

CHINA

EMPLOYMENT AND ENVIRONMENTAL SUSTAINABILITY FACT SHEETS 2019

The Employment and Environmental Sustainability Fact Sheets series provides key features of employment and environmental sustainability performance. Jobs that are green and decent are central to sustainable development and resource productivity. They respond to the global challenges of environmental protection, economic development and social inclusion. Such jobs create decent employment opportunities, enhance resource efficiency and build low-carbon, sustainable societies. The fact sheets include the most recently available data for selected indicators on employment and environmental sustainability: (i) employment in environmental sectors; (ii) skill levels; (iii) vulnerability of jobs; (iv) jobs in renewable energy; (v) scoring on the Environmental Performance Index; and (vi) air quality.

DEMOGRAPHICS

China¹ is a large country in East Asia and shares a border with 14 countries, including India, Mongolia and Russia (Fig. 1). Although the majority of its population is urban, some 42.04 per cent still live in rural communities. The population is growing, with a fertility rate of 1.6 children and life expectancy of 76.6 years. Around 72 per cent of the population is of legal working age (15–64 years) (Fig. 2).

Figure 1. Map of China

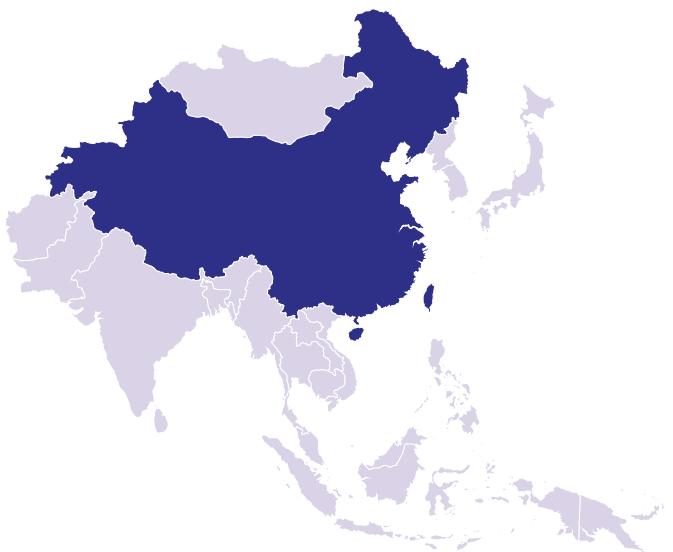
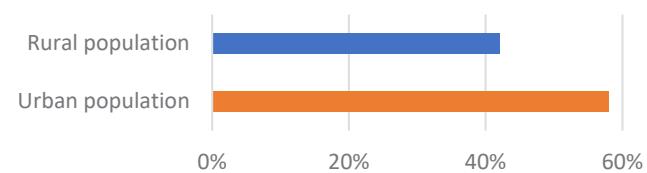


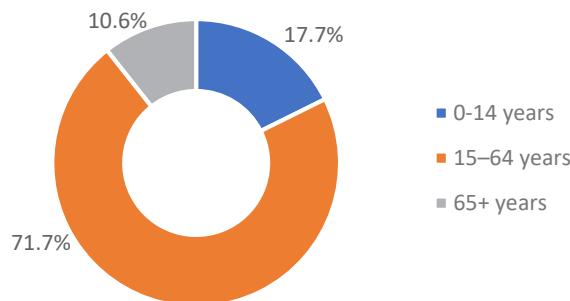
Figure 2. China population statistics

Population:² 1386.39 million

Population growth rate	Fertility rate	Life expectancy at birth
0.56%	1.6 children	76.6 years



Population age categories



Note: Data is for 2017 except fertility rate and life expectancy (2018 data).

Source: ILO compilation using World development indicators, last updated: 28/06/2018; <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#> and UN ESCAP statistics. http://data.unescap.org/escap_stat/ (accessed on 23 November 2018).

¹ China became a member of the International Labour Organization in 1919.

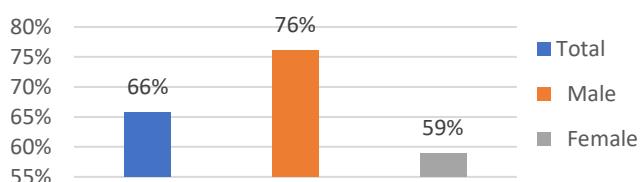
² Population data based on 2017 data.

