NDC CHECKLIST
Singapore Analysis

WWF'S NDC RATING GRADES

- NDC We Want
- Short Way to Go
- Some Way to Go
- NDC We Don't Want

		2016 NDC	2020 NDC	Analysis
AMBITION				
	MITIGATION			
1	**Strenghtened mitigation targets**	Reduce its Emissions Intensity by 36% from 2005 levels by 2030, and stabilise its emissions with the aim of peaking around 2030.	Peak emissions at 65 MtCO2e around 2030. Based on current projections, this will allow the country to achieve a 36% reduction in Emissions Intensity from 2005 levels by 2030.	Singapore's 2020 NDC does not raise the country's climate ambition. Instead of a a strengthened mitigation target, the commitment of an emissions intensity target (GHG emissions/GDP) is presented in absolute terms.
2	**An economy-wide absolute 2030 target**	Economy-wide intensity target, including the sectors of Energy, Industrial Processes and Product Use, Agriculture, Land Use, Land-Use Change and Forestry (LULUCF) and Waste to reduce Emissions Intensity by 36% from 2005 levels by 2030, and stabilise its emissions with the aim of peaking around 2030.	Economy-wide absolute GHG emissions limitation target, including the sectors of Energy, Industrial Processes and Product Use, Agriculture, Land Use, Land-Use Change and Forestry (LULUCF) and Waste to peak its GHG emissions at 65 MtCO2e around 2030.	Translating the commitment from an emissions intensity target (GHG emissions/GDP) to an absolute target provides more clarity and transparency of Singapore's emissions level in 2030 and facilitates the tracking of progress. But it does not result in additional reduced emissions.
3	**A 2021-2030 carbon budget aligned to 1.5°C**	Not mentioned.	Singapore's GHG emissions in 2030 are expected to amount to no higher than 65 MtCO2eq.	The 2021-2030 carbon budget is a conversion of the same target presented in 2015.

4	**NDC targets aligned to a 2050 or earlier Net-Zero Long-term Strategy**	Not mentioned.	Refers to the Long-term Low-emissions Development Strategy (LEDS).	The 2020 NDC mentions Singapore's Long-term Low-emissions Development Strategy (LEDS), which aims to guide the transition to a low-carbon and climate resilient future. Beyond 2030, the LEDS aspires to halve emissions from its peak to 33 MtCO2e by 2050, with a view to achieving net-zero emissions as soon as viable in the second half of the century. That could be anytime between 2051 - 2099, which is not aligned to 1.5˚C.
	ADAPTATION			
5	**Clear adaptation objectives**	Singapore started early to integrate long-term adaptation planning into national policies. Adaptation measures are being undertaken in the areas of i) food security; ii) infrastructure resilience; iii) public health; iv) flood risks; v) water security; vi) coastline; vii) biodiversity; and viii) regional climate modelling. It is also mentioned that Singapore is implementing measures to address sea-level rise and above-average warming temperatures.	The NDC mentions that Singapore's vulnerabilities to the effects of climate change require it to pursue a comprehensive adaptation programme to protect its coasts, low-lying areas and communities. Singapore also launched a dedicated Climate Action Package under the Singapore Cooperation Programme in 2018, to offer capacity-building support in areas such as climate change adaptation and mitigation strategies, flood management, disaster risk reduction, and green climate finance. The NDC Annex states that, given the complexity and challenges in adaptation planning, Singapore has integrated long-term adaptation planning into national policies. It mentions investments and measures related to research; protection sea level rise protection measures; water and flood management; energy and infrastructure; public health, greenery and biodiversity; and food supply.	Both NDCs present annexes focused on national circumstances and adaptation efforts, providing a list of adaptation measures related to agriculture, coastal zone, health, urban areas, water and flood management, sea-level rise, infrastructure, biodiversity and food supply. Adaptation measures on cross-cutting areas and adaptation research were also mentioned.

