

# India: environmental issues

## SUMMARY

The entire south Asian region is threatened by climate change. Changes in average weather conditions are likely to create hotspots across the region and have negative impacts on living standards and gross domestic product (GDP).

India is at the core of this trend: it ranks 14th in the last United Nations global climate risk index and in 2017 it was the second most-affected country in terms of casualties related to extreme weather. Air quality in Indian cities is quickly deteriorating and it is today worse than the situation in China: in the 2018 World Health Organization (WHO) global ambient air quality database, 11 of the 12 cities with the highest levels of small particulate – PM2.5 – are located in India.

Air pollution goes hand in hand with poverty: in 2016 an estimated 790 million people (almost 60 % of the Indian population), still relied on biomass for cooking. Deforestation, water pollution, clean water shortages, and waste management are further issues of concern.

The Indian authorities have taken several initiatives to tackle these issues. In 2008, the first national plan on climate change (NAPCC) outlined eight 'national missions' running up to 2017. India is a leader in the implementation of the Paris Agreement on climate change. It is a founding member of the International Solar Alliance and has ambitious targets in terms of solar power energy. It has launched a national clean air programme (NCAP) to combat air pollution. Prime Minister's Narendra Modi government has launched several flagship initiatives on environment, including a clean cooking scheme, Clean India, Clean Ganga, and Smart Cities Mission.

The EU supports Delhi's efforts on tackling its environment challenges. At their March 2016 summit, the EU and India agreed on two joint declarations: on an India-EU water partnership and on a clean energy and climate partnership. The joint declaration on partnership for smart and sustainable urban development signed at the India-EU Summit in October 2017 is the framework for EU support for India's urbanisation challenges.



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## Challenges: from climate change to pollution

### Climate change, a threat for the whole south Asian region

The whole south Asian region – vulnerable to natural disasters – is threatened by climate change. According to a 2018 [World Bank report](#), changes in average weather conditions will create 'hotspots': areas across the region (especially inland) that suffer negative impacts on living standards and GDP. South Asia is also home to the world's [four most air-polluted countries](#): Bangladesh, Pakistan, India and Afghanistan. Climate change will not only affect internal areas; in mountain areas, climate change will likely affect the frequency of natural disasters. This includes increasing the likelihood of events such as landslides, but also [glacial retreat](#) in the Himalayas. On the other hand, rising sea levels represent an existential threat to several coastal areas in south Asia: not only due to the increasing severity of tropical storms, but because the large Bangladeshi share of the coast and most of the [Maldives](#) may disappear before the end of the 21st century.

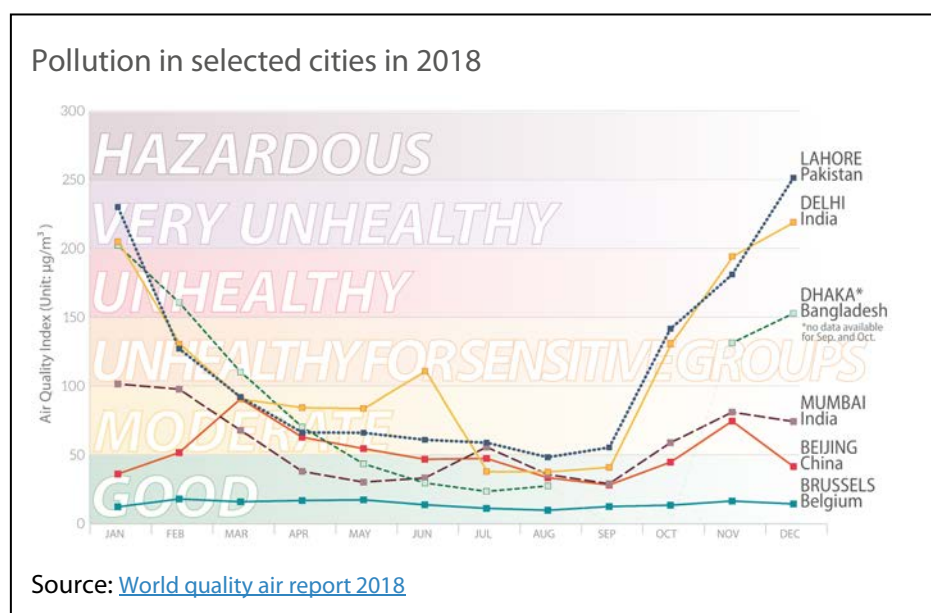
### Environmental situation

India is at the centre of this trend: **temperatures** in the country's south have already [risen above average](#) and there is a risk [of a similar rise](#) in northern internal areas. According to the 2019 Global Climate Risk Index (CRI) developed by Germanwatch and referring to 2017, India ranks as the 14th most

vulnerable country. This is an improvement on the two previous years, nevertheless India placed [second as most-affected by casualties related to extreme weather](#).

