcity**, which has occurred over the past 20 years,[5] following decrease in rainfall and retreating glaciers. As a result, Chile has experienced a **multi-year drought**

and 2019 was one of the driest years in 60 years.[6] In addition, Chile has experienced flooding, heatwaves, and forest fires.[7]

3. The projected impacts of climate change in Chile are **even more severe.** According to the findings of the Intergovernmental Panel on Climate Change (IPCC), they include: increases in temperature;[8] and 'significant reductions' in glaciers and ice fields in central-south Chile,[9] with subsequent effects including 'significant reductions' in precipitation in central-south Chile;[10] reduction in agricultural yields due to water limitation;[11] and changes in 'the occurrence of extreme events', such as 'extreme low and high flows' arising from glacial lakes, 'volcanic collapse and debris flow associated with accelerated glacial melting in the tropical Andes … and with volcanoes in southern Chile' as well as risks of water pollution 'by exposure to contaminants as a result of glaciers' retreat'.[12] The impact of reduced precipitation will be particularly significant for 'semi-arid highly populated basins (e.g., Santiago, Chile) and with extensive agriculture irrigation and hydropower demands', as it will 'increas[e] their current vulnerability' regarding the scarcity of freshwater.[13]

4. Furthermore, Chile's current heavy reliance on fossil fuels – including its 28 coal-fired power stations – has significantly interfered with the enjoyment of the right to health and other economic, social and cultural rights of Chilean peoples, particularly those living in the so-called "Sacrifice Zones" in close proximity to the power plants. People living close to these plants have suffered significant health impacts due to excessively high levels of heavy metals and toxic gases, as well as loss of enjoyment of their home and livelihoods.[14]

B. Chile's human rights obligations to mitigate climate change

(i) <u>The obligation to urgently reduce greenhouse gas emissions</u>

5. Chile has signed and ratified the UNFCCC and the Paris Agreement on climate change.[15] Chile is an industrialised country and a member of the OECD, reflecting its level of economic development.[16] Under the Paris Agreement on climate change, States have committed to limit the increase of global average temperature to 'well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C.'[17] States have further recognised that keeping global temperature increase to below this threshold would 'significantly reduce the risks and impacts of climate change.'[18] The IPCC's Special Report on 1.5°C of warming confirms, however, that even an increase of 1.5°C will entail significant harm to human and natural systems, including an increase in heat and rainfall extremes and the risk of triggering climate tipping points that cause abrupt, irreversible changes in the environment, such as multi-metre sea level rise.[19]

6. States have human rights obligations to take urgent and significant action to mitigate climate change in light of the severe human rights harms caused by climate change. These obligations have been recognised and articulated by the CESCR,[20] as well as by other UN Treaty Bodies,[21] the UN Human Rights Council[22], UN Special Procedures,[23] and by national courts.[24] The CESCR and four other UN Treaty Bodies recently articulated States' obligations to mitigate climate change as follows:[25]

7. The IPCC report [on 1.5°C of warming] makes it clear that to avoid the risk of irreversible and large-scale systemic impacts, **urgent and decisive climate action is required**. … In order for States to comply with their human rights obligations, and to realize the objectives of the Paris Agreement, they must adopt and implement policies aimed at reducing emissions, which reflect the **highest possible ambition**, foster climate resilience and ensure that public and private investments are consistent with a pathway towards low carbon emissions and climate resilient development.

8. The CESCR has further stated that States Parties to ICESCR 'should … act on the basis of the **best scientific evidence available**' and **revise their Nationally Determined Contributions under the Paris Agreement** 'to better reflect the "highest possible ambition"'.[26]

9. States' human rights obligations to **urgently reduce greenhouse gas emissions** was recently confirmed by the Supreme Court of the Netherlands in the landmark case of *Urgenda v the Netherlands*.[27] The UN High Commissioner for Human Rights stated that the Dutch Supreme Court's decision "confirms that the Government of the Netherlands and, by implication, other governments have binding legal obligations, based on international human rights law, to undertake strong reductions in emissions of greenhouse gases."[28]

10. The Supreme Court confirmed that climate change threatened the enjoyment of the rights to life and family and private life (as enshrined in Articles 2 and 8 of the European Convention on Human Rights) and that this gives rise to positive obligations on the part of the State**. To fulfil these positive obligations, the Supreme Court held that the State must act with due diligence, and that in this context this required the Netherlands to do its fair share in the context of the global effort to address climate change**. In defining the concept of a fair share, the Supreme Court referred to the obligation under international law that States act in accordance with their common but differentiated responsibilities and respective capabilities.[29] **Further, the Court held that the duty to act with due diligence implies that the State must properly justify how its policy is consistent with its fair share.**[30]

11. As an industrialised country, the Supreme Court determined that that in order to comply with its human rights obligations, the Dutch government must decrease greenhouse gas emissions by at least 25% by 2020 compared to 1990 levels.[31]

(ii) <u>The obligation of non-discrimination in the context of climate action</u>

12. Chile's human rights obligations to mitigate climate change are underpinned by its obligation under Article 2(2) ICESCR to guarantee that **the rights under ICESCR are exercised without discrimination** of any kind "as to race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status".[32] In Chile, as elsewhere, climate change has, and will have, disproportionately negative effects on the exercise of ICESCR rights to health, food, water and housing (among other rights) by persons who are already marginalised or in vulnerable situations, such as children, women and girls, indigenous peoples, people with disabilities, and people living in poverty, as has been recognised by the CESCR and other UN Treaty Bodies,[33] UN Special Procedures[34] and the IPCC.[35]

13. Climate change also has specific impacts on the right to culture of indigenous peoples[36] which, in Chile, include the Mapuche, the Aymara, the Diaguita, the Lickanantay, and the Quechua peoples,[37] who are socially, culturally and economically dependent on the natural resources in their territories. The indigenous peoples of Chile may be forced to migrate from their lands due to the extreme vulnerability in which they could find themselves and thus endangering the subsistence of their traditions. Therefore, the recognition and participation of indigenous peoples in the fight against climate change in Chile is fundamental.[38]

14. These features of the climate crisis impose additional obligations on Chile in its approach to mitigating and adapting to climate change. As the CESCR and other UN Treaty Bodies have recently stated:

> "When reducing emissions and adapting to climate impacts, States must seek to **address all forms of discrimination and inequality**, including advancing substantive gender equality, protecting the rights of indigenous peoples and of persons with disabilities, and taking into consideration the best interests of the child."[39]

(iii) <u>Summary</u>

15. Thus, in line with its international human rights obligations and the Paris Agreement, the Chilean Government's climate policy must be **based on due diligence, reflect its fair share of the global effort to reduce greenhouse gas emissions and reflect its highest possible ambition. The duty to act with due diligence means that the government must justify how its policy is consistent with its fair share**. It must also **mobilise its maximum available resources** to protect economic, social and cultural rights that are affected by climate change, including by reducing greenhouse gas emissions.

    This entails, as outlined below:

    - Significantly increasing the ambition of Chile's current NDCs under the Paris Agreement;
    - Introducing emissions reduction targets in the short and medium-term, such as in 2025 and 2030;
    - Phasing-out of coal and other fossil fuels by 2032 at the latest;
    - Ensuring that measures adopted to mitigate and adapt to climate change guarantee the equal enjoyment of ICESCR rights (as required under Article 2(2)); and
    - Ensuring the protection of the rights of indigenous peoples in the context of any climate action, including protection of the right to free, prior and informed consent.

C. Chile's climate policy

(i) Increasing greenhouse gas emissions

16. Despite its obligations under the ICESCR and the international climate change framework, Chile's greenhouse gas emissions have continuously increased over the past two decades. Its emissions more than doubled between 1990 and 2016 (emissions increased by 115%) and its emissions are expected to further increase by 2030 (a projected increase of 134-143% above 1990 levels).[40]

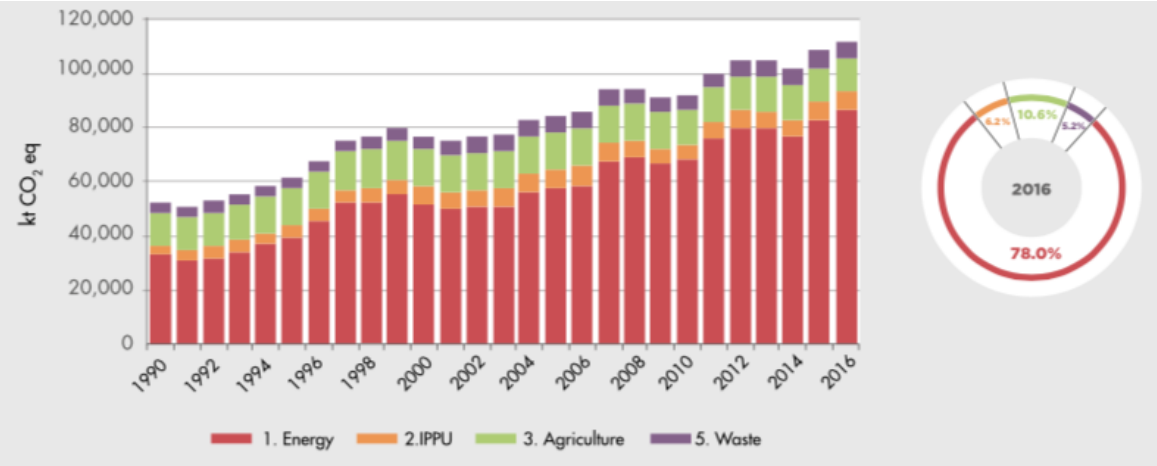

Figure 1: Historic emissions of Greenhouse Gases emitted in the Republic of Chile by sector (source: Third Biennial Update Report of Chile under the UN Framework Convention on Climate Change)[41]