LABOUR FORCE

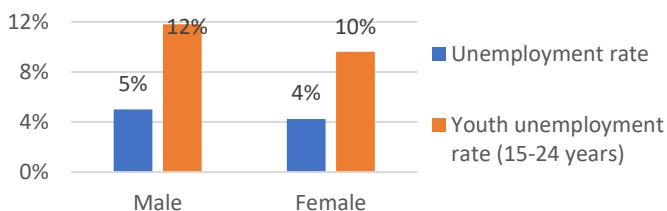
In 2018, the labour force participation rate was 68.4 per cent and the employment-to-population ratio was 65.71 per cent. Both these rates are more than 14 to 17 percentage points higher for men than for women. The total unemployment rate in 2018 was 4.09 per cent, and the youth unemployment rate was 10.8 per cent, with the male youth unemployment rate 2.19 percentage points higher than the female rate. Employment is heavily reliant on services followed by industry, and on medium-skilled occupations (Fig. 3).

Figure 3. Basic employment statistics for China, 2018

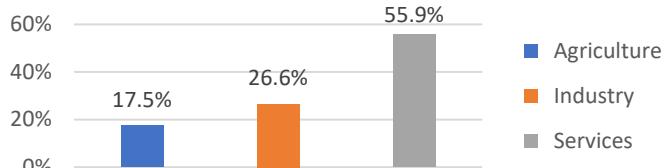
Employment-to-population, 2018 (15+ years)



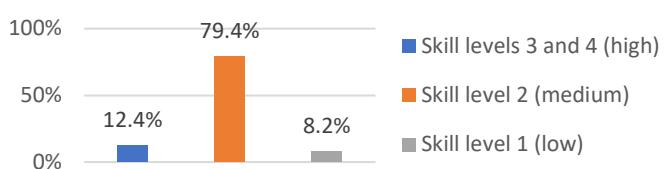
Unemployment, 2018



Employment by sector, 2018 (15+ years)



Employment by occupation, 2018



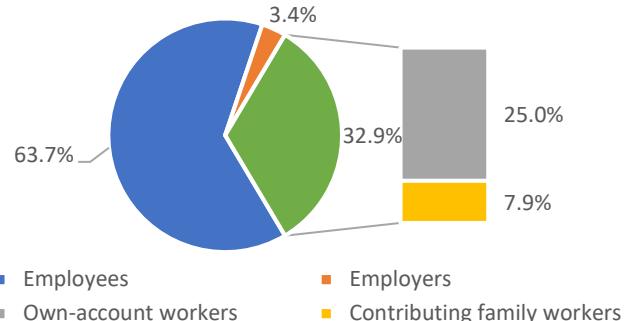
Note: The data for the total unemployment rate is from 2014

Note: ILO estimates. Labour force participation rate and unemployment: aged 15 years and older. Youth unemployment: aged 15–24 years. Employment by occupation: skill level 1 (low) for elementary occupations; skill level 2 (medium) for clerical, service and sales workers, skilled agricultural and trade workers, plant machinists and assemblers; and skill levels 3 and 4 (high) for managers, professionals and technicians.

Source: ILO estimates and compilation using ILOSTAT, www.ilo.org/ilostat (accessed 23 November 2018).

Vulnerable employment in China as of 2018 accounted for 33 per cent of the labour force, with the majority of those workers having own-account status (Fig. 4). Own-account and contributing family workers are more likely to experience low job and income security than employees and employers, as well as lower coverage by social protection systems and employment regulation.

Figure 4. Vulnerable employment, 2018

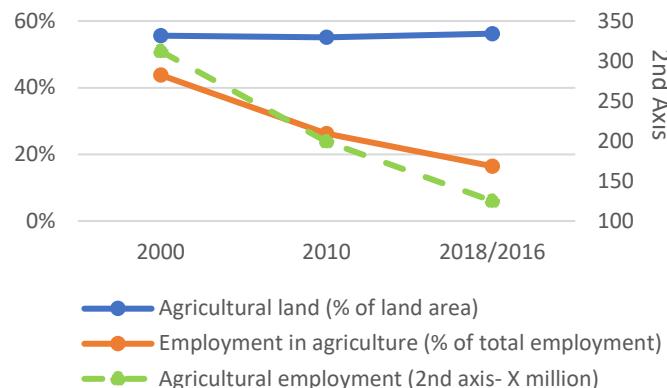


Note: ILO estimates. Vulnerable employment includes own-account workers and contributing family workers from ILO status of employment data.

