

# GREENHOUSE GAS EMISSIONS

## IRAQ

### GREENHOUSE GAS (GHG) EMISSIONS BY SECTOR

Iraq's total GHG emissions in 2013 (the most recent year with complete data), were 282.53 MtCO<sub>2</sub>e, totaling 0.6% of global GHG emissions. Iraq's total population in 2013 was 0.5% of the global population, indicating that GHG emissions in Iraq constituted a nearly proportionate share of global emissions given Iraq's population.

The energy sector serves as the predominant source of GHG emissions in Iraq, contributing 260.98 MtCO<sub>2</sub>e to Iraq's emissions in 2013. The energy sub-sectors, shown in the graph below, of fugitive emissions, electricity/heat, and transportation constitute the majority of energy emissions. The waste and agriculture sectors are the next largest emitters at 8.88 and 8.62 MtCO<sub>2</sub>e, respectively, in 2013. Notably, the land-use change and forestry sector was a net sink for GHG emissions.



#### IRAQ NUMBERS AT A GLANCE (2013)

**282.53 MtCO<sub>2</sub>e\***

Total GHG emissions  
(0.6% of world total)

World: 48,257 MtCO<sub>2</sub>e

**34,107,366**

Population (0.5% of world total)

World: 7,176,092,192

**8.28**

tCO<sub>2</sub>e per capita (123% of world average)

World: 6.72 tCO<sub>2</sub>e

**\$5,303**

GDP per capita\*\* (54% of world average)

World: \$9,902

**553**

tCO<sub>2</sub>e/million US\$ GDP

(114% of world average)

World: 487

Iraq GDP: \$180,886 million

World GDP: \$71,058,906 million

**+159 MtCO<sub>2</sub>e (+129%)**

Change in annual GHG emissions

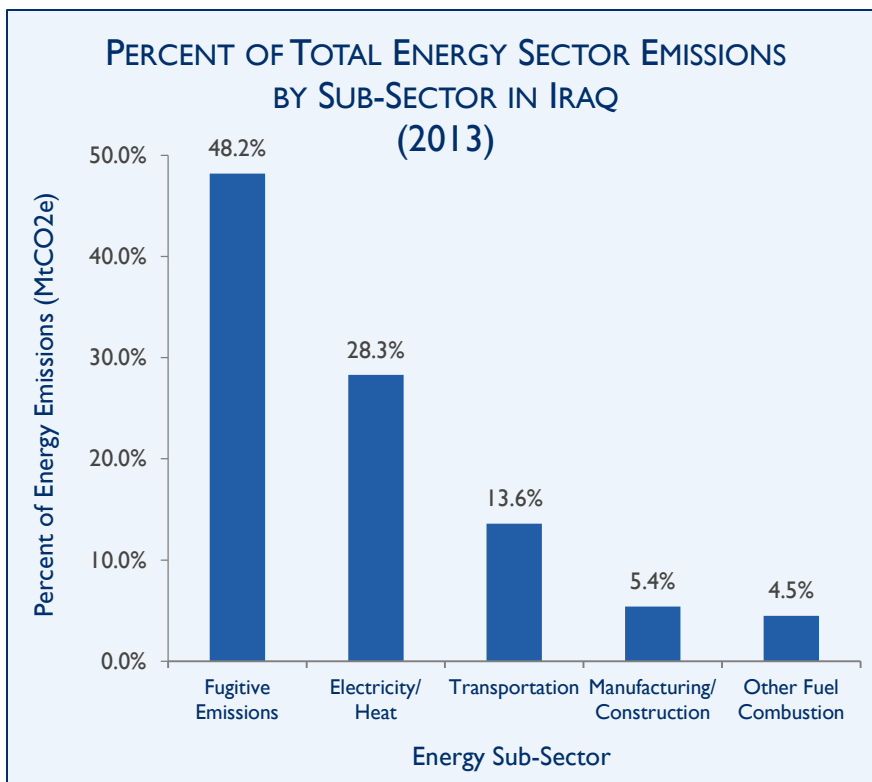
(1991-2013)

World: +14,249 (+42%)

Source: WRI CAIT 2.0, 2017

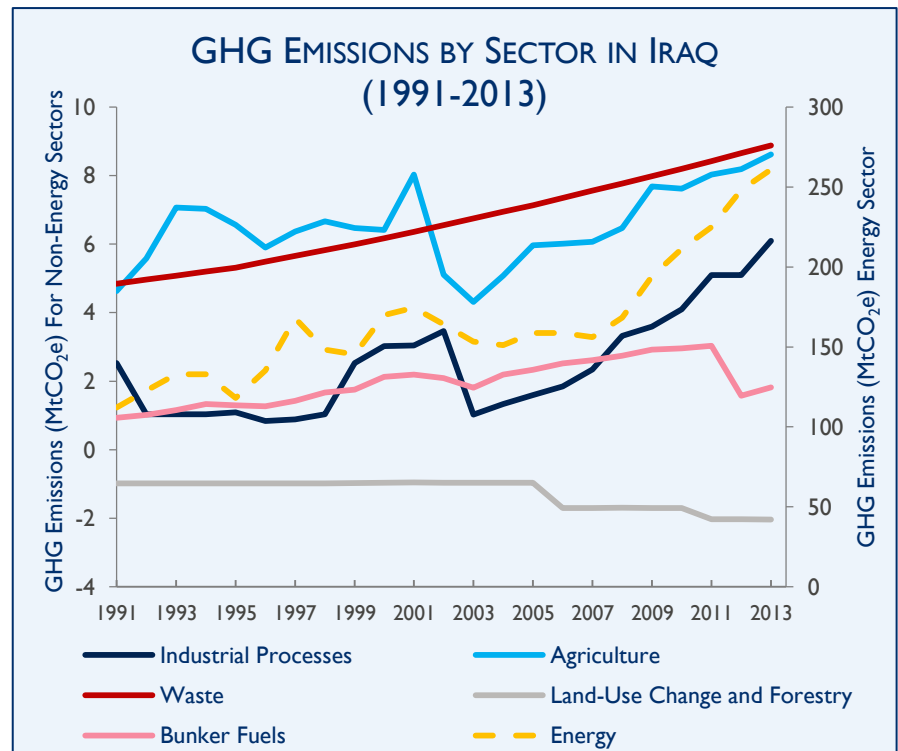
\*Million metric tons of carbon dioxide equivalent