(ii) Insufficient emissions reduction policies

17. The Government of Chile's current policies on reducing greenhouse gas emissions are **exceptionally weak.** In its Nationally Determined Contribution (NDC), Chile has committed to reduce the greenhouse gas (GHG) intensity of its Gross Domestic Product by 30% compared to 2007 levels by 2030.[42] This means that, in 2030, Chile's GHG emissions will be 151% **more** than in 1990 (or an 8-12% **increase** on 2016 levels).[43] Such continued increases in emissions is the opposite of the deep cuts in emissions that the IPCC has identified as necessary if global warming is to be kept to 1.5°C.[44] This is why international experts consider Chile's current NDC to be **'highly insufficient'** to hold

warming to below 2°C, let alone to 1.5°C.[45] If all national government targets were in this range, warming would reach between 3°C and 4°C by the end of the century, which would have catastrophic impacts on the enjoyment of human rights.[46]

18. Chile's current NDCs are, thus, inconsistent with its commitment under the Paris Agreement to limit the increase of global average temperature to 'well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C.'[47] They do not constitute a 'fair share' of Chile's contribution to reduce emissions, as required by the joint and individual responsibility of all countries to reduce emissions under the international climate change framework in accordance with their common but differentiated responsibilities and respective capabilities. Chile's current inadequate NDCs mean that it is disproportionately contributing to the global risks associated with climate change, including impacts in Chile and abroad.

19. In the coming year, Chile has several **opportunities** to increase the ambition of its climate policies, including by revising its NDCs and in the design of the Climate Change Framework Bill which is currently before the Congress. We are concerned that the Government's proposals in these areas are **not sufficiently ambitious** and **not consistent with their human rights obligations** as outlined below.

(iii) Proposed revisions to Chile's climate policy

20. In March 2020, the Government of Chile is required to submit a revised NDC, pursuant to its obligations under the Paris Agreement.[48] The Government has not yet submitted this, but it announced proposed revised NDCs (both conditional and unconditional) in 2019.[49]

21. In light of the international human rights obligations of States outlined above, we are concerned that:

- Chile's proposed *unconditional* NDC which would set a peak year for GHG emissions of 2027, among other measures.[50] International experts consider that this revised NDC would **still be 'insufficient'** to hold warming to below 2°C, let alone to 1.5°C, and therefore would not reflect Chile's fair share of global emissions reductions.[51]

- Chile's proposed *conditional* NDC is much more ambitious and may be 'close to or compatible with Chile's fair share Paris Agreement's 1.5°C range'.[52] However, international experts have indicated that it is **'difficult to evaluate'** due to lack of clarity and transparency in the policy details.[53]

22. Furthermore, we are concerned that:

- The proposed *unconditional* NDC provides for the afforestation of forests with an up to 30% share of exotic species, despite the current water stress thoughout the entire country and the mega fires that occurred in recent years, and scientific evidence that points to the danger that these species present for the sustainability of ecosystems.[54]

- Chile's proposals regarding adaptation with respect to Chile's water resources are inadequate, especially given the current pressures on the right to water (protected pursuant to Article 11 ICESCR). It provides for plans to achieve greater water 'resilience' are to be initiated in 2025 and 2030 which are far too long-term given that the country already has a great water crisis. Furthermore, there is no indication of how these commitments will be carried out. In the case of adaptation measures with respect to the oceans, it only specifies the creation and management of protected areas, without more, which is clearly insufficient.

- Finally, there are **no concrete measures to address the disproportionate impact of climate change on the rights of the most vulnerable peoples in Chile**, despite the Government's recognition that climate change affects the most vulnerable sectors of the population most intensely,[55] and that it is therefore important to "adopt perspectives that counteract such effects".[56] There is also **no mention** in the proposal regarding the **recognition and participation of indigenous peoples** in the fight against climate change, particularly in relation to the afforestation measures proposed in Chile's forestry sector,[57] nor are indigenous peoples considered in the "integration component", on oceans and the role they play, for example, in Chile's marine protected areas. This is contrary to the internationally protected right of indigenous peoples to free prior and informed consent in relation to activities that may affect their territories.

(iv) <u>The Proposed Framework Law on Climate Change</u>

23. In January 2020, the Government of Chile introduced a Climate Change Framework Bill into Congress (**Climate Framework Bill**).[58] If passed, the Bill would enshrine a long-term goal of achieving carbon neutrality by 2050 (Article 14), among other measures.[59]

24. As it stands, the Climate Framework Bill **does not include sufficient short and medium-term emissions reduction measures**. For example, there are no emissions reduction targets for 2025, 2030 or 2040. While commitments to achieve carbon neutrality are essential to mitigating climate change, long-term emissions reduction targets cannot replace the 'urgent and decisive climate action' that the CESCR has recognised are **required in the short and medium term** to prevent severe and irreversible human rights harms caused by climate change.[60]

25. In addition, we have the following concerns regarding the design of the Bill:

    - It provides that the Government will update the Long-Term Climate Strategy every 10 years (Article 16). This is far too long a time period, given the changing nature of the climate crisis and the need for the State to be responsive to changing developments to ensure that it can prevent imminent threats to the ICESCR rights of Chilean peoples.

    - The Draft Law also makes provision for climate mitigation plans to be made by various government departments (Article 18). The problem with these plans is that they only have measures focused on reducing the use of fossil fuels and do not include issues such as energy efficiency by sector or the management of the native forest. Furthermore, no mention is made of plans for sectors such as fisheries, aquaculture, biodiversity and protected areas.

    - There is **inadequate integration of a human rights framework within the Bill**. The Bill should specify that all mitigation and adaptation actions adopted pursuant to the law must be consistent with the human rights of Chilean people, as guaranteed in national and international human rights law, including the ICESCR, and with special attention paid to the most vulnerable people and groups. The Draft Law also needs to include a more precise definition of "risk" and "vulnerability" to climate change, particularly in relation to vulnerable groups and indigenous persons.

D. Chile's Reliance on Fossil Fuels for Energy Supply

26. Chile's greenhouse emissions are overwhelmingly attributable to energy production and use, as illustrated in Figure 1 in Part C above. Emissions from Chile's energy sector have more than doubled since 1990 (an increase of 137.5% from 1990 – 2018) and increased by 16.6% between 2013 –

2018.[61] The majority of Chile's energy supply is derived from fossil fuels, with a particular dependence on coal and natural gas.[62] In 2018, coal made up a 38% share of Chile's electricity matrix.[63] There are 28 coal-fired power plants concentrated in five areas of the country. All are privately owned and operated by four companies (Colbun, ENEL, ENGIE and AES GENER).

27. Recently, the Government has announced several measures to reduce its reliance on fossil fuels for energy supply. It has set a long-term target of 60% electricity production from renewable energy by 2035 and 70% by 2050,[64] and has announced that it would completely 'phase-out' coal by 2040,[65] and would 'shut-down' ten such coal-fired power plants by 2025.[66]

28. While such announcements may appear positive, we consider that **the proposed phase-out of fossil fuels is inadequate** in the following respects:

    - Fossil fuels are still projected to account for a significant share of generated electricity in 2030, despite the renewable energy targets for 2035 and 2050.

    - The 2040 deadline for the phase-out of coal is not consistent with the Paris Agreement targets, according to international experts, and should be brought forward to 2032.[67]

    - The "shut-down" of 10 coal-fired power plants by 2025 is only a voluntary commitment by the companies and does *not* mean that the plants will be closed or dismantled. Following the 'shutdown', each plant will enter into an "Energy Reserve Status" for an additional period of 5 years, which implies maintaining the plant in such a condition that it may start operating immediately if required by the authority (with the State providing ongoing funding to the companies for this "energy reserve service"). Furthermore, the power plants that are slated to be closed are already very close to the end of their production-life.[68]

    - Despite all of the commitments to the phase-out of coal, a new coal-fired power plant started operations in Mejillones in 2019, one of the dangerously polluted 'Sacrifice Zones' discussed below.[69] This power plant will have a lifespan of several decades, resulting in long-term adverse impacts for local communities in the regions where they are built, in particular in relation to atmospheric air pollution, as well as generating large amounts of greenhouse gases for several decades, further contributing to climate change and the risk of violations of human rights for the people of Chile and for people beyond its territories.