Source: ILO estimates and compilation using ILOSTAT, www.ilo.org/ilostat (accessed 23 November 2018).

Rural population growth was negative 2.3 per cent in 2017. The share of agricultural land in total land area remained steady at 56 percentage points between 2000 and 2016, while agricultural employment rates decreased from 312.2 million to 125 million people. The share of agricultural employment within total employment fell by approximately 28 percentage points due to much faster job creation in other sectors (Fig. 5).

Figure 5. Agricultural land and agricultural employment, 2000-2018



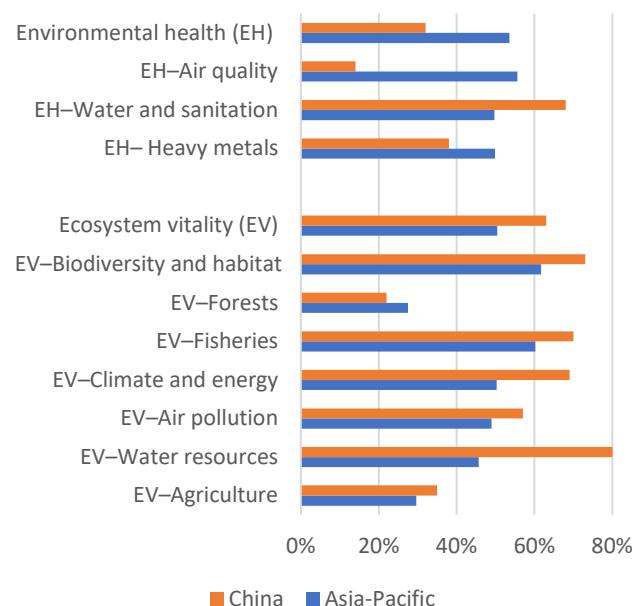
Note: data for agricultural land is from 2016 and other data is from 2018.

Source: ILO compilation using World development indicators, last updated: 28/06/2018; <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#> (accessed on 23 November 2018).

ENVIRONMENTAL ISSUES

China ranks at number 120 of 180 countries in the Environmental Performance Index (EPI)³, with a score of 50.74 (with 0 being furthest from the high-performance benchmark target of 100). China outperforms the average score for Asia and the Pacific (Fig. 6) in some of the EPI categories, including water and sanitation, agriculture, biodiversity and habitat, fisheries, air pollution, and climate and energy. However, there is room for improvement, especially in environmental health (air quality and heavy metals) and ecosystem vitality (forests). Action to address climate change and improve environmental health, ecosystem vitality and resilience to weather disasters all have the potential to provide job creation, green economy growth and innovation in China.

Figure 6. Environmental performance index for China, 2018



Note: Score 0 (worst) –100 (best). Asia-Pacific: data is for ILO member states in the region, excluding Cook Islands, Marshall Islands, Palau and Tuvalu.

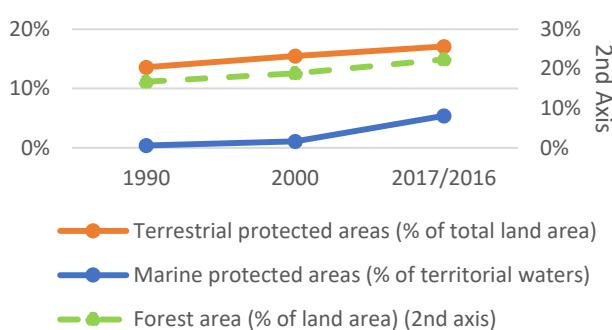
Source: ILO compilation using “2018 EPI Scores – Current”. EPI Yale.