**Air quality in Indian cities** is deteriorating fast and is today worse than the situation in China. In January 2017, Greenpeace issued a report, '[Airpocalypse](#)', assessing air pollution in Indian cities. In the 2018 World Health Organization (WHO) [global ambient air quality database](#), 11 of the 12 cities with the highest levels of small particulate – PM2.5 – are [located in India](#). According to AirVisual's 2018 [World air quality report](#), also measuring PM2.5, 22 of the top 30 most polluted cities in the world are in India. Gurugram, a suburb of the Indian capital, Delhi, is the world's most polluted city. The situation is especially critical in November, December and January, due to a combination of [atmospheric and human factors](#), including winter inversion and [post-monsoon biomass \(stubble\) burning](#) to get rid of crop residue in the countryside. The health impact on the inhabitants of the northern Indian Gangetic plain is significant: according to a study by the University of Chicago on the air quality life index (AQLI), pollution concentration in Delhi in 2016 reduced life expectancy by more than [10 years](#).

Air pollution goes hand in hand with **poverty**: in 2016 an [estimated 790 million people](#) (almost 60 % of the Indian population) still relied on **biomass** (wood, charcoal or animal dung) for **cooking**. This was especially the case in the countryside – [two-thirds](#) of the Indian population lives in rural areas – where noxious fumes from burning biomass threaten people's health and increase [child mortality](#). India's dependence on coal – the most polluting of fossil fuels – is only set to [decline modestly](#), driven by [increasing coal consumption](#) within the power sector, as reported in the oil and gas multinational BP's 'Energy outlook' 2019.



**Deforestation** in India is another a topic of concern. Following the publication of the India state of forest report (ISFR) 2017, on February 2019 the Indian Parliamentary Standing Committee on science and technology expressed [concern over forest degradation](#) in the country, especially in the north-eastern states. It remarked that no action plan had been adopted by the Ministry of Environment and Forests to counter the illegal cutting of trees in forests.

**Water pollution** is also a big issue in India. Untreated sewage often finds its way to ponds, lakes, and rivers, and this is the case for [60 % of the sewage](#) in urban areas. This results in pollution and renders water unfit for human consumption. Moreover, farmers often pump water from polluted rivers to irrigate their crops, resulting in risks to their health as well as [contamination of the Indian food supply](#). Dozens of rivers are polluted with high levels of [heavy metals](#), including, the [Ganges](#) (*Ganga* in Hindi and other Indian languages), the national river and Hindu [holy river](#), where many people bath daily, and dozens of pilgrims gather for the *Kumbh Mela*, the largest religious festival in the world. In March 2017, a court in the state of Uttarakhand ordered that the Ganges and its main tributary, the Yamuna, be accorded the [status of living human entities](#) – the first such case in India – to push public authorities to improve their protection from pollution. In July 2017 India's Supreme Court [overruled](#) the order.

Years of drought have confronted India with an issue of depleted **clean water reserves**. In its 2018 report '[Composite water management index](#)', government think-tank, NITI Aayog, underlines that India is suffering from the worst water crisis in its history, that 600 million Indians face high to extreme water stress, and that 200 000 people die every year due to inadequate access to safe water. The report also says that with nearly 70 % of water being contaminated, India is placed at 120th of the 122 countries in the water quality index. The government has planned to [divert 30 rivers](#) to address the country's historic water crisis, a plan that has prompted environmental concerns.

With rapid urbanisation, India faces massive **waste management** challenges: [75 %](#) of municipal garbage in India is dumped without processing – the situation varies from state to state. Also, the beaches of Alang in [India](#), together with Chittagong in [Bangladesh](#) and Gadani in [Pakistan](#), are home to 80 % of global [shipbreaking](#) activity, often performed under hazardous working practices and causing environmental pollution. Because of this, in March 2019, the Council of Ethics of Norway's Government Pension [Fund Global](#), the world's largest sovereign wealth fund, [announced](#) that it would focus on shipbreaking on India's beaches.