29. Chile must **accelerate the phase-out of fossil fuels** in order to prevent the current and foreseeable human rights harms caused directly and indirectly by its reliance on fossil fuels, as required by its obligations under the ICESCR. We summarise our recommendations in Part G below.

E. Chilean 'Sacrifice Zones'

30. Chile's current heavy reliance on fossil fuels for energy supply has significantly interfered with the enjoyment of the ICESCR right to health and other economic, social and cultural rights of Chilean peoples. Emissions from coal-fired power plants have a **particularly severe and direct impact on the right to health (Article 12 ICESCR) and right to life of people living in the so-called "Sacrifice Zones"**, which are areas that the Government has designed for the operation of coal and gas-fired power plants and the extraction of natural resources.

31. At present, all of Chile's 28 coal-fired power plants are concentrated in five towns.[70] People living close to these plants in Chile have suffered significant health impacts due to excessively high levels of heavy metals and toxic gases, as well as loss of enjoyment of their home and livelihoods. The impact on children of pollutant emissions from thermal power plants, such as mercury,[71] and the

short- and long-term effects of airborne pollutants on children,[72] has been well-documented by the World Health Organisation, and by international[73] and Chilean medical researchers.[74]

32. Chile's **current legal framework to regulate emissions from coal-fired power plants is wholly inadequate,** resulting in interferences with the ICESCR right to health, as follows:

    - The regulation (DS13/2011)[75] governing emissions from coal-fired power plants does not set limits for the emission of pollutants that are highly harmful to the population and ecosystems, such as vanadium, cadmium and nickel. This is contrary to the recommendations of the World Health Organisation's Air Quality Guidelines (2005).[76]

    - This same regulation also sets very weak limits for the emissions of Particulate Matter, Sulfur Dioxide, Nitrogen Oxides and Mercury from power plants. The limits are much weaker than those that operate in other jurisdictions such as the European Union,[77] the United States[78] and China.[79] This is illustrated in Figures A, B and C in **Annex 1** based on data from the International Energy Agency.

    - The 'Primary Quality Standards' which regulate respirable contaminants also sets a very low environmental standard compared to the quality standards recommended by the World Health Organisation in its Air Quality Guidelines (2005).[80] This is illustrated in Figures D, E, F,G,H and I in **Annex 2.**

33. At the international level, in 2018 President Piñera **committed to "resolve the emergency situation and protect our citizens' health"** in the Sacrifice Zones.[81] Since then, however, no meaningful action has been taken. In particular, the Chilean Government has failed to:

    - review or amend regulation DS13/2011 and bring it into line with international standards, despite numerous demands from civil society, from medical experts, a legal requirement that it be reviewed in 2016;[82]

    - conduct a comprehensive review of the Primary Respiratory Quality standards to bring it in line with the WHO recommendations, despite equally strong demands from civil society in Chile; and

    - comply with measures ordered by the Supreme Court of Chile to end the "Sacrifice Zones" in the Quintero and Puchuncaví area.[83]

34. Finally, of great concern, is that in 2019 a new coal-fired power plant started operations in Mejillones, one of the 'Sacrifice Zones'.[84]

35. The impact of Chile's coal-fired power plants on the right to health of people living in Chile is contrary to its obligations under ICESCR, including its duty to ensure that Covenant rights are enjoyed without discrimination (Article 2(2)), and contrary to Chile's obligations under the UN Convention on the Right of the Child with respect to protecting the right to life and right to health of children.

F. Extra-territorial human rights impacts

36. The climate policy of Chile and its heavy reliance on fossil fuels as an energy source also has significant **extra-territorial implications**. As the CESCR has recognised, States Parties owe duties to respect, protect and fulfil 'all human rights for all' and 'owe such duties not only to their own populations, but also to populations outside their territories, consistent with articles 55 and 56 of

the United Nations Charter'.[85] Chile's heavy reliance on fossil fuels contributes directly to global warming which harms the human rights of the people of Chile and those outside its territory.

G. Recommended Questions

37. In conclusion, Chile's climate change and coal policies constitute a violation of economic, social and cultural rights in Chile and extra-territorially. Chile has obligations under domestic and international human rights instruments to act with due diligence to urgently reduce its GHG emissions so that its emissions reduction are in line with its fair share, and to address the air pollution and health impacts of coal power stations, in particular by rapidly phasing out coal fired power stations.

38. Chile's current climate and energy policies are inconsistent with those legal obligations. **Therefore, Chile must adopt the following measures:**

    - Significantly increase the ambition of its current NDCs under the Paris Agreement to ensure that they are compatible with keeping global temperature increase to well below 2 degrees;
    - Introduce emissions reduction targets in the short and medium-term, such as in 2025 and 2030;
    - Phase-out of coal and other fossil fuels by 2032 at the latest; and
    - Ensure that measure adopted to mitigate and adapt to climate change guarantee the equal enjoyment of ICESC rights (as required under Article 2(2)); and
    - Ensure that the rights of indigenous people to participate in climate change policy-making are respected, protected and fulfilled, including their right to free, prior and informed consent.

39. We urge the Committee on Economic, Social and Cultural Rights in its List of issues Prior to Reporting to Chile, to request the Chilean Government to provide additional information relating to the adequacy and effectiveness of its climate policy in the context of its legal obligations under the ICESCR.

Suggested questions:

1. Given the severe current and predicted impacts of climate change on economic, social and cultural rights in Chile, explain how Chile's climate change mitigation policies and continued support for 28 coal-fired power stations are compatible with the country's international human rights obligations and obligations under the Paris Agreement and the ICESCR.

2. Provide information regarding the specific steps that Chile is taking to address the current and future adverse impacts of climate change on economic, social and cultural rights in Chile, including with respect to reduction in water supply due to retreating glaciers and reduced rainfall, multi-year drought, reduced agricultural yields, flooding, heatwaves, and forest fires.

3. Provide information regarding the specific steps that Chile is taking to address the current adverse impacts on the right to health of people, particularly children, due to emissions from coal-fired power plants, including ensuring that its regulations are rendered consistent with international standards.

Submitted by:

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ANNEXES

The material contained in the following annexes was prepared by Fundación Terram and included in its submission to the UN Universal Periodic Review of Chile (2018) (in Spanish). It is based on data from the International Energy Agency, as cited in the endnotes of the present submission to the CESCR.

Annex 1: Comparison of Emissions Standards for Coal-Fired Power Plants in Chile and other Jurisdictions

Annex 1 provides a comparison of the emissions standards that apply to coal-fired power plants in Chile and other jurisdictions.

As illustrated in the figures, there are two types of coal-fired power plants operating in Chile: existing or "aged" coal-fired power plants ("Chile Existentes") and new plants ("Chile Nuevas"), as defined by the Superintendency of the Environment (SMA). Both types of plants emit levels of toxic emissions that far exceed the limits such in other countries, but the most dangerous levels of toxic emissions come from the "aged" plants – of which three are located in Mejillones and in Huasco.

The English translation of the figures in Annex 1 is as follows:

- Figure A: Emission Standard for Thermal Power Plants Particulate Matter (PM) (mg/m3)
- Figure B: Emission Standard for Thermoelectric Power Plants Sulfur Dioxide (SO2) (mg/m3)
- Figure C: Emission Standard for Thermoelectric Power Plants Nitrogen Oxides (NOx) (mg/m3)

Annex 2: Comparison of Primary Air Quality Standards (NCP) in Chile and other Jurisdictions

Annex 2 provides a comparison of the emissions standards that apply to coal-fired power plants in Chile and other jurisdictions.

The English translation of the figures in Annex 2 is as follows:

- Figure D: Primary Air Quality Standard for Breathing Particulate Matter (MP10) (µg/m3n)
    - D1: Daily
    - D2: Annual
- Figure E: Primary Air Quality Standard for Breathing Fine Particulate Matter (MP2.5) (µg/m3n)
    - E1: Daily
    - E2: Annual
- Figure F: Primary Air Quality Standard for Sulfur Dioxide (SO2) (µg/m3N)
    - F1: Daily
    - F2: Hourly
    - F3: Annual
- Figure G: Primary Air Quality Standard for Nitrogen Dioxide (NO2) (µg/m3N)
    - G1: Hourly
    - G2: Annual
- Figure H: Primary Air Quality Standard for Ozone (O3) (µg m-3)
- Figure I: Primary Air Quality Standard for Carbon Monoxide (CO) (mg m-3)
    - I1: Over 8 hours
    - I2: Hourly

Anexo 1: NORMA DE EMISIÓN PARA CENTRALES TERMOELÉCTRICAS

Gráfico a. Norma de Emisión Centrales Termoeléctricas Material Particulado (MP) (mg/m3)