Forest area increased between 1990 and 2016, to approximately 22.4 per cent of total land area. From 1990 to 2017, the share of terrestrial protected area increased slightly, reaching 17.1 per cent of total land area, similarly the proportion of marine protected area increased slightly, reaching 5.4 per cent (Fig. 7). There will be greater prospects for employment opportunities if there is a commitment to transition to a low-carbon and resource-efficient economy, such as jobs in resource management and environmental services.⁴

³ Yale Center for Environmental Law and Policy / Center for International Earth Science Information Network at Columbia University. “2018 EPI Scores – Current”. EPI Yale. Retrieved 14-06-2018. Available: <https://epi.envirocenter.yale.edu>.

⁴ Organisation for Economic Co-operation and Development: The jobs potential of a shift towards a low-carbon economy, OECD Green Growth Papers, No. 2012/01 (Paris, 2012), <http://dx.doi.org/10.1787/5k9h3630320v-en>.

Figure 7. Forest area, terrestrial and marine protection area, 1990-2017

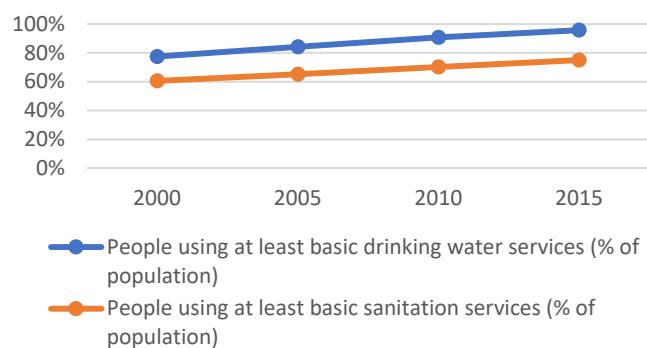


Note: Data for forest area is from 2016 and other data is from 2017.

Source: ILO compilation using World development indicators, last updated: 28/06/2018; <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#> (accessed on 18 March 2019).

Since 2000, there has been a gradual increase in access to basic drinking water, to an average of 95.8 per cent in 2015, and access to basic sanitation, to an average of 75 per cent in 2015 (Fig. 8). Both are still below the ideal threshold of 100 per cent. Improvement in water supply and sanitation access could provide decent job opportunities in the future.

Figure 8. Basic drinking water and sanitation access, 2000-2015



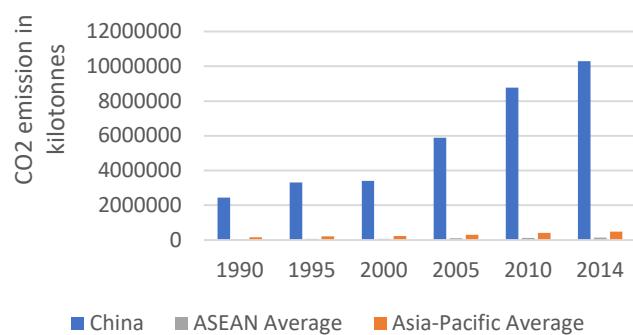
Source: ILO compilation using World development indicators, last updated: 21/05/2018; <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#> (accessed on 23 November 2018).

AIR QUALITY

The carbon dioxide (CO₂) emission levels for China increased by an average of 6 per cent from 1990 to 2014 (Fig. 9).⁵ The increase was primarily due to fossil fuel combustion for power generation and transportation.⁶ The level of emissions since 1990 is significantly higher than both the Asia-Pacific and ASEAN averages.

The PM_{2.5} (atmospheric particulate matter with a diameter of less than 2.5 micrometres) emission levels for China reached their highest levels in 2010 (Fig. 10). Overall PM_{2.5} emission levels exceeded the World Health Organization's Air Quality Guideline threshold level, thus indicating high emissions. China also shows higher levels of emission than the ASEAN and Asia-Pacific averages. Dust, fossil fuel combustion, transportation, biomass burning and industrial emissions are the main sources of PM_{2.5} identified in China.⁷

Figure 9. CO₂ emissions for China, 1990-2014



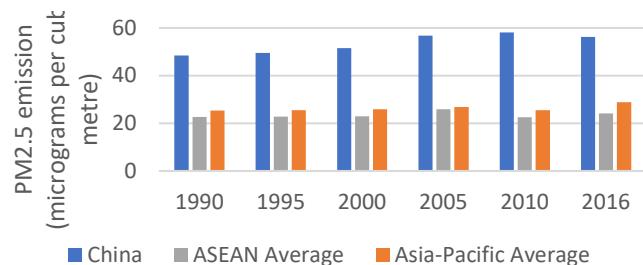
Note: Data for ASEAN and Asia-Pacific are the average of all the ILO member states of the regions. Asia-Pacific: data excludes Cook Islands, Timor-Leste (1990, 1995, 2000).

