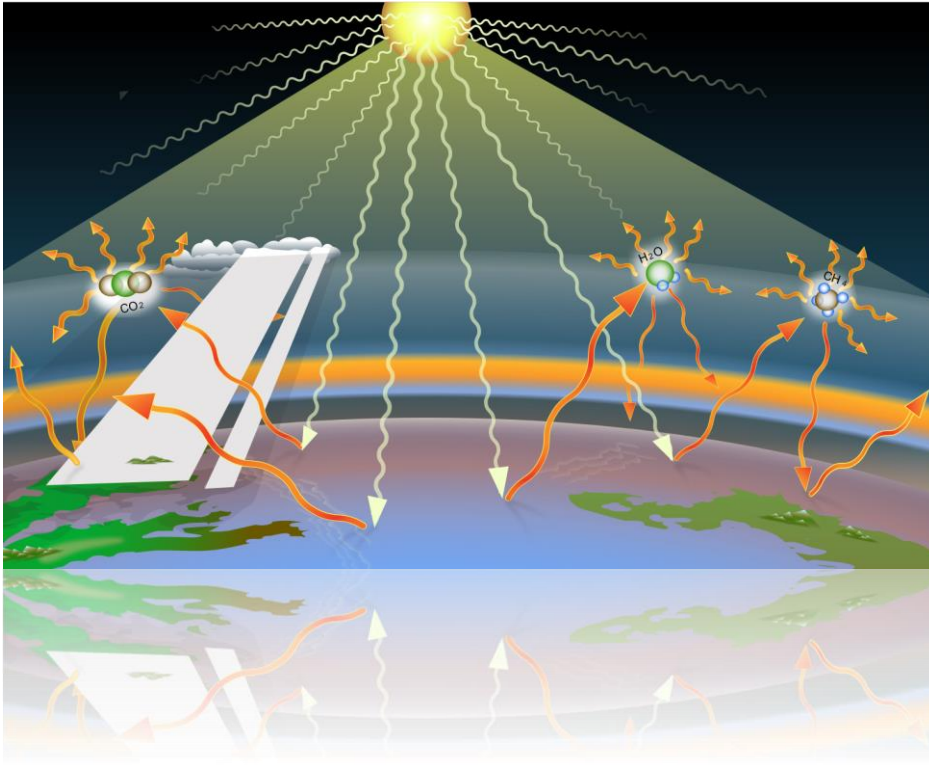
