

THE AMBITION CALL

The Ambition Call provides country recommendations for immediate climate action in response to the UN Secretary-General's request for countries to:

- present concrete, realistic plans that are compatible with the latest IPCC Special Report on global warming of 1.5°C
- enhance their NDCs by 2020 and
- reduce GHG emissions by 45% over the next decade, and to net zero by 2050.¹

The 2019 Summit in Osaka saw the G20 countries (with the exception of the USA) reaffirming their commitments to fully implement the Paris Agreement.² Many have already announced their willingness to increase their mitigation targets, aiming for net-zero emissions by 2050.

INDONESIA



GREENHOUSE GAS (GHG) EMISSIONS
(INCL. FORESTRY) PER CAPITA
(tCO₂e/capita)



Data from 2015 | Source: PRIMAP 2018

GDP PER CAPITA
(PPP US\$ const. 2015,
international)



Source: World Bank 2017

HUMAN
DEVELOPMENT
INDEX



Data from 2017 | Source: UNDP 2018

RECOMMENDED ACTIONS

#1

Decrease coal power plants and triple renewable energy share in the power sector in 2030.

#2

Increase energy efficiency in household appliances and lighting, which could avoid 26.5 GW of peak demand in 2030.

#3

Achieve a permanent forest-clearing moratorium, potentially protecting at least 660,000 square kilometres of existing primary and peat forests listed in Indonesia's Indicative Moratorium Map.



Climate Transparency is a global partnership with a shared mission to stimulate a 'race to the top' in G20 climate action and to shift investments towards zero carbon technologies through enhanced transparency. Climate Transparency is made possible through support from the Federal Ministry for Environment, Nature Conservation and Nuclear Safety (BMU), through the International Climate Initiative, ClimateWorks Foundation and the World Bank Group.

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#1

Decrease coal power plants and triple renewable energy share in the power sector in 2030

In 2017, Indonesia's power sector heavily relied on fossil fuels (87%) of which coal accounted for 58%.³ For low-carbon alternatives, its power sector heavily relies on large-scale hydro and geothermal power, with a small amount of biomass power, while the wind and solar forms do not have a place in the energy mix yet.⁴ Studies show that a comprehensive regulatory framework beyond the existing one could increase the renewable energy share in the power sector by up to 29% in 2030⁵, making wind and solar technology developments necessary.⁶ However, the 2016 General National Energy Plan has emphasised coal usage in securing energy supply, including electricity (allowing for an increase from its current levels).⁷ According to the IPCC Special Report on Global Warming of 1.5°C, emissions should peak by 2020, thus leaving no room for new coal capacity. While electricity emissions steadily increase, Indonesia plans for an additional 27 GW of coal power by 2028. The climate change risk is coupled with one to overbuild capacity. Combined with inflated energy demand projections, this is likely to result in stranded assets.⁸



POWER		
!	Renewable energy in power sector	<p>low medium high frontrunner</p>
<p>Indonesia plans to increase the share of new and renewable energy in the primary energy mix to 31% by 2050. The government offers feed-in tariffs for various renewable technologies but the rate is based on the average generation cost of electricity (including subsidised coal power), which renders unsubsidised renewable energy projects uneconomical in some regions.</p>		
!	Coal phase-out	<p>low medium high frontrunner</p>
<p>The government expects that 56 GW of new capacity will be needed in the next decade, and plans to cover 26,8 GW of this by coal. No coal phase-out is under consideration.</p>		

What does this mean?

Transitioning from a fossil-fuel based to renewable energy-based power plants would allow Indonesia to be on a sustainable electricity pathway that is compatible with the Paris Agreement. Furthermore, relieving coal subsidies would unlock almost 1.5 billion US dollars of public budget. This could be reallocated to support the development of decentralised renewable technology and socially linked programmes

(including indirectly universal health coverage), thereby boosting growth and reducing poverty. Allowing and supporting renewable energy penetration will avoid the risk of stranded assets in fossil fuel infrastructure and generate jobs in a more decentralised manner.

Additional development benefits

<p>SDG 3</p> <p>Renewables reduce air pollution when displacing polluting energy sources, such as coal.</p>	<p>SDG 8</p> <p>Development of industry related to renewable energy and its supply chain supports full employment through creation of decent jobs.</p>	<p>SDG 9</p> <p>Development and integration of new clean technologies supports sustainable industrialisation and infrastructure upgrading.</p>	<p>SDG 11</p> <p>When displacing coal-fired power plants, renewables contribute to lessening the environmental impact of cities by reducing the amount of GHG and air pollutants from power generation.</p>	<p>SDG 15</p> <p>Renewables help tackle the degradation of natural habitats through reduced air and water pollution and less water consumption, especially when displacing more polluting or intensive alternatives, such as coal.</p>
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Good practice in other countries

In 2010, the **Indian** government launched the National Solar Mission, which sought to promote solar energy in the country. In 2015, the government revised the original plan's target from 20 GW to 100 GW by 2022.