## Environmental initiatives

The Indian environment is governed under the overall regulatory guidance and control of the union government, and the states have limited autonomy in this field. Until recently (the [India Greens Party](#)), there was little political discussion of environmental issues in the election process, however authorities have now taken the issue of climate change seriously. In 2008, the Prime Minister's Council on Climate Change (PMCCC) released the first national plan on climate change ([NAPCC](#)), outlining eight 'national missions' running up to 2017. All states had to submit their respective state action plans on climate change. [Three](#) more missions were added in 2017. In the 2019 climate change performance index ([CCPI](#)), India has improved its standing compared to the previous edition (from 14th to 11th place). In 2010, India set up the [National Green Tribunal](#), for handling cases related to environmental protection and conservation of natural resources.

Under the 2015 [Paris Agreement](#) on climate change, India has committed to moving to a 40 % share of non-fossil fuel in the total installed power capacity by 2030; to a greenhouse gas emission intensity of GDP reduced by 33-35 % by 2030 from 2005 levels; and to create an additional carbon sink capacity of 2.5 –3 billion tonnes of CO<sub>2</sub> through additional forest cover by 2030. India is [on track](#) to achieve these goals. After the United States' withdrawal from the agreement, the Indian government [reaffirmed its commitment](#). India is also a leader in promoting renewable energy: in March 2018, Prime Minister Narendra Modi, together with French President Emmanuel Macron, co-chaired the founding conference of the International Solar Alliance ([ISA](#)). The Indian city of Gurugram hosts the ISA secretariat. A Ministry of New and Renewable Energy ([MNRE](#)) exists since 2006. In 2015, India announced a target of 175 gigawatts (GW) in electricity generation capacity from renewables by 2022, including 100 GW of solar power. Although the latter target [may not be achieved](#), in January 2019 the MNRE announced a more ambitious [target of 500 GW of renewables by 2028](#), to achieve a target of 40 % of the country's electricity

generated from non-fossil fuels by 2030. Of this, 350 GW would come from solar and 140 GW from wind. Indian solar manufacturing capacity has proven [difficult to expand](#) and the [government's safeguard duties](#) to support domestic manufacturing of solar panels did not prevent 85 % of the market falling into Chinese hands. However, Indian solar parks are the world's biggest and provide a symbol of the country's bid for solar power: the [Pavagada Solar Park](#) in Karnataka State, inaugurated in March 2018 and set to reach 2GW, is to be overtaken by a 5GW facility to be built in [Ladakh](#) (Jammu and Kashmir) by 2023.

On January 2019, the Ministry for Environment [launched](#) the national clean air programme ([NCAP](#)), a scheme to provide the states and the union government with a framework to combat air pollution. Its goal is to cut the concentration of coarse (PM10) and fine particles (PM2.5) in 102 cities by 20-30 % by 2024, with 2017 as the base year for comparison. A plan to [end stubble burning](#) in order to cut air pollution in some northern states has not delivered the expected outcome. Nevertheless, India has made substantial progress in scaling-up clean cooking. In 2016, the government adopted the Pradhan Mantri Ujjwala Yojana ([PMUY](#)) scheme to provide cooking gas (LPG) connections free of cost to women who are members of poor households. The scheme aims at connecting a further [80 million households with LPG](#) by 2022. The government is also supporting clean cooking with [subsidies for LPG](#). In 2014, Modi launched the Swachh Bharat Mission ('[Clean India](#)') to clean up streets. It includes the goal of an open defecation-free ([ODF](#)) India by 2 October 2019 – the 150th anniversary of the birth of Mahatma Gandhi – through the construction of millions of toilets. Among other flagship initiatives, '[Clean Ganga](#)' aims at [eliminating](#) the whole of the Ganges river pollution by 2020, and the '[Smart Cities Mission](#)' develops public transport, sewerage, water supply and sanitation.

### EU environmental support

At the [March 2016 summit](#), the EU and India agreed on two joint declarations: on an India-EU [water partnership](#) and on [a clean energy and climate partnership](#). As to the latter, the [EU supports several projects](#): India's offshore wind development through [FOWIND](#) (Facilitating Offshore Wind in India) and the First Offshore Wind Project of India ([FOWPI](#)); [energy efficiency](#) in commercial buildings; India's [Solar Park Programme](#); the [EU-India Smart Grid Cooperation](#). The joint declaration on a [Partnership for Smart and Sustainable Urban Development](#), signed at the India-EU Summit in October 2017, is the framework for [EU support for India's urbanisation challenges](#). The EU-India resource efficiency initiative ([EU-REI](#)) supports the Indian circular economy, fostering the efficient and sustainable use of natural resources.

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