	FINANCE			
6	**Finance Commitments**	Singapore intends to achieve the mitigation objectives under its INDC through domestic efforts, but will continue to study the potential of international market mechanisms. Investments in the following areas are mentioned: i) research and development to explore new innovations in low carbon technologies; ii) to reduce the cost of solar PV modules and improve their efficiency; iii) energy efficient technologies through grants and other policy tools to overcome high upfront capital investments and other non-market barriers; iv) drainage infrastructure to reduce flood-prone areas.	Singapore intends to achieve the mitigation objectives under its NDC primarily through domestic efforts, but will continue to study how it can leverage international cooperation under Article 6 of the Paris Agreement. The NDC also mentions the introduction of an economy-wide carbon tax with no exemptions for covered facilities. The NDC mentions investments made in drainage improvement; coastal areas ($100 billion in 100 years; and the creation of a Coastal and Flood Protection Fund, with initial financing of $5 billion, to support substantial capital expenditures); and energy efficiency (adoption of energy efficient technologies through grants and other policy tools to overcome high upfront capital investments and other non-market barriers) are mentioned.	In terms of financial commitments, the NDC lists efforts made particularly in infrastructure, including coastal protection and draining systems, as well as energy efficiency and food supply chains. In addition, Singapore's carbon tax is considered of the main financial incentives applied to direct emissions from carbon intensive installations. According to the government, this covers 80% of Singapore's carbon emissions and provides a price signal across the economy to encourage emission reductions, support other mitigation measures and facilitate the transition to a low carbon economy. According to the Climate Action Tracker, the carbon tax, targeting upstream emissions from large emitters, started at 5 SGD/tCO2e from 2019 and will be reviewed by 2023 with the intention of increasing it to between 10 SGD/tCO2e and 15 SGD/tCO2e by 2030.
7	**Clear conditional targets**	Not mentioned.	Not mentioned.	Not mentioned.
8	**Moving from conditional to unconditional targets**	Singapore intends to achieve the mitigation objectives under its INDC through domestic efforts, but will continue to study the potential of international market mechanisms.	Singapore intends to achieve the mitigation objectives under its NDC primarily through domestic efforts, but will continue to study how it can leverage international cooperation under Article 6 of the Paris Agreement.	Both NDCs mention that Singapore intends to achieve the mitigation objectives under its NDC primarily through domestic efforts, but will continue to consider the use of international market mechanisms to implement its targets.
	FOSTERING SYSTEMIC CHANGE			
9	**Increased sectoral coverage**	Energy; Industrial Processes and Product Use; Agriculture, Land Use, Land-Use Change and Forestry (LULUCF); and Waste.	Same sectoral coverage.	Both NDCs present economy-wide sectoral coverage including Energy, Industrial Processes and Product Use, Agriculture, Land Use, Land-Use Change and Forestry (LULUCF), and Waste.

10	**Quantitative Sectoral targets**	Singapore plans to expand NEWater (high-grade reclaimed water produced from treated used water that is further purified) and desalination capacity to meet up to 80% of its water demand in 2060.	Quantitative targets related to coastal and flood protection; local food production; and solar energy deployment are presented. The NDC mentions efforts to protect coastal areas cost $100 billion in 100 years and the creation of a Coastal and Flood Protection Fund, with initial financing of $5 billion, to support substantial capital expenditures. Singapore has set a target for local food production. By 2030, Singapore aims to meet 30% of Singapore's nutritional needs with food produced in Singapore. In addition, on solar deployment, the country aims to achieve 350 megawatt-peak (MWp) in 2020 and at least 2 gigawatt-peak (GWp) of solar energy by 2030.	Progress is observed, considering an expansion in terms of GHG coverage for the inclusion of the NF3 gas, and specific mentions about quantitative targets have increased from water security in the first NDC to coast and flood protection, local food production and solar deployment in the updated submission. Other targets can also be found in the LEDS, particularly some related to energy efficiency and electric cars. For example, setting energy storage systems (ESS) deployment target to deliver 200 MW beyond 2025; and phasing out internal combustion engine vehicles by 2040.
11	**Key structural sectors included**	Singapore will continue to invest significantly in research and development to explore new innovations in low carbon technologies. Overall, the NDC mentions measures undertaken in the sectors of energy, infrastructure, health and agriculture.	Climate strategies are reflected, inter alia, in the National Climate Change Strategy (2012), the Sustainable Singapore Blueprint (2015), Singapore's Climate Action Plan: Take Action Today, for a Sustainable Future (2016), where a comprehensive suite of mitigation measures to achieve the NDC target are described; Charting Singapore's Low-Carbon and Climate Resilient Future (2020), and various sectoral roadmaps and masterplans published by the respective government agencies. Overall, the NDC mentions measures in the sectors of research, infrastructure, health, agriculture, energy, transport, buildings and industry.	A strong focus on research and development (R&D) should be noted, particularly applied to solar energy, food security, as well as climate and weather science. The adaptation component also adresses structural sectors such as . .....
12	**Just transition policies**	Not mentioned.	The Singapore Government believes that setting out Singapore's climate policy aspirations and strategies well in advance will help provide a clear sense of direction, minimise any negative disruptions to the economy and workforce and keep Singapore competitive in a carbon-constrained world.	The new NDC briefly mentions that Singapore's climate policies should minimise negative disruptions to the workforce. A strategy for building the workforce of the future is further elaborated in the LEDS.

