**Required content of Working Paper CLIO-INFRA**

***Please include the following elements into any working paper entered into the CLIO-INFRA system:***

1. Title

 Nickel mining production by decade and country

2. Author(s)

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3. Production date

 2014-11-1.

4. Version

 1

5. Variable group(s)

 Environmental sustainability

6. Variable(s)

 Nickel mine production, in thousand metric tons

7. Unit of analysis

 Country

8. Keywords (5)

 Nickel, Mine production, Ni

9. Abstract (200 words)

*Nickel (Ni) is a transition element that exhibits a mixture of ferrous and nonferrous metal properties. It is both siderophile (i.e., associates with iron) and chalcophile (i.e., associates with sulfur). The bulk of the nickel mined comes from two types of ore deposits:*

* *laterites where the principal ore minerals are nickeliferous limonite [(Fe,Ni)O(OH)] and garnierite (a hydrous nickel silicate), or*
* *magmatic sulfide deposits where the principal ore mineral is pentlandite [(Ni,Fe)9S8].*

*(..) Nickel is primarily sold for first use as refined metal (cathode, powder, briquet, etc.) or ferronickel. About 65% of the nickel consumed in the Western World is used to make austenitic stainless steel. Another 12% goes into superalloys (e.g., Inconel 600) or nonferrous alloys (e.g., cupronickel). Both families of alloys are widely used because of their corrosion resistance. The aerospace industry is a leading consumer of nickel-base superalloys. Turbine blades, discs and other critical parts of jet engines are fabricated from superalloys. Nickel-base superalloys are also used in land-based combustion turbines, such those found at electric power generation stations. The remaining 23% of consumption is divided between alloy steels, rechargeable batteries, catalysts and other chemicals, coinage, foundry products, and plating.*

Source: <http://minerals.usgs.gov/minerals/pubs/commodity/nickel/>

10. Time period

 1850-2012

11. Geographical coverage

 Worldwide

12. Methodologies used for data collection and processing

Data inventory

13. Data quality

 Good

14. Date of collection

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15. Data collectors

British Geological Survey (BGS)

[U.S.](http://www.doi.gov/) Bureau of Mines, [U.S. Geological Survey](http://www.usgs.gov/) (USGS)

16. Sources

British Geological Survey, *World Mineral Statistics*, website: <https://www.bgs.ac.uk/mineralsuk/statistics/worldArchive.html> (Last visited on: 13-11-2014).

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Schmitz, Christopher J., *World Non-Ferrous Metal Production and Prices, 1700-1976* (London, 1979).

U.S. Geological Survey, *Historical Statistics for Mineral and Material Commodities in the United States*, website: <http://minerals.usgs.gov/minerals/pubs/historical-statistics/> (Last visited on: 13-11-2014).