Source: ILO compilation using World Bank indicators; <https://data.worldbank.org/indicator/EN.ATM.CO2E.KT?locations=IR> (accessed on 23 November 2018).

⁵ The value is calculated on the basis of CAGR (compound annual growth rate).

⁶ China's Carbon emissions report 2016: Regional carbon emissions and the implication for China's low carbon development. Environment and natural resources program; <https://www.belfercenter.org/sites/default/files/legacy/files/China%20Carbon%20Emissions%202016%20final%20web.pdf>.

⁷ Sources of particulate matter in China: Insights from source apportionment studies published in 1987-2017; <https://www.ncbi.nlm.nih.gov/pubmed/29653391>.



Note: Data for ASEAN and Asia-Pacific are the average of all the ILO member states of the regions. Asia-Pacific: data excludes Cook Islands, Palau and Tuvalu.

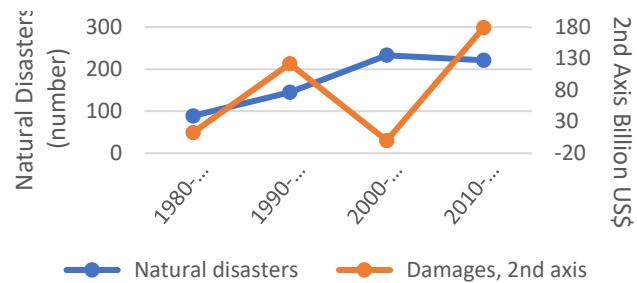
Source: ILO compilation using World Bank indicators;
<https://data.worldbank.org/indicator/EN.ATM.PM25.MC.M3?view=chart> (accessed on 23 November 2018).

Applying the Just Transition guidelines, an area of possible intervention includes efforts to reduce harmful emissions, which could potentially generate green jobs in high emitting sectors such as transportation and fuel-intensive industries. Reducing emissions is a significant challenge, which can be achieved not only by mitigation methods, but also by adapting to, and coping with, the changes required by the transition to a low-carbon economy.

CLIMATE CHANGE IMPACTS

According to the *World Risk Report*⁸, China has a medium World Risk Index score. It ranks number 80 of 171 countries because of its medium exposure to natural hazards and limited institutional capacity to cope and adapt. Part of the country's vulnerability relates to the 6.6 per cent of the total population who, in 2010, lived in the 1.2 per cent of the total land area below 5 metres above sea level.⁹

According to the *Emergency Events Database*,¹⁰ there was a substantial increase in natural disasters¹¹ and associated damage costs between the 1980s and 2018 (Fig. 11). The natural disasters in that time were mostly floods, droughts, landslides, typhoons and earthquakes. Damage costs have increased significantly since 2009. Developing preventative measures to limit infrastructure and property damage and increase institutional capacity to respond to climate events, particularly for small businesses, can be a source of decent job creation while building resilience.



GREEN JOBS POTENTIAL

In 2016, 59 per cent of the population relied primarily on clean fuel and technology, in the sense that these do not create pollution within the home.¹² The share of renewable energy in total energy consumption has not kept pace with overall consumption. In 2000, it was 29.73 per cent but fell below 13 per cent in 2010 and, after some fluctuation, fell to 12.41 per cent in 2015 (Fig. 12). However, renewable energy electricity generation has increased over the last 16 years, with hydropower being the main renewable energy source in 2016 (Fig. 13). In 2018, almost 4,191.2 thousand people were employed in the renewable energy sector, with 53 per cent employed in solar photovoltaics (Fig. 14). With the push for increasing reliance on renewable energy, there is the potential for decent job opportunities in the future.