13	**Cross-sectoral approaches**	Singapore's Inter-Ministerial Committee on Climate Change (IMCCC) drives the whole-of-government effort to develop Singapore's climate change mitigation measures. Singapore's broad strategies are reflected, inter alia, in the National Climate Change Strategy (2012) and the Sustainable Singapore Blueprint (2015).	Singapore's Inter-Ministerial Committee on Climate Change (IMCCC) drives the whole-of-government effort to develop Singapore's climate change mitigation measures. Singapore's broad strategies are reflected, inter alia, in the National Climate Change Strategy (2012) and the Sustainable Singapore Blueprint (2015). A carbon tax is applied to direct emissions from facilities producing 25 ktCO2e or more of GHG emissions in a year, without exemption. This covers 80% of Singapore's carbon emissions and provides an economy-wide price signal to incentivise emissions reductions, supports other mitigation measures and facilitates transition to a low-carbon economy.	The role of the Inter-Ministerial Committee on Climate Change in coordinating the government's climate action and the introduction of a carbon tax, which was the first in Southeast Asia and came into effect in 2019 are relevant examples of cross-sectoral approaches. Initiatives on water management (including water supply, security and resilience), to address sea level rise, energy efficiency and the role of research highlighted throughout the NDC should also be noted.
INCLUSIVENESS AND PARTICIPATION				
14	**Inclusive process to invite inputs from institutions and citizens in the NDC design**	Studies and technology roadmaps developed in collaboration with industry stakeholders, academic experts and technical consultants, served às additional inputs on the potential of future technologies for long-term mitigation in Singapore.	Singapore's broad strategies are reflected, inter alia, in the National Climate Change Strategy 2012 and the Sustainable Singapore Blueprint 2015. Legislation and regulations are also regularly reviewed to respond to new developments.	Both NDCs refer to inclusive processes to invite inputs from institutions and citizens in the NDC design involving private sector, academia and stakeholder consultations, including members of the public. However, it was not possible to find available information about specific publication consultations related to the NDC submissions. On the other hand, for the Long-Term Low Emissions Development Strategy (LEDS), the government conducted comprehensive public consultations on potential long-term low-emissions strategies for Singapore from July to September 2019, before the strategy was submitted to the UNFCCC in 2020.

15	**Disclosure of information**	Public consultations were carried out to obtain feedback on possible measures to reduce carbon emissions, and to promote green growth.	The Singapore Government carried out stakeholder consultations, including with members of the public, in order to obtain feedback on possible measures to reduce carbon emissions. Climate strategies are reflected, inter alia, in the National Climate Change Strategy (2012), the Sustainable Singapore Blueprint (2015), Singapore's Climate Action Plan: Take Action Today, for a Sustainable Future (2016), where a comprehensive suite of mitigation measures to achieve the NDC target are described; Charting Singapore's Low-Carbon and Climate Resilient Future (2020), and various sectoral roadmaps and masterplans published by the respective government agencies. Overall, the NDC mentions measures in the sectors of research, infrastructure, health, agriculture, energy, transport, buildings and industry.	Overall, public participation has been actively encouraged by the government. In 2009, it appointed REACH (reaching everyone for active citizenry @ home), a department of the Ministry of Communications and Information, as the official e-engagement platform and the leading agency to gather public feedback and promote active citizenry. The portal could have been used for disclosure of information and reporting back on process not only related to the Long-Term Strategy, but also to make available information about the NDC design and implementation process.
16	**Reporting back on process**	Not mentioned.	Not mentioned.	Although public participation has been actively encouraged by the government, no reporting back of process related to NDC design was found. The official e-engagement platform could have been used for disclosure of information and reporting back on process not only related to the Long-Term Strategy, but also to make available information about the NDC design and implementation process.
17	**Participatory Climate governance structures**	Singapore's Inter-Ministerial Committee on Climate Change (IMCCC) drives the whole-of-government effort to develop Singapore's climate change mitigation measures. Studies and technology roadmaps developed in collaboration with industry stakeholders, academic experts and technical consultants, served as additional inputs on the potential of future technologies for long-term mitigation in Singapore. Public consultations were also carried out to obtain feedback on possible measures to reduce carbon emissions, and to promote green growth.	The Inter-Ministerial Committee on Climate Change (IMCCC), which comprises Ministers from relevant Ministries, drives Singapore's whole-of-government efforts to develop and implement coherent and co-ordinated climate change mitigation measures. This includes the preparation and implementation of Singapore's NDC. Both NDCs refer to the Inter-Ministerial Committee on Climate Change (IMCCC) as responsible for NDC design and implementation. The Committee is based under the National Climate Change Secretariat (NCCS), which is the national coordinating agency for climate change issues, under the Strategy Group in the Prime Minister's Office. The IMCCC is supported by an Executive Committee (Exco) that oversees the work of the International Negotiations Working Group (INWG), Long-Term Emissions and Mitigation Working Group (LWG) and Resilience Working Group (RWG).	The Inter-Ministerial Committee on Climate Change was responsible for the NDC preparation and implementation, based on contributions received from private sector, academia and stakeholder consultations. However, a more structured and participatory climate governance that guarantees the effective contribution of other relevant actors beyond the government should be implemented. This would provide a clear accountability process and contribute to a transparent national system to track implementation.

