

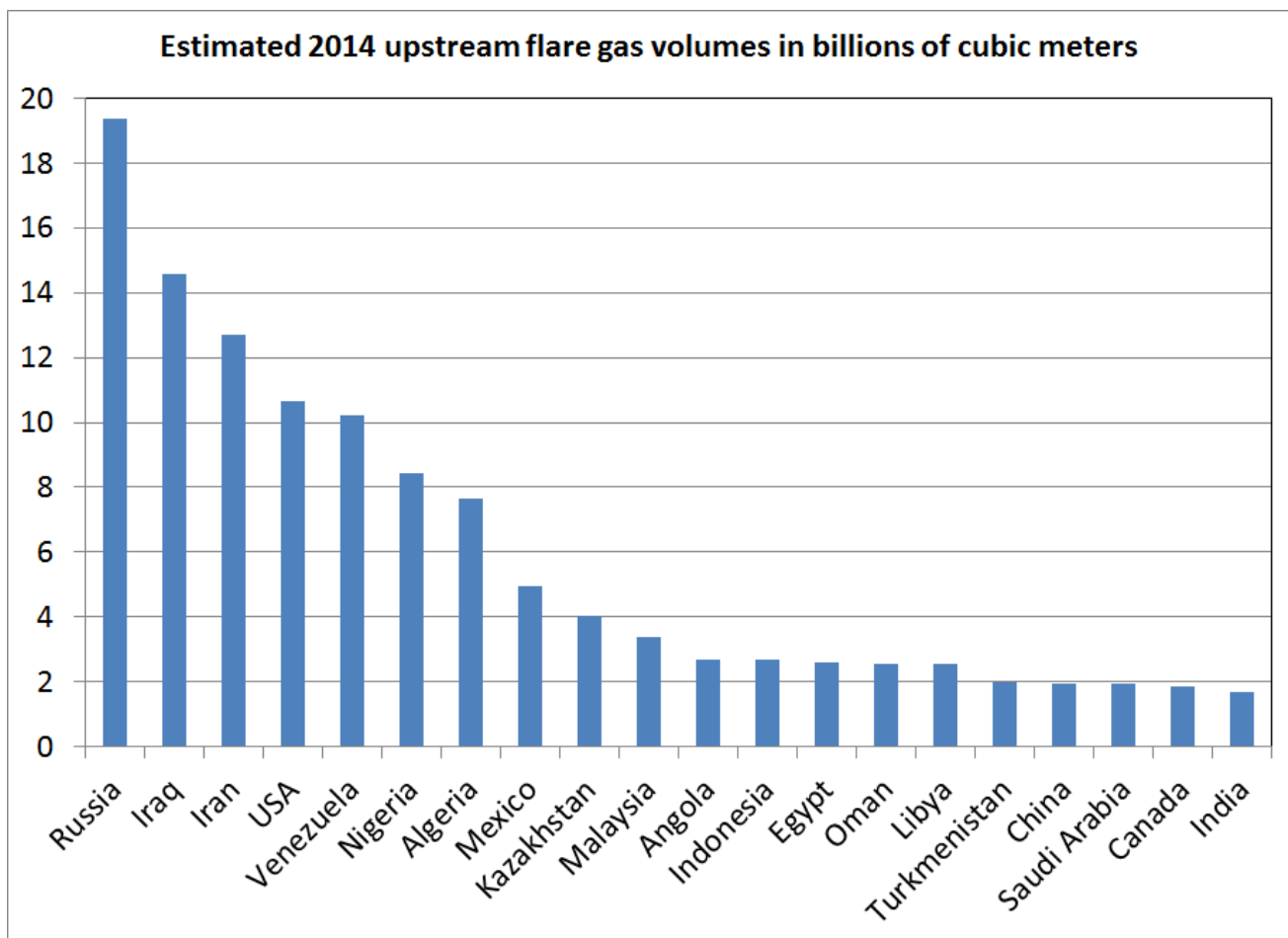
## Results from a Survey of Global Natural Gas Flaring from Visible Infrared Imaging Radiometer Suite Data

C.D. Elvidge<sup>1</sup>, M. Zhizhin<sup>2,1</sup>, K. Baugh<sup>2,1</sup> and F. Hsu<sup>2,1</sup>

<sup>1</sup>NOAA National Centers for Environmental Information (NCEI), Boulder, CO 80305; 303-497-6121, E-mail: [chris.elvidge@noaa.gov](mailto:chris.elvidge@noaa.gov)

<sup>2</sup>Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado, Boulder, CO 80309

A global survey of natural gas flaring in 2012-2014 has been completed with nighttime Visible Infrared Imaging Radiometer Suite (VIIRS) data. The survey identifies flaring site locations, annual duty cycle, and provides an estimate of the flared gas volumes in methane equivalents. VIIRS is particularly well suited for detecting and measuring the radiant emissions from gas flares through the collection of shortwave and near-infrared data at night, recording the peak radiant emissions from flares. A total of 17,314 individual flare sites were identified with that number steadily growing from 11,851 to 13,610 per year. The total flared gas volume is estimated at 140 +/30 billion cubic meters per year, corresponding to 3.5% of global natural gas production. While the U.S.A. has the largest number of flares, Russia leads in terms of flared gas volume. The largest individual gas flares are observed in Venezuela. Ninety percent of the flared gas volume was found in upstream production areas, 8% at refineries and 2% at liquefied natural gas terminals. The data are available at: [http://www.ngdc.noaa.gov/eog/viirs/download\\_global\\_flare.html](http://www.ngdc.noaa.gov/eog/viirs/download_global_flare.html).



**Figure 1.** Top twenty countries for upstream gas flaring in 2014.