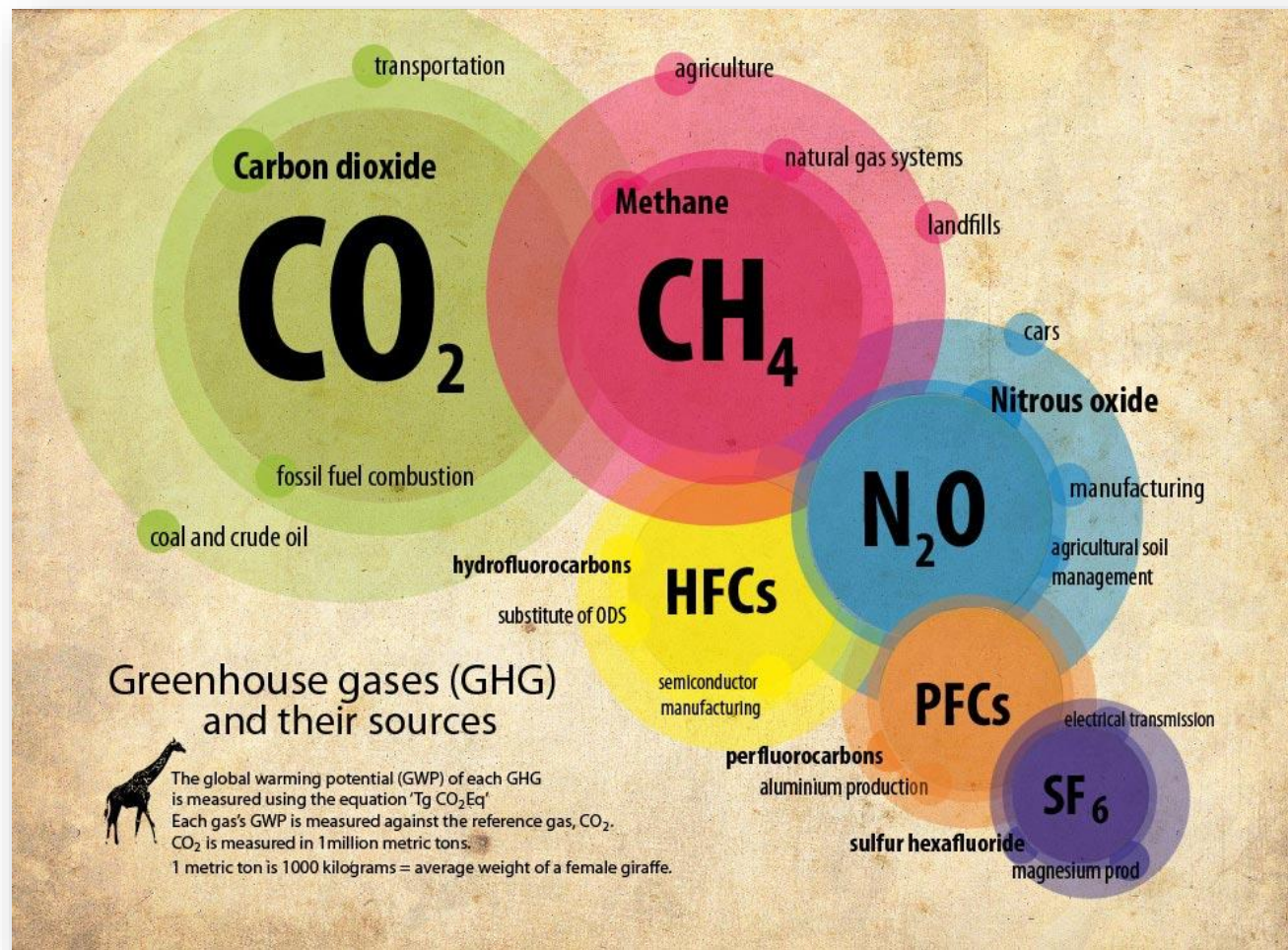