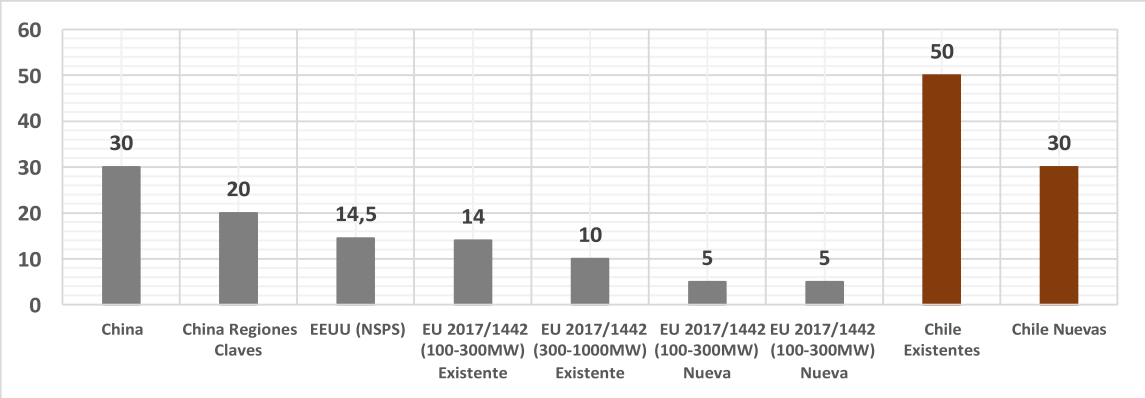


Gráfico b. Norma de Emisión Centrales Termoeléctricas Dióxido de Azufre (SO2) (mg/m3)

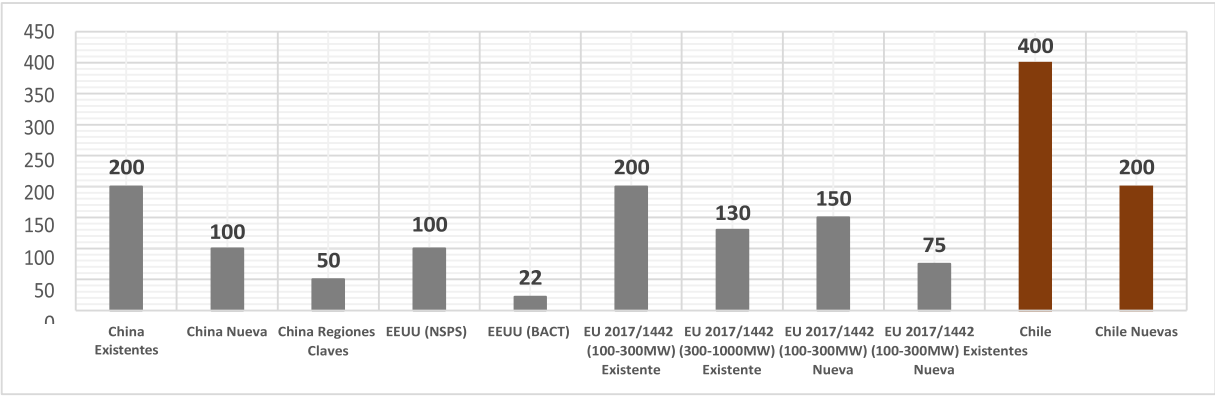
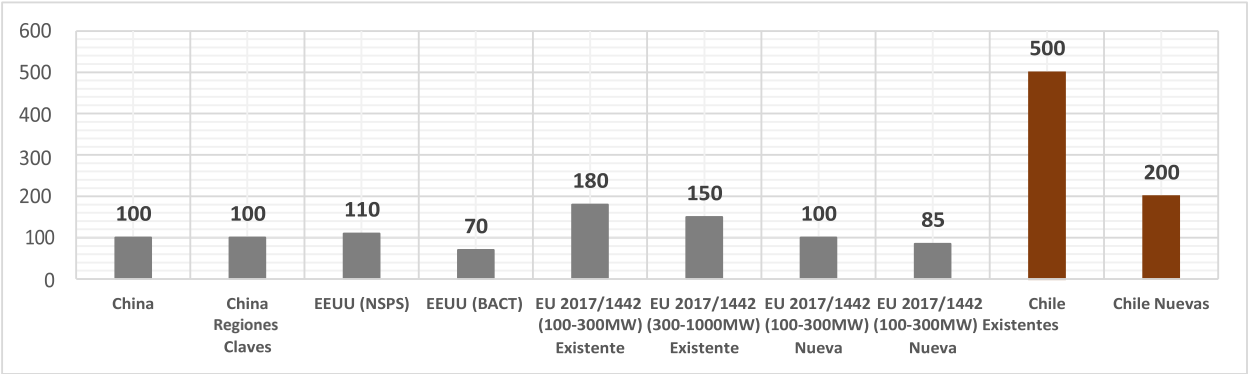


Gráfico c. Norma de Emisión Centrales Termoeléctricas Óxidos de Nitrógeno (NOx) (mg/m3)



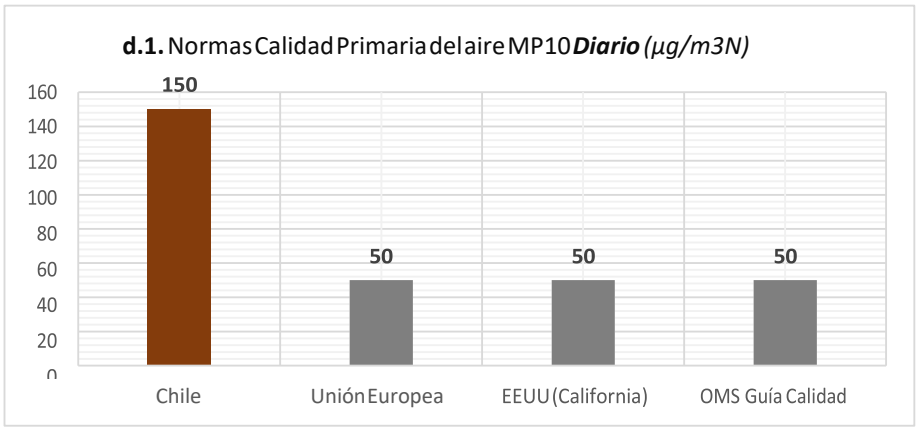
Fuente Gráficos a, b y c: Elaboración Propia a partir de datos de "Iea Clean Coal Centre: Emission Standards"[1] y Diario Oficial de la Unión Europea (2017)[2]

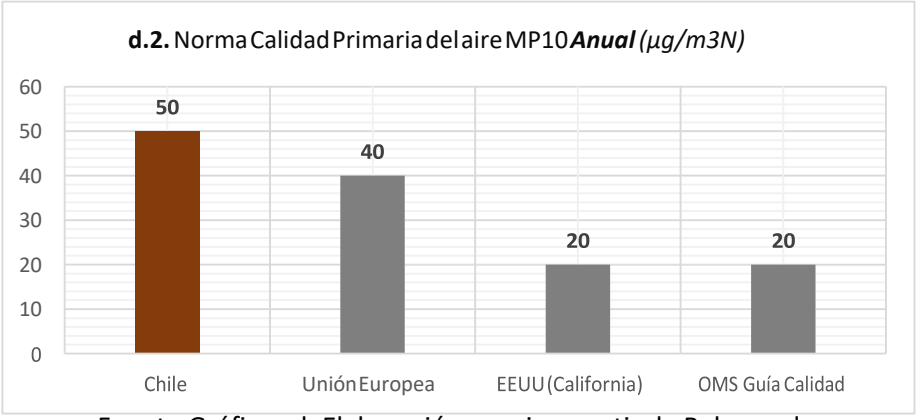
[1] IEA CLEAN COAL CENTRE: "Emission Standards, for China-USA-EU". Recuperado en junio de 2018 de https://www.iea- coal.org/library/emission-standards/

[2] Diario Oficial de la UE (2017): "Decisión de Ejecución (UE) 2017/1442 de la Comisión de 31 de julio de 2017 por la que se establecen las conclusiones sobre las mejores técnicas disponibles (MTD) conforme a la Directiva 2010/75/UE del Parlamento Europeo y del Consejo para las grandes instalaciones de combustión". Recuperado en junio de 2018 de https://www.boe.es/doue/2017/212/L00001-00082.pdf

Anexo 2: NORMAS DE CALIDAD PRIMARIA DEL AIRE (NCP)

Gráficos d. NCP para Material Particulado Respirable (MP10) (µg/m3n)