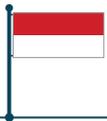
By 2024, **Chile** will close eight of its oldest coal-fired power plants – currently equivalent to 20% of its coal electricity capacity and 40% of coal share in their electricity mix. Chile will phase out its remaining 20 coal plants by 2040.



#2

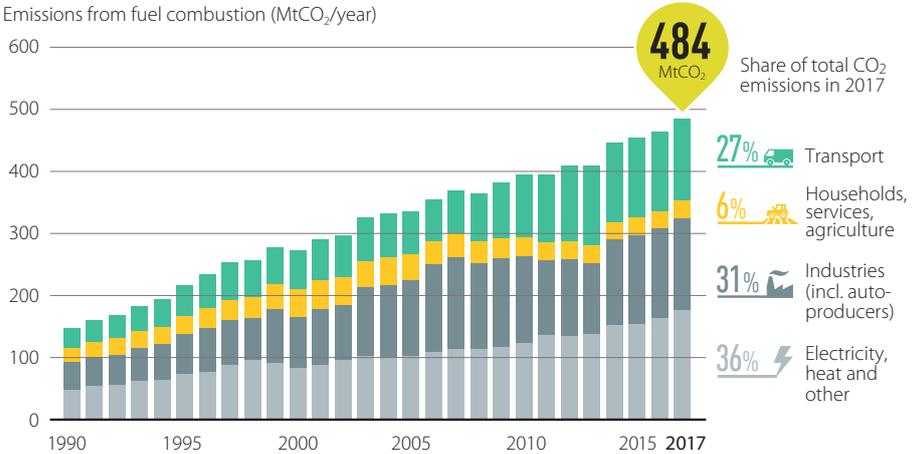
Increase energy efficiency in household appliances and lighting, which could avoid 26.5 GW of peak demand in 2030

In Indonesia, energy demand is still increasing, consequently raising the country's GHG emissions per capita.⁹ The buildings sector accounted for 42% of Indonesia's final energy consumption in 2012. Residential buildings are by far the biggest contributor to figure in the buildings sector, representing around 95% of the total.¹⁰ While green building standards are in place, there is no national strategy to promote zero-energy buildings.¹¹ On average, 41% of the total electricity for the last ten years has been consumed within the household.¹² It has been forecast that half of the national peak electricity demand in 2030 will come from household appliances – led by air conditioning, lighting, refrigerators and televisions. Improving and rescaling Indonesia's current minimum energy performance standard by adapting high-efficiency technology (available on the global market) on these appliances could save about 26.5 GW, or 34% of the energy demand in 2030, compared with the business-as-usual (BAU) scenario.¹³



ENERGY-RELATED CO₂ EMISSIONS⁹

Emissions from fuel combustion (MtCO₂/year)



Source: Enerdata 2018

What does this mean?

Reinforcing Indonesia's minimum energy performance standard on lighting and household appliances would slow the electricity demand growth, thus reducing the sector's increasing trend in

emissions. This would lead to improved air quality and better living conditions.

Additional development benefits



SDG 1

More efficient appliances would lead to cost savings realised via reduced energy bills that would in turn, lead to less poverty.



SDG 7

Energy efficiency in buildings would decrease energy poverty, due to improved energy affordability; increase energy security, due to decreased imports and greater reliability; and improve access to modern and sustainable energy services.



SDG 9

Energy efficiency supports increased resource efficiency, and adoption of environmentally sound technologies through more efficient appliances.



SDG 11

More efficient appliances in buildings could help make cities and human settlements more resilient and sustainable.



SDG 12

More efficient appliances in buildings would increase resource efficiency, leading to more sustainable practices in energy consumption.

Good practice in other countries

In 1998, **Japan** adopted the 'Top Runner Programme' to set energy efficiency standards for appliances. In this approach, the highest level of energy efficiency currently available becomes the standard for other manufacturers, making energy efficiency a competitive advantage.