\*\*Gross Domestic Product in constant 2010 US\$

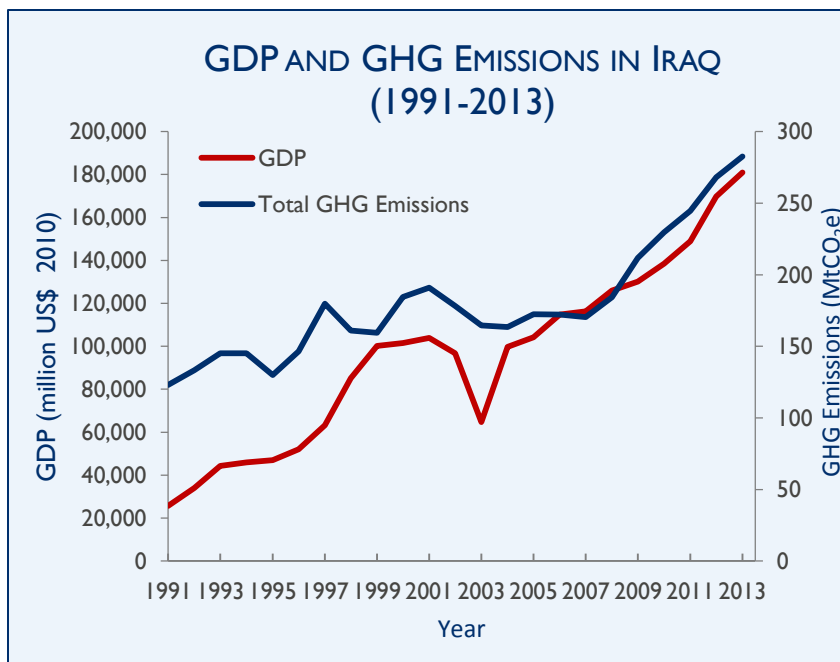


## CHANGE IN GHG EMISSIONS IN IRAQ (1991-2013)

GHG emissions in Iraq increased 129% between 1991 and 2013 (from 123 MtCO<sub>2</sub>e in 1991 to 283 MtCO<sub>2</sub>e in 2013). The average annual change in total GHG emissions over that period was 2.7%. The energy sector (shown on the right-hand y-axis in the figure at right) had the largest total increase in emissions during this period, from 112 MtCO<sub>2</sub>e in 1991 to 261 MtCO<sub>2</sub>e in 2013 (133%). The agriculture, waste, and industrial processes sectors (shown on the left-hand y-axis) contribute a much smaller proportion of total GHG emissions than does the energy sector, but they increased at a rate similar to that of the energy sector. Bunker fuels and waste sector emissions rose relatively steadily



throughout the period, while emissions from the agriculture, industrial processes, and energy sectors exhibited more volatility year to year. Within the energy sector, the sub-sector of electricity/heat increased the most from 1991 to 2013, with an increase of 419% (14.25 MtCO<sub>2</sub>e to 73.96 MtCO<sub>2</sub>e). The fugitive emissions sub-sector increased by 57.13 MtCO<sub>2</sub>e (83%) and the transportation sub-sector increased by 17.04 MtCO<sub>2</sub>e (93%) over the same period. Land-use change and forestry was a net sink for GHG emissions during the entire period, declining from -0.98 MtCO<sub>2</sub>e in 1991 to -2.04 MtCO<sub>2</sub>e in 2013.



## CARBON INTENSITY: GHG EMISSIONS RELATIVE TO GDP

Iraq's GDP increased 606% between 1991 and 2013, while GHG emissions increased 130% over the same period. Carbon intensity thus declined from 0.0048 to 0.0016 MtCO<sub>2</sub>e emissions per million US\$ in GDP. Iraq's carbon intensity is much higher than the world average. In 2013, Iraq's carbon intensity was more than twice global carbon intensity (0.00068 MtCO<sub>2</sub>e emissions per million US\$ in GDP). The impact of the 2003 Iraq War can

clearly be seen in the sharp wartime decline in GDP, as can the recovery during the post-war establishment of a new regime. GHG emissions in Iraq over this period declined but do not exhibit the same dramatic peaks and valleys as GDP.

## **CLIMATE CHANGE MITIGATION TARGETS AND PLANS**

Iraq submitted an Intended Nationally Determined Contribution (INDC) ahead of the Paris Agreement and signed the agreement in December 2016. In the INDC, Iraq set targets to reduce GHG emissions by 15% below business-as-usual emissions by 2035. Of that reduction, 13% will be conditional and 87% will be achieved through an unconditional target. Iraq's INDC was submitted only in Arabic.

## **KEY RESOURCES**

- I. World Resources Institute Climate Analysis Indicators Tool (WRI CAIT) 2.0, 2017.

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