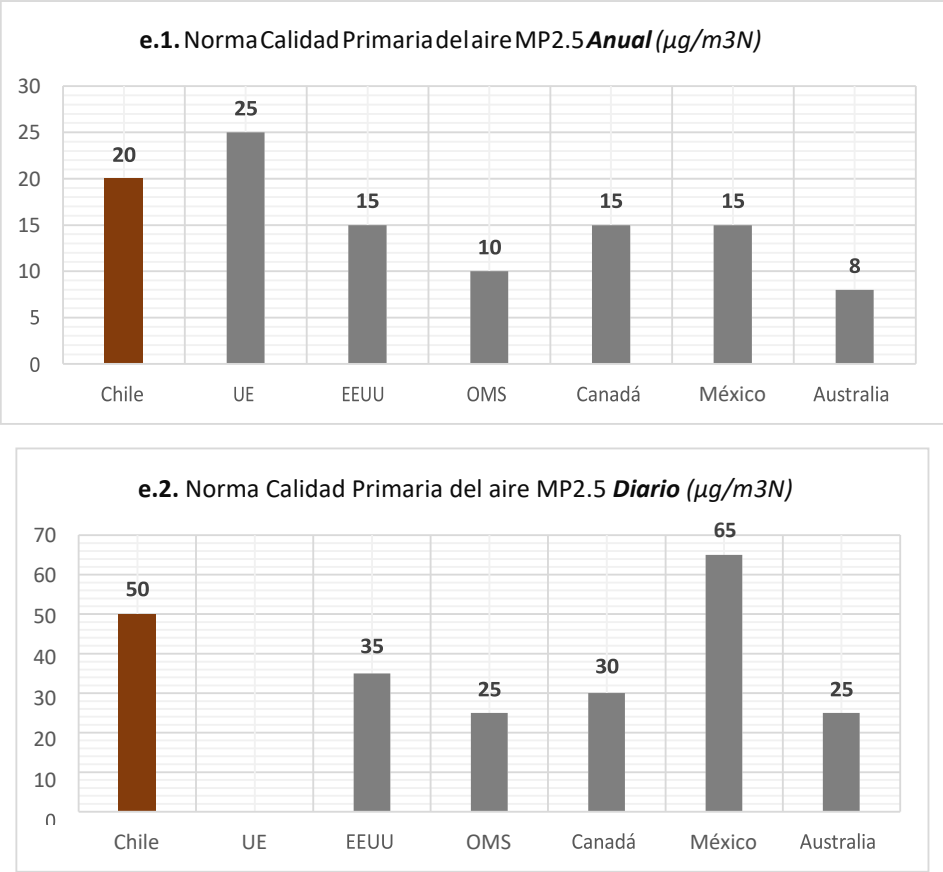




Fuente Gráficos d: Elaboración propia a partir de Balmaceda, (2016)[3].

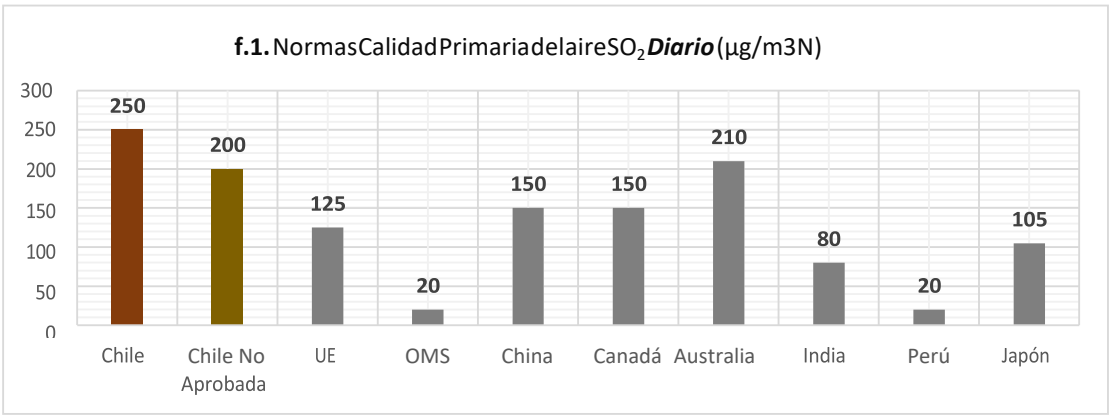
[3] Balmaceda E. (2016). "Normativa de Emisión de Material Particulado Fino (Ley N°19.300): Importancia para las políticas públicas y la regulación ambiental en Chile". Recuperado en junio de 2018 de http://repositorio.uchile.cl/bitstream/handle/2250/139299/Normativa%20de%20emisi%C3%B3n%20de%20material%20particulado%20fino%20%28Ley%20N.%2019.300%29%20%20importancia%20p.pdf?sequence= 1

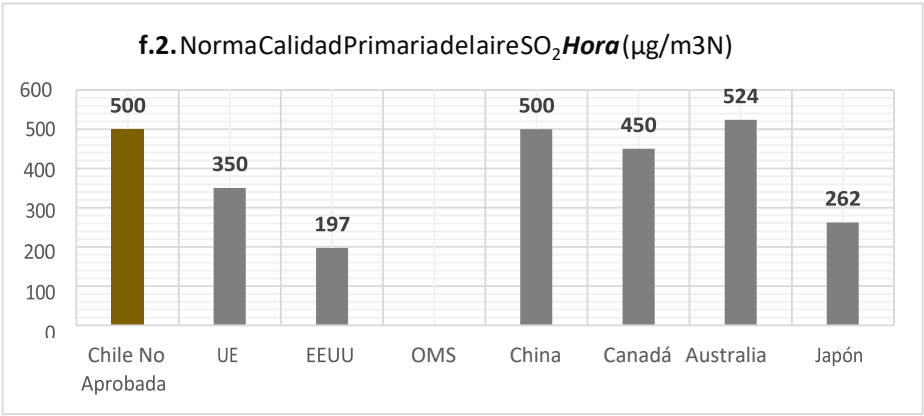
Gráficos e. NCP para <u>Material Particulado Respirable Fino</u> (MP2.5) (µg/m3n)

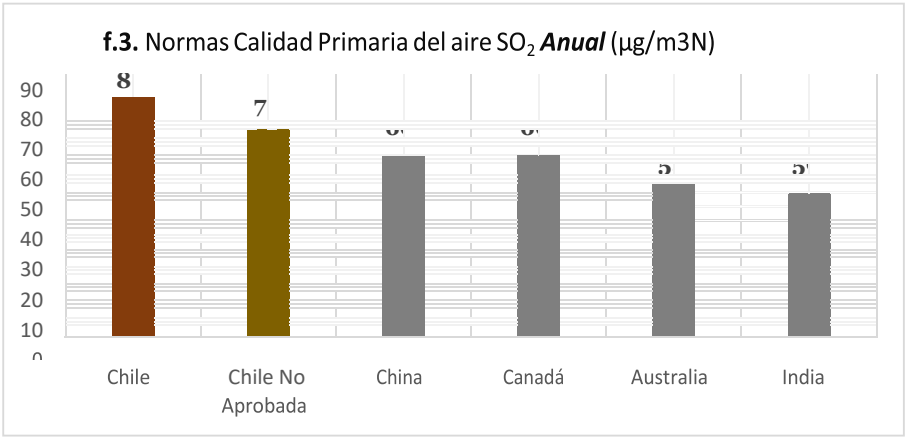


Fuente gráficos e: Elaboración propia a partir de Balmaceda, (2016).

Gráficos f. NCP para Dióxido de Azufre (SO2) (µg/m3N)



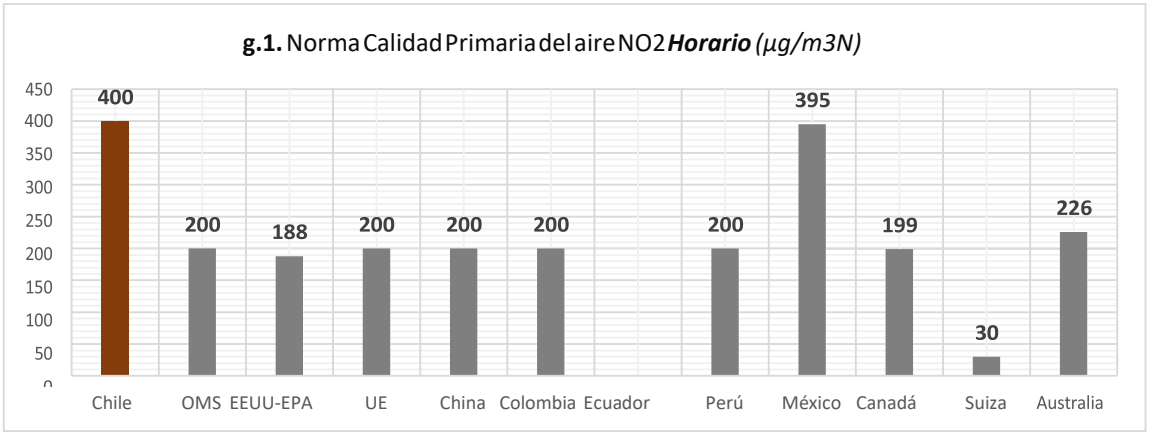


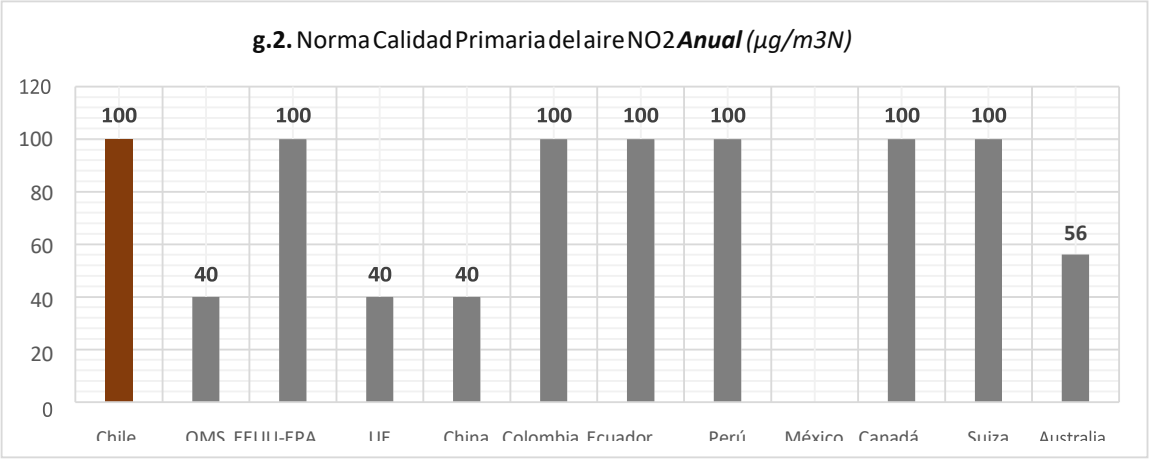


Fuente Gráficos f: Elaboración propia a partir de MMA, (2016)[4].