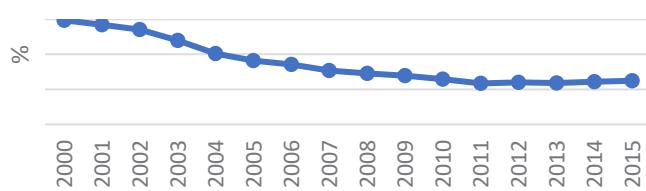
⁸ Bündnis Entwicklung Hilft and United Nations University – EHS (2017) World Risk Report 2017, available at: <http://weltrisikobericht.de/english/>.

⁹ World development indicators. <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#> (accessed on 7 August 2018)

¹⁰ EM-DAT: The emergency events database - Université catholique de Louvain (UCL) - CRED, D. Guha-Sapir - www.emdat.be, Brussels, Belgium. Data accessed on: 20 July 2018.

¹¹ Climatological, hydrological and meteorological disasters.

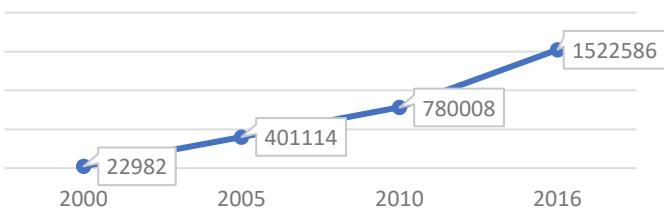
¹² The proportion of the population with primary reliance on clean fuels and technology is calculated as the number of people using clean fuels and technologies for cooking, heating and lighting divided by the total population reporting any cooking, heating or lighting, expressed as a percentage. "Clean" is defined by the emission rate targets and specific fuel recommendations (against unprocessed coal and kerosene) included in the normative World Health Organization guidelines for indoor air quality; see the data for household fuel combustion, <https://unstats.un.org/sdgs/metadata/files/Metadata-07-01-02.pdf>.



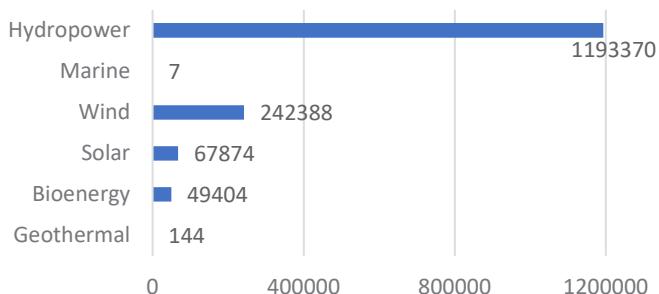
Source: ILO compilation using United Nations statistics division. SDG Indicators: Global database. Available at: <https://unstats.un.org/sdgs/indicators/database/> (accessed on 23 November 2018).

Figure 13. Renewable energy electricity generation, 2000-2016

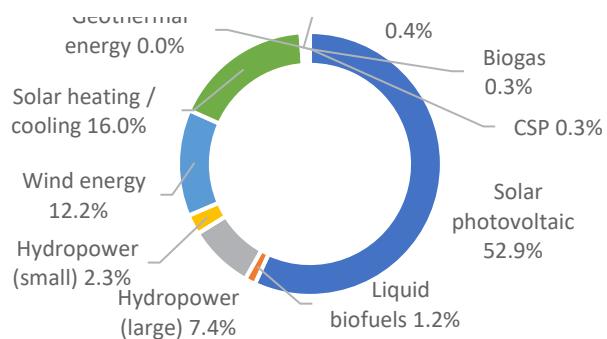
Total renewable energy electricity generation (gigawatt hours - GWh)



Renewable energy electricity generation (GWh) in 2016, by technology



Source: ILO compilation using source: IRENA (2018); Renewable electricity capacity and generation statistics, June 2018. Available at: <http://resourceirena.irena.org>



Note: Data limitations apply for certain technologies in certain countries. The lack of data reported for any specific technology may thus be indicative of a data gap, rather than the absence of renewable energy jobs using that technology.

Source: ILO compilation using source: IRENA (2018); available at: <http://resourceirena.irena.org>

Better data collection relating to the green economy and the environmental sector would be very valuable for policy-makers in Asia-Pacific countries. In particular, better data on green and decent jobs is needed to assess the impact of climate change and climate-related policies on social inclusion. Without better data it will be difficult to determine what policy changes are needed to ensure a just transition to environmental sustainability and to monitor progress going forward.

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