CONTRIBUTION TO SUSTAINABLE DEVELOPMENT				
18	**Linkages with SDGs**	Not mentioned.	Not mentioned.	Both NDCs do not make any reference or linkage with SDGs.
19	**Measurable Nature-based Solutions**	The NDC mentions that enriching Singapore's urban biodiversity and extensive greenery is part of the national vision for a "City in a Garden". Extensive roadside tree planting contributes to moderating temperatures in the heart of the city. In addition, Singapore will continue efforts to safeguard its biodiversity despite an urban environment. The array of natural ecosystems (including evergreen rain forest, mangroves, freshwater streams, freshwater swamp forest, coral reefs and mudflats) will continue to be conserved, with targeted programs for habitat enhancement and species recovery where required. Singapore recognises the need to track its rich urban biodiversity in a manner which can integrate conservation and adaptation actions.	The NDC mentions that Singapore will continue to explore innovative approaches to coastal protection measures, which may include a combination of conventional engineering solutions such as sea walls, tidal gates and pumping stations, and nature-based solutions. These various coastal protection measures will not only help overcome the challenges of sea level rise, but also present new exciting opportunities for new green and blue community spaces for Singaporeans. Coastal and riverine parks will also incorporate designs such as floodplains to protect coastal and low-lying areas from sea level rise or flooding. It is also conserving and restoring its mangrove forests. Mangroves help to dissipate waves and trap sediment, potentially serving as a flexible form of coastal defence while reducing erosion. Singapore will conserve more native plants and animals by carrying out recovery plans for over 70 more animals and plant species, enhancing 30 hectares of forest, marine and coastal habitats, and restoring ecological habitats in at least half of its gardens, parks and streetscapes by 2030. Singapore will also be planting one million more trees across the island by 2030.	Both NDCs elaborate on nature-based solutions. The 2016 NDC lists urban biodiversity, greenery, tree planting and the need to track urban biodiversity as priorities to the country and as an integrated strategy for conservation and adaptation actions. The updated submission mentions investments on research and local measures to protect infrastructure and living environment against the risk of rising sea levels; installation of coastal protection measures on more than 70% of its coastal areas to manage coastal erosion; the creation of a Coastal and Flood Protection Fund; and mangrove forests conservation and restoration. It also mentions recovery plans for animals, plant species and ecosystems and one million more trees planted by 2030.

TRACKING PROGRESS				
20	**A transparent national system to track implementation**	The Inter-Ministerial Committee on Climate Change's role in strongly coordinating Singapore's climate change policies from a whole-of-government perspective facilitates opportunities for optimising Singapore's climate efforts, including consideration of possible trade-offs or synergies across the sectors. A key focus of the planning processes for Singapore's NDC is to develop a comprehensive suite of mitigation measures to achieve its NDC target. These measures are described in Singapore's Climate Action Plan: Take Action Today, for a Sustainable Future, published in 2016.	The Inter-Ministerial Committee on Climate Change's role in strongly coordinating Singapore's climate change policies from a whole-of-government perspective facilitates opportunities for optimising Singapore's climate efforts, including consideration of possible trade-offs or synergies across the sectors. A key focus of the planning processes for Singapore's NDC is to develop a comprehensive suite of mitigation measures to achieve its NDC target. These measures are described in Singapore's Climate Action Plan: Take Action Today, for a Sustainable Future, published in 2016.	Although the institutional governance for the NDC implementation is well established, a transparent national system to track implementation of the NDCs would require more clarity on the process to engage civil society, academia and other relevant stakeholders.

For more information

Fernanda de Carvalho

Global Policy Manager

WWF International, Climate & Energy Practice

fcarvalho@wwfint.org