[4] Ministerio de Medio Ambiente, (MMA) (2016): "Revisión de la Norma Primaria de Calidad del Aire para Dióxido de Azufre (SO2) D.S. N° 113, de 2002, del MINSEGPRES". Recuperado en junio de 2018 de ***http://planesynormas.mma.gob.cl/archivos/2017/proyectos/Minuta_SO2_Asesores_CMS_14-12-2016.pdf***

Gráficos g. NCP para Dióxido de Nitrógeno (NO2) (µg/m3N)

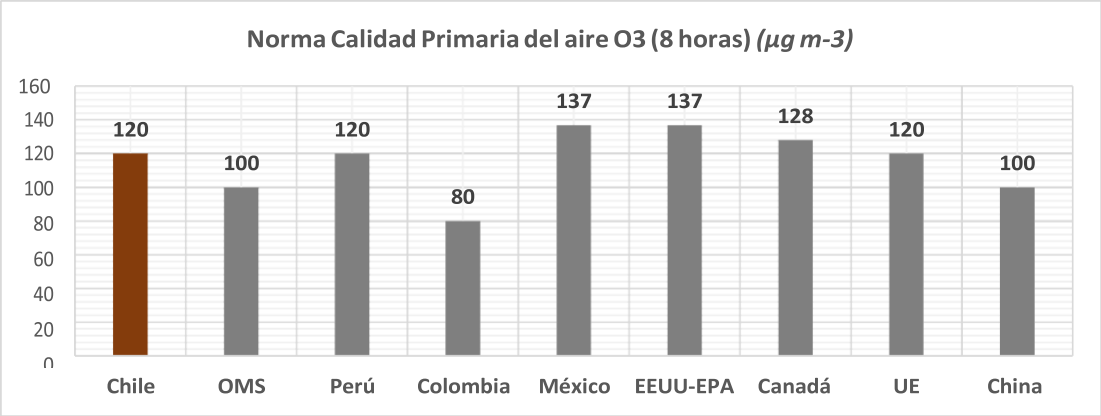




Fuente gráficos g: Elaboración propia a partir de MMA, (2016a) [5].

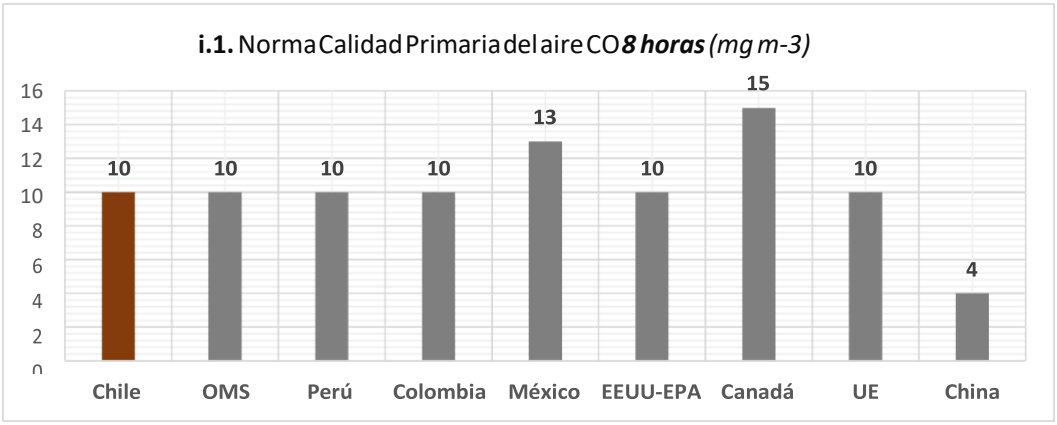
[5] MMA, (2016a). "Análisis de antecedentes y evaluación de impactos para revisar las normas NO2, O3 Y CO". Recuperado en junio de 2018 de http://planesynormas.mma.gob.cl/archivos/2018/proyectos/INFORME_FINAL_MMA_20160512.pdf

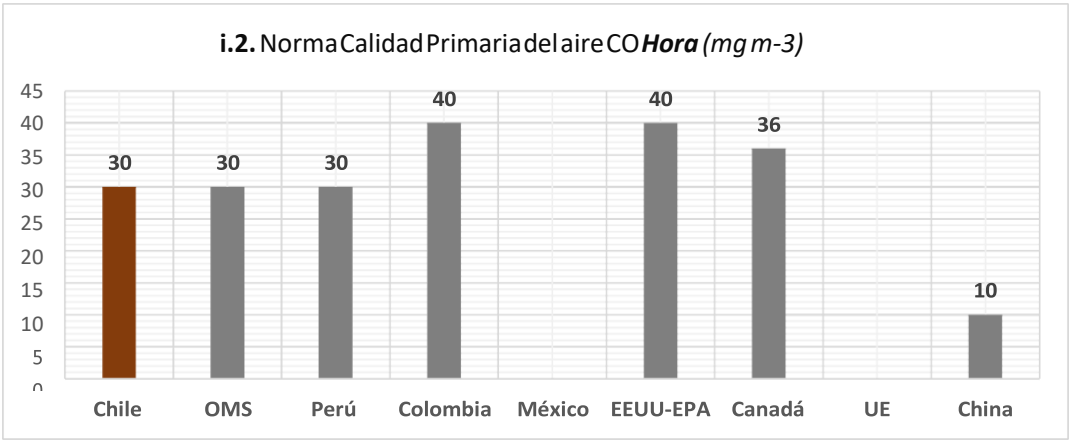
Gráfico h. NCP para Ozono (O_3) (µg m-3)



Fuente Gráfico h: Elaboración propia a partir de MMA, (2016a)[5].

Gráficos i. NCP para Monóxido de Carbono (CO) (mg m^{-3})





Fuente Gráfico h: Elaboración propia a partir de MMA, (2016a)[5].

[1] CESCR, 'Climate change and the International Covenant on Economic, Social and Cultural Rights: Statement of the Committee on Economic, Social and Cultural Rights' (8 October 2018) <https://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=23691&LangID=E> (**CESCR Statement on Climate Change**); see also: CESCR, the Committee on the Elimination of Discrimination against Women, the Committee on the Protection of the Rights of All Migrant Workers and Members of their Families, the Committee on the Rights of the Child, and the Committee on the Rights of Persons with Disabilities, 'Joint Statement on "Human Rights and Climate Change"' (16 September 2019) <https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=24998&LangID=E> (**UNTBs Joint Statement on Climate Change**).

[2] See UNTBs Joint Statement on Climate Change.

[3] Ibid.

[4] Article 4(8) of the UNFCC lists nine criteria that may render a country particularly vulnerable to climate change. Chile meets seven of these criteria as a result of it low coastal levels along its territory, the snow and ice regime of its rivers, the types of forests it possesses and reforests, its oceans, the source of fisheries as a key resource.

[5] During the 20th century, there was a decrease in rainfall between Region III and Region X, from 10% to 25%, especially in coastal regions, with the cities of La Serena (-60 mm/year); Santiago, (-59 mm/year); Concepción (-390 mm/year) and Puerto Montt (-570 mm/year), see: Climate Change and Chile's Water Resources Chilean Agriculture. Reflections and Challenges to 2030 Office of Agricultural Studies and Policies, PASO. Page 166.

[6] See e.g. Aislinn Laing and Fabian Cambero, 'Chile's president announces water crisis team amid 'intense' drought (5 September 2019), *Reuters* <https://www.reuters.com/article/us-chile-environment/chiles-president-announces-water-crisis-team-amid-intense-drought-idUSKCN1VQ2SU

[7] See e.g. Matt Maynard, 'U.N. talks host Chile ramps up climate ambition – but is it enough?' (9 June 2019), *Thomson Reuters Foundation* < https://www.reuters.com/article/us-climate-change-chile-politics-analysi/un-talks-host-chile-ramps-up-climate-ambition-but-is-it-enough-idUSKCN1TA0KY>

[8] IPCC, Fifth Assessment Report, WGII, Chapter 27 'Central and South America', p. 1502.