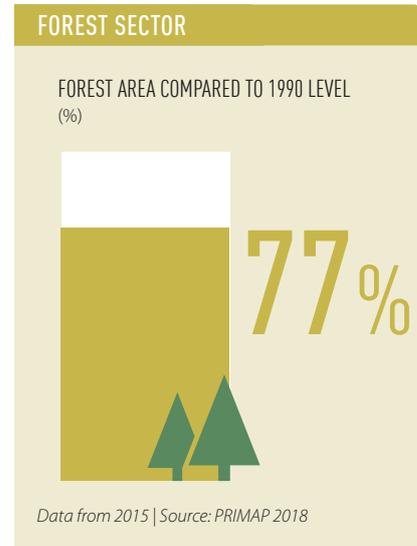
In 2017, the **EU** adopted a revised energy labelling system in 2021, it will launch new energy efficiency labels for appliances, following the success of the ones currently being used.



Achieve a permanent forest-clearing moratorium, potentially protecting at least 660,000 square kilometres of existing primary and peat forests listed in Indonesia's Indicative Moratorium Map

#3

Indonesia's primary forests are shrinking at an alarming rate due to unsustainable patterns of agriculture.¹⁴ GHG emissions from Land Use, Land Use Change and Forestry (LULUCF) mainly occur through deforestation, forest degradation, peat decomposition and peat fires. These are higher than those from all other sectors combined (around 1 GtCO₂e/year), yet there is no national target to reach zero deforestation.^{15,16} Since 2011, a provisory forest-clearing moratorium has prohibited the conversion of primary natural forests and peatlands for oil palm, pulpwood and logging concessions, with an ongoing discussion to make it permanent by July 2019.¹⁷ There are support schemes for reforestation, the government has frozen the licensing of new palm oil plantations until 2021. However, plantations for biofuel production are specifically exempt from a key sustainability certification. The total area of palm oil plantations in Indonesia rose more than tenfold during the 1990–2015 period, while forest cover declined by about 20%.^{18,19} Due to an unusually high occurrence of peat fires, the emissions from the LULUCF sector in Indonesia reached 1.6 GtCO₂ in 2015, while global emissions from LULUCF were about 4.1 GtCO₂e in 2016.



What does this mean?

A permanent moratorium could enhance the effectiveness of the current one, which led to a 1.12 Mha reduction in deforestation between 2016 and 2017.²⁰ It would also give clear direction to the land use sector, from unsustainable commodity-based forestry to more sustainable practices and an increase in land productivity, thus lowering dependency on primary commodity prices in steep decline.²¹

We need to protect and regenerate precious natural resources and complex biophysical systems, including forests, peat lands and water systems. This supports biodiversity, enhances resilience and contributes to carbon emissions reduction targets. It also minimises threats such as fire haze and sea level rise, while also providing a more prosperous and resilient lifestyle for farmers and their families.²²

Additional development benefits



SDG 1

Sustainable forest management supports decent jobs creation and income diversification from forestry programmes.



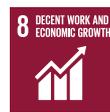
SDG 3

Conservation, restoration and sustainable management of natural areas could support mental health and well-being.



SDG 4

Sustainable forest management will teach local forest users about laws, regulations and policies to facilitate their participation in society, while education and capacity-building will provide technical skill and knowledge.



SDG 8

Conservation of natural areas could promote sustainable tourism, creating jobs and promoting local culture and products.



SDG 15

Sustainable management of natural resources will help increase conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services.

Good practice in other countries

Costa Rica has developed several strategies to decrease deforestation and enhance reforestation, leading to a rise in forestry sinks.



In 2016, the **Norwegian** government committed to achieving zero deforestation. This decision followed the country's signature to the New York Declaration on Forests (2030).



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REFERENCES (FOR INDONESIA)