[9] Ibid, 1520.

[10] Ibid, 1520.

[11] Ibid, 1521.

[12] Ibid (sources not included).

[13] Ibid.

[14] See e.g. Alberto Valdes Gomez Quintero, 'Quintero, the Chilean town sacrificed to pollution' (15 October 2018) *EFE* (English edition) <https://www.efe.com/efe/english/business/quintero-the-chilean-town-sacrificed-to-pollution/50000265-3781394>.

[15] See list of States Parties to UNFCCC available here: https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXVII-7&chapter=27&Temp=mtdsg3&clang=_en and list of States Parties to the Paris Agreement available here: https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&lang=_en&clang=_en.

[16] See https://www.oecd.org/about/document/list-oecd-member-countries.htm

[17] Paris Agreement, Article 2.1.a.

[18] Ibid.

[19] IPCC, Global Warming of 1.5°C (2018).

[20] See e.g. CESCR Statement on Climate Change; UNTBs Joint Statement on Climate Change; CESCR COB to Argentina; CESCR COB to Germany.

[21] See e.g. CRC COB to Norway; CRC COB to Australia; CRC COB to Japan; CEDAW GR37.

[22] See, among others, UN Human Rights Council, Resolution on Human Rights and Climate Change, Doc. A/HRC/RES/41/21, para 2.

[23] See e.g. Joint Statement of the UN Special Rapporteurs (September 2019): 'To meet the 1.5°C target set by the Paris Agreement and limit the damage to human rights, **urgent and effective actions must be implemented immediately to reduce greenhouse gas emissions by 45 percent by 2030,** phase out unabated fossil fuel burning by the middle of the century, and reverse deforestation.' (Emphasis added) <https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=25003&LangID=E>; see also UN Human Rights Council, Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, *Human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment*, 15 July 2019, UN Doc A/74/161 (UN SR HRE Report 2019), and UN Human Rights Council, Report of the UN Special Rapporteur on Extreme Poverty and Human Rights, *Climate change and poverty* (25 June 2019) UN Doc A/HRC/41/39.

[24] There are three particularly important decisions at the national level in in relation to states' obligations to mitigate climate change: in the Netherlands, in Germany and in the United States. The most significant is the decision of the **Dutch Supreme Court in *Urgenda Foundation v Kingdom of the Netherlands* (20 December 2019)** and the previous decisions of the Dutch Court of Appeal (2018) and District Court (2015). The official English translation of the judgment is available on the website of the Supreme Court <https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:HR:2019:2007>; For further details, see: the Urgenda Foundation <https://www.urgenda.nl/en/themas/climate-case/>.

In October 2019, **the Berlin Administrative Court issued a decision in the case of *Family Farmers and Greenpeace Germany v. Germany* (31 October 2019).** The Court determined that a claim against the German government for its failure to mitigate climate change in violation of its obligations under constitutional and regional human rights law was admissible, albeit not established upon the facts of the case. Importantly, the Court determined that violations of human rights resulting from climate change could form the basis of future lawsuits against the German government. For further details, see Greenpeace Germany, 'Berlin court agrees climate lawsuits are admissible in principle' (Press Release, 31 October 2019) <https://www.greenpeace.org/international/press-release/25667/berlin-court-agrees-climate-lawsuits-are-admissible-in-principle/>.

Finally, **in the United States, the case of *Juliana v. the United States*** is ongoing against the US Government in relation to its failure to mitigate climate change, including as a violation of the plaintiff's rights under the Due Process clause of the Constitution. In **November 2016, the Federal Court in Oregon** permitted the claim to proceed to trial. Justice Aiken accepted that the plaintiffs' have a *prima facie* case regarding a "substantive" violation of the Due Process Clause, namely that the Government's climate change policies had in themselves *created* a threat to the right to life. These rulings indicate that climate change may constitute a violation of the right to life under the Fifth Amendment to the US Constitution. For further details, see Our Children's Trust, the organisation that has initiated the litigation <https://www.ourchildrenstrust.org/juliana-v-us>.

[25] UNTBs Joint Statement on Climate Change.

[26] CESCR Statement on Climate Change.

[27] Supreme Court of the Netherlands, *Urgenda Foundation v Kingdom of the Netherlands* (20 December 2019) <https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:HR:2019:2007> (official English translation).

[28] Office of the UN High Commissioner for Human Rights, 'Bachelet welcomes top court's landmark decision to protect human rights from climate change' (Press Release, 20 December 2019) https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=25450&LangID=E

[29] See, e.g., the reasoning of the Dutch Supreme Court at paras. 5.71 to 6.5.

[30] Ibid, paras. 6.1 to 6.3.

[31] See above.

[32] ICESCR, Art 2(2).

[33] See e.g. UNTBs Joint Statement on Climate Change: "The risk of harm is particularly high for those segments of the population already marginalised or in vulnerable situations or that, due to discrimination and pre-existing inequalities, have limited access to decision-making or resources, such as **women, children, persons with disabilities, indigenous peoples and persons living in rural areas**"; and see CEDAW 'General Recommendation No. 37 on Gender-related dimensions of disaster risk reduction in the context of climate change' which highlights the discriminatory impacts of climate change on women and girls' rights to health (para 66) and to an adequate standard of living, including food, land and water (para 69).

[34] See e.g. the Report to the UN Human Rights Council of the UN Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment (2019, UN Doc A/74/161), **highlighting the disproportionate impacts of climate change on women and girls, persons with disabilities and indigenous persons** (paras 48 – 50); and Report to the UN Human Rights Council of the UN Special Rapporteur on Extreme Poverty and Human Rights (2019, UN Doc A/HRC/41/39) which highlights the impacts of climate change of people living in poverty (paras 11 and 12); and the statement of the UN Special Rapporteur on the Rights of Indigenous Peoples at the 2018 UN Economic and Social Council's Permanent Forum on Indigenous Issues: "While **indigenous peoples historically had contributed the least to climate change, they were among those most affected by its consequences**", available at: <https://www.un.org/press/en/2018/hr5389.doc.htm> (Emphases added)

[35] See e.g. IPCC, "Summary for policymakers", *Climate Change 2014: Impacts, Adaptation, and Vulnerability* (IPCC, 2014): "people who are **socially, economically, culturally, politically, institutionally, or otherwise marginalized are especially vulnerable** to climate change". (Emphasis added)

[36] ICESCR, Art. 15.

[37] See Minority Rights Group, Country Profile: Chile < https://minorityrights.org/country/chile/> and International Work Group for Indigenous Affairs, Country Profile: Chile <https://www.iwgia.org/en/chile>.

[38] ILO, Indigenous Peoples and Climate Change: From victims to agents of change through decent work/ International Labour Office, Gender, Equality and Diversity Branch - Geneva: ILO, 2018, p. 2.

[39] UNTBs Joint Statement on Climate Change, https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=24998&LangID=E#_edn4 (references not included)

[40] Climate Action Tracker, 'Chile: Current Policy Projections' <https://climateactiontracker.org/countries/chile/current-policy-projections/> Chile's GHG emissions data are exclusive of land use, land-use change and forestry (LULUCF). This means that any increase in GHG emissions does not include the potential absorption of CO2 through forests in Chile.

[41] The acronym IPPU stands for 'Industrial Processes and Product Use Sector'.

[42] This is Chile's unconditional NDC. In addition, Chile has committed to a conditional NDC under which it would reduce the GHG intensity of its GDP by an additional 5-10% (a reduction of 35-40% below 2007 levels), see: Climate Action Tracker Country Profile: Chile <https://climateactiontracker.org/countries/chile/> (**Climate Action Tracker, Country Profile of Chile**).

[43] As noted above, the projected increase in emissions does not include potential absorption of CO2 through LULUCF activities in Chile, see: Climate Action Tracker, Country Profile: Chile <https://climateactiontracker.org/countries/chile/> (as updated 2 December 2019).

[44] To limit long-term temperature rise to 1.5°C, global net anthropogenic CO2 emissions need to decline by about 45% from 2010 levels by 2030 and need to reach net zero around 2050: IPCC, Global Warming of 1.5°C: Summary for Policy Makers (2018).

[45] See, above, Climate Action Tracker, Country Profile of Chile.

[46] Climate Action Tracker, Methodology <https://climateactiontracker.org/methodology/comparability-of-effort/> (accessed 13 January 2020).

[47] Paris Agreement, Article 2.1.a.

[48] See https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs#eq-2

[49] Ministerio del Medio Ambiente de Chile (2019) 'Primer proceso de Actualización de la Contribución Determinada a Nivel Nacional (NDC)'. Santiago de Chile: Ministerio del Medio Ambiente, Chile. Available at: http://consultasciudadanas.mma.gob.cl/mma-pac/app/obtenerDocumentoAntecedente?ruta=%2Fconsulta%2Fantecedentes%2F9bb8ebd7-f2cc-464b-9dc7-bd39062d059b.pdf; Climate Action Tracker, Chile's draft NDC update - 16 October 2019 < https://climateactiontracker.org/climate-target-update-tracker/chile-ndc-proposal-2019-10-16/>.

[50] Ibid: The proposed revised NDC has three components: (1) An economy-wide target excl. emissions or removals from the Land Use, Land Use Change and Forestry (LULUCF) sector of 97 $MtCO_2e$ in 2030; (2) GHG emissions budget of between 1110 and 1175 $MtCO_2e$ between 2020 and 2030; and (3) A peak year for GHG emissions: 2027.

[51] Ibid.

[52] Ibid.

[53] Ibid.

[54] Little, Christian, et al. (2009) Revelling the impact of exotic plantations on water yield in large scale watersheds in South-Central Chile. Journal of hidrology, vol. 374, no 1-2, pp. 162-1720.

[55] Government of Chile, Contribución Determinada a Nivel Nacional (NDC) de Chile, Primera Actualización, 2019, p. 8.

[56] Ibid.

[57] Ibid., p. 13.

[58] See, above, Climate Action Tracker, Country Profile: Chile. For news reports regarding the introduction of the Climate Change Framework Bill into Congress, see: https://www.t13.cl/noticia/nacional/cambio-climatico-proyecto-busca-disminuir-impacto-chile-10-01-2020 (in Spanish); and https://www.elmostrador.cl/noticias/pais/2020/01/12/ley-de-cambio-climatico-abre-otro-flanco-medioambiental-para-el-gobierno-girardi-califica-proyecto-como-insuficiente-y-de-bajo-estandar/ (in Spanish). For commentary by one of the above-signed organisations regarding the introduction of the Bill, see https://www.terram.cl/2020/01/ley-marco-de-cambio-climatico-propone-incentivos-para-donaciones-medioambientales/ (in Spanish).

[59] Climate Action Tracker, Chile: Pledges and Targets <https://climateactiontracker.org/countries/chile/pledges-and-targets/>. Our comments are based on the version of the Climate Framework Bill that was circulated for public consultation in 2019, as the version submitted to Congress was not available at the time of preparing this submission.

[60] UNTBs Joint Statement on Climate Change.

[61] Third Biennial Update Report of Chile under the UN Framework Convention on Climate Change, page 68.

[62] Climate Action Tracker, Country Profile: Chile, citing International Energy Agency, *World Energy Statistics and Balances: 2017 Edition*.

[63] See https://www.cne.cl/wp-content/uploads/2019/04/Anuario-CNE-2018.pdf, page 35.

[64] Climate Action Tracker, Country Profile: Chile, citing Ministerio de Energía, 2015.

[65] Ibid, citing Ministerio de Energía, 2019.

[66] Ibid, citing Electricidad, 2016; Engie, 2019; Tomás Gonzalez, 2019.

[67] Climate Action Tracker, Country Profile: Chile: "[p]hasing out all coal-fired power plants at the latest by 2032 is an action compatible with the global sectoral benchmark for electricity sector under a scenario in line with the Paris Agreement for the Latin America region, this is eight years ahead of Chile's coal phase-out plan".

[68] See e.g. Matt Maynard, 'U.N. talks host Chile ramps up climate ambition – but is it enough?' (9 June 2019), *Thomson Reuters Foundation* < https://www.reuters.com/article/us-climate-change-chile-politics-analysi/un-talks-host-chile-ramps-up-climate-ambition-but-is-it-enough-idUSKCN1TA0KY>.

[69] Ibid, and see Fundación Terram, 'Coal thermoelectric plants: ENGIE's double discourse' (7 April 2018) https://www.terram.cl/2018/07/termoelectricas-a-carbon-el-doble-discurso-de-engie/.

[70] Quintero-Puchuncaví (4 plants); Tocopilla (6 plants); Coronel (3 plants); Mejillones (9 plants); Iquique (1 plant) and Huasco (5 plants).

[71] See World Health Organisation, 'Frequently Asked Questions: Mercury and Health' (in Spanish) <http://www9.who.int/phe/chemicals/faq_mercury_health/es/>

[72] See World Health Organisation, 'More than 90% of the world's children breathe toxic air daily' (Press Release, online 29 October 2018) (in Spanish) <who.int/es/news-room/detail/29-10-2018-more-than-90-of-the-world's-children-breathe-toxic-air-every-day>; see also World Health Organisation, *Air Pollution and Child Health* (Report, 2018) (in Spanish) < https://apps.who.int/iris/bitstream/handle/10665/275548/WHO-CED-PHE-18.01-spa.pdf?ua=1?; World Health Organisation, *Inheriting a sustainable world: Atlas on children's health and the environment* (Report, 2018) https://www.who.int/ceh/publications/inheriting-a-sustainable-world/en/

[73] See The Lancet, Report by the Lancet Commission on Pollution and Health (October 2017) (in Spanish) <https://www.thelancet.com/pb-assets/Lancet/stories/commissions/pollution-2017/spanish_translation.pdf?code=lancet-site>

[74] See Sandra Cortés A. et al, 'Exposure to contaminants from coal-fired thermoelectric plants and children's health: What is the international and national evidence?' (2019) 90(1) *Revista Chilena de Pediatría* (the official publication of the Chilean Society of Pediatrics) 102, page 103. Available at: <http://www.revistachilenadepediatria.cl/index.php/rchped/article/view/748/1031>. In 2019, Chilean medical researchers published research, providing further evidence, of the significant health impacts for children from exposure to emissions from coal-fired power plants. Their findings, based on a review of 21 national and international scientific papers, were: "Exposure to [coal-fired power plants (CFPP)] emissions in pregnancy was associated with low birth weight and v**ery low birth weight**, shorter height, smaller head circumference (HC) diameter, and prematurity; the HC diameter increased in newborns after the CFPP closure. **Lower coefficient of development (CD) and intelligence quotient (IQ)** were found in children exposed to CFPP emissions compared with unexposed ones; CD increased when the plant was closed. On the other hand, living in areas with mercury emission sources (associated with CFPP and cement plants that work with coal) was associated with an **increased risk of autism**. In respiratory health, the articles were consistent with reporting **lower pulmonary function** in children living in areas exposed to coal combustion sources compared with groups of unexposed children."

[75] This is known as the Thermoelectric Emission Standard Chile DS13/2011 <https://www.leychile.cl/Navegar?idNorma=1026808>

[76] World Health Organisation, *The WHO Air Quality Guidelines* (2005) <https://www.who.int/phe/health_topics/outdoorair/outdoorair_aqg/en/>; see also World Health Organisation, *Factsheet: Air Quality and Health* (2 May 2018) (in Spanish) <https://www.who.int/phe/health_topics/outdoorair/outdoorair_aqg/es/>

[77] See International Energy Agency, IEA Clean Coal Centre, *Emissions Standards: European Union* (Report, 2019) https://www.iea-coal.org/download/20042/

[78] See International Energy Agency, IEA Clean Coal Centre, *Emissions Standards: United States* (Report, 2019) <https://www.iea-coal.org/download/22522/>

[79] See International Energy Agency, IEA Clean Coal Centre, *Emissions Standards: China* (Report, 2015) https://www.iea-coal.org/download/22580/

[80] World Health Organisation, *The WHO Air Quality Guidelines* (2005) <https://www.who.int/phe/health_topics/outdoorair/outdoorair_aqg/en/>;

[81] UN General Assembly, 73rd Session, Record of proceedings on 27 September 2019, UN Doc A/73/PV.10, page 20 <https://undocs.org/en/A/73/PV.10>: "During my visit [to the two communes of Puchuncaví and Quintero], I made a promise to Chilean citizens to rewrite the future for those two communities and many others. To that end**, we are implementing a plan to resolve the emergency situation and protect our citizens' health.** We are also developing a long-term solution to enable us to better protect the quality and health of our water, air and soil through ongoing monitoring with the highest available technological standards and the implementation of extraordinary emission standards for polluting companies, as well as a comprehensive pollution plan that will enable us to permanently resolve such situations and achieve a definitive solution, **putting an end to the so-called sacrificial zones in our country**.".

[82] According to the Regulation for the Issuance of Environmental Quality and Emission Standards (DS 38/2013 MMA), Regulation D.S. No. 13/2011 must be submitted to a review process once it has been in force for 5 years. This deadline occurred in 2016; however, there is still no file confirming the initiation of this process.

[83] The affected community and civil society organizations have urged the State to comply with international standards and to play an active role in ending the "Sacrifice Zones". For example, in the Quintero and Puchuncaví area, the State was forced to adopt a series of measures to put episodes of contamination, together with other long-term measures to reduce the permanent levels of contamination in the area (see Supreme Court, "Francisco Chahuan Chahuan v. Empresa Nacional de Petroleos, Enap S.A." Role 5888-2019, dated May 28, 2019). To date, none of the reports presented in the case show compliance with any of the measures established in the sentence, demonstrating the lack of concrete actions to end the so-called "Sacrifice Zones".

[84] Ibid, and see Fundación Terram, 'Coal thermoelectric plants: ENGIE's double discourse' (7 April 2018) https://www.terram.cl/2018/07/termoelectricas-a-carbon-el-doble-discurso-de-engie/.

[85] CESCR Statement on Climate Change.