- 1 **United Nations (2019)**. Information Note on the 2019 Climate Action Summit of the Secretary-General. Retrieved from https://www.un.org/en/climatechange/assets/pdf/Information_Note_Climate%20Summit_20Mar2019.pdf
- 2 **Deutsche Welle (2019)**. G20 summit: World leaders agree on climate deal. Retrieved from <https://www.dw.com/en/g20-summit-world-leaders-agree-on-climate-deal/a-49408651>
- 3 **Government of Indonesia (2018)**. Handbook of Energy and Economic Statistics of Indonesia 2018. Ministry of Energy and Mineral Resources. Retrieved from <https://www.esdm.go.id/assets/media/content/content-handbook-of-energy-and-economic-statistics-of-indonesia.pdf>
- 4 **Government of Indonesia (2018)**. Handbook of Energy and Economic Statistics of Indonesia 2018. Ministry of Energy and Mineral Resources. Retrieved from <https://www.esdm.go.id/assets/media/content/content-handbook-of-energy-and-economic-statistics-of-indonesia.pdf>
- 5 **IRENA (2017)**. Renewable Energy Prospects: Indonesia. International Renewable Energy Agency. Retrieved from https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2017/Mar/IRENA_REmap_Indonesia_report_2017.pdf?la=en&has-h=79237811C02D9722E35F5049ACBA278B126493BB
- 6 **IRENA (2017)**. Renewable Energy Prospects: Indonesia. International Renewable Energy Agency. Retrieved from https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2017/Mar/IRENA_REmap_Indonesia_report_2017.pdf?la=en&has-h=79237811C02D9722E35F5049ACBA278B126493BB
- 7 **Government of Indonesia (2017)**. National Energy General Plan. Presidential Regulation number 22 of 2017. Retrieved from <https://www.esdm.go.id/assets/media/content/content-rencana-umum-energi-nasional-ruen.pdf>
- 8 **Climate Action Tracker (2019)**. Country assessment: Indonesia. Update June 2019. Retrieved from <https://climateactiontracker.org/countries/indonesia/>
- 9 **Climate Transparency (2018)**. Brown to Green: The G20 Transition to a low-carbon economy - Indonesia. Retrieved from https://www.climate-transparency.org/wp-content/uploads/2019/01/BROWN-TO-GREEN_2018_Indonesia_FINAL.pdf
- 10 **IEA (2018)**. World Energy Balances 2018. International Energy Agency.
- 11 **Climate Transparency (2018)**. Brown to Green: The G20 Transition to a low-carbon economy - Indonesia. Retrieved from https://www.climate-transparency.org/wp-content/uploads/2019/01/BROWN-TO-GREEN_2018_Indonesia_FINAL.pdf
- 12 **Government of Indonesia (2018)**. Handbook of Energy and Economic Statistics of Indonesia 2018. Ministry of Energy and Mineral Resources. Retrieved from <https://www.esdm.go.id/assets/media/content/content-handbook-of-energy-and-economic-statistics-of-indonesia.pdf>
- 13 **McNeil, M., Karali, N. and Letschert, V. (2018)**. Forecasting Indonesia's electricity load through 2030 and peak demand reductions from appliance and lighting efficiency. Energy for Sustainable Development, 49 (April 2019): 65–77. Retrieved from <https://doi.org/10.1016/j.esd.2019.01.001>
- 14 **Government of Indonesia (2019)**. Low Carbon Development: A paradigm Shift Towards a Green Economy in Indonesia. Ministry of National Development Planning. Retrieved from <https://drive.bappenas.go.id/owncloud/index.php/s/7flusfQXEdx4tmG#pdfviewer>
- 15 **Climate Transparency (2018)**. Brown to Green: The G20 Transition to a low-carbon economy - Indonesia. Retrieved from https://www.climate-transparency.org/wp-content/uploads/2019/01/BROWN-TO-GREEN_2018_Indonesia_FINAL.pdf
- 16 **Climate Action Tracker (2019)**. Country assessment: Indonesia. Update June 2019. Retrieved from <https://climateactiontracker.org/countries/indonesia/>
- 17 **Jong, H.N. (2019)**. Indonesian ban on clearing new swaths of forest to be made permanent. Mongabay: news and inspiration from nature's frontline. Retrieved from <https://news.mongabay.com/2019/06/indonesian-ban-on-clearing-new-swaths-of-forest-to-be-made-permanent/>
- 18 **Climate Action Tracker (2019)**. Country assessment: Indonesia. Update June 2019. Retrieved from <https://climateactiontracker.org/countries/indonesia/>
- 19 **Climate Transparency (2018)**. Brown to Green: The G20 Transition to a low-carbon economy - Indonesia. Retrieved from https://www.climate-transparency.org/wp-content/uploads/2019/01/BROWN-TO-GREEN_2018_Indonesia_FINAL.pdf
- 20 **Climate Action Tracker (2019)**. Country assessment: Indonesia. Update June 2019. Retrieved from <https://climateactiontracker.org/countries/indonesia/>
- 21 **Government of Indonesia (2019)**. Low Carbon Development: A paradigm Shift Towards a Green Economy in Indonesia. Ministry of National Development Planning. Retrieved from <https://drive.bappenas.go.id/owncloud/index.php/s/7flusfQXEdx4tmG#pdfviewer>
- 22 **Government of Indonesia (2019)**. Low Carbon Development: A paradigm Shift Towards a Green Economy in Indonesia. Ministry of National Development Planning. Retrieved from <https://drive.bappenas.go.id/owncloud/index.php/s/7flusfQXEdx4tmG#pdfviewer>