Country Greenhouse Gas Emissions Data

INTRODUCTION



A greenhouse gas (abbreviated GHG) is a gas that absorbs and emits radiant energy within the thermal infrared range. Greenhouse gases cause the *greenhouse effect*.



The primary greenhouse gases in Earth's atmosphere are **water vapor, carbon dioxide, methane, nitrous oxide** and **ozone**. Without greenhouse gases, the average temperature of Earth's surface would be about $-18\text{ }^{\circ}\text{C}$ ($0\text{ }^{\circ}\text{F}$), rather than the present average of $15\text{ }^{\circ}\text{C}$ ($59\text{ }^{\circ}\text{F}$).

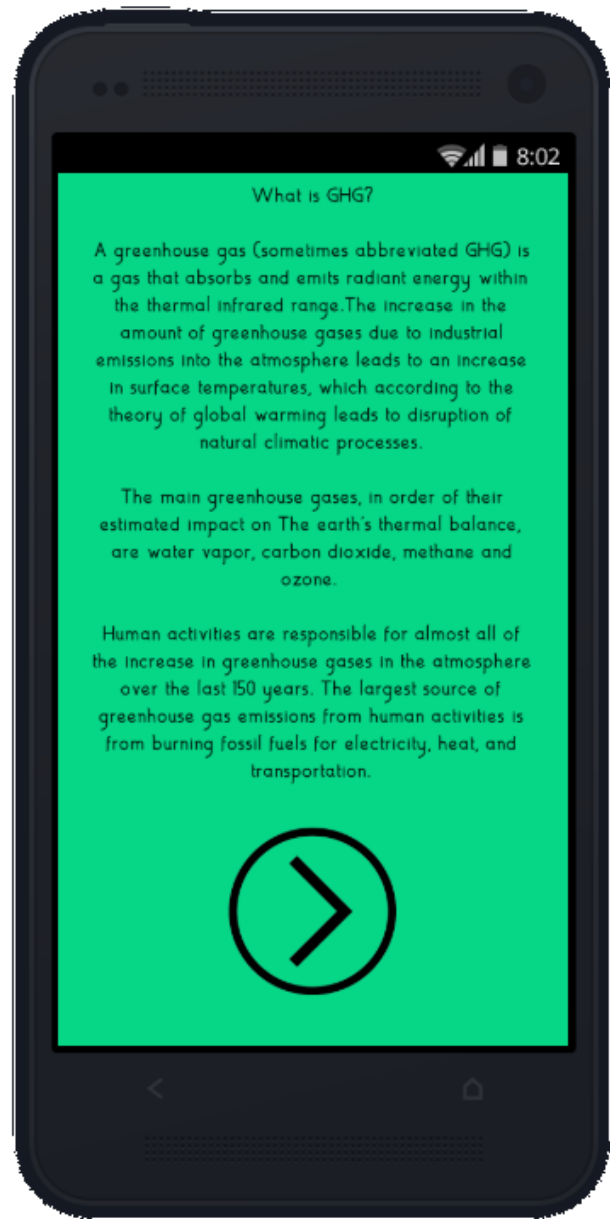
The aims of our project are

- 1) to analyze the dataset on total GHG emissions of six countries from different continents of Earth and compare them creating representation graphs by using information visualization tools;
- 2) to show the link between data and representation levels of information visualization process;
- 3) to create the design of the smartphone app/applications for large tablets that people will use for getting information about total GHG emissions in the world and explain it's possible functions.

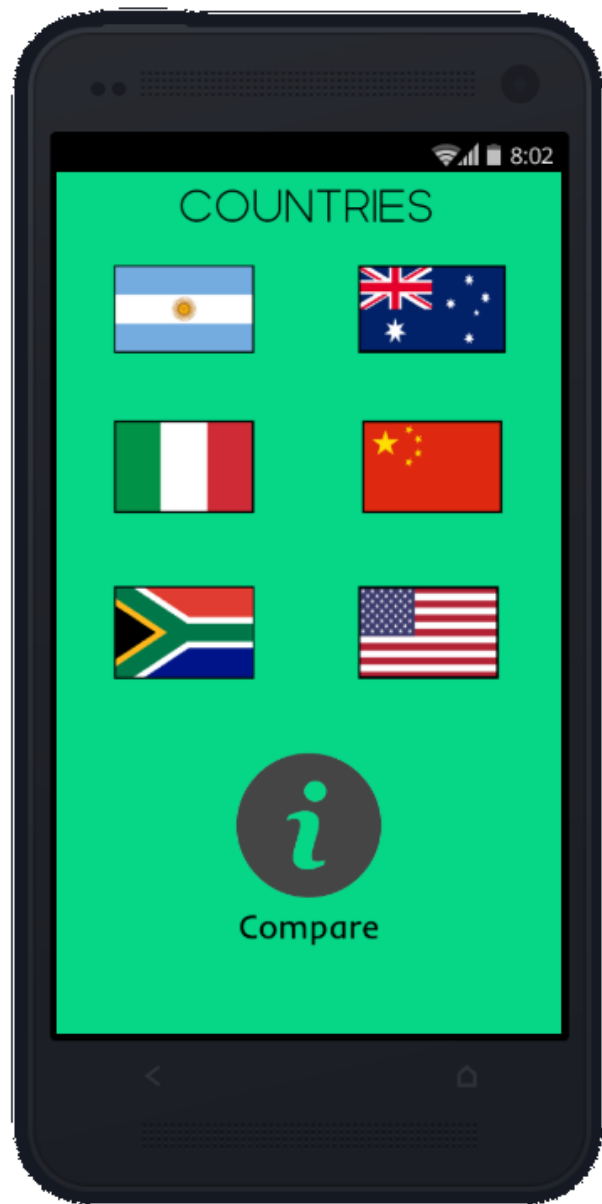
A “GHG” smartphone app



- ▶ *The screen size:* 1080*1920
- ▶ *Haptic function:* the button “click” allows to link with the next page.
- ▶ It was made by **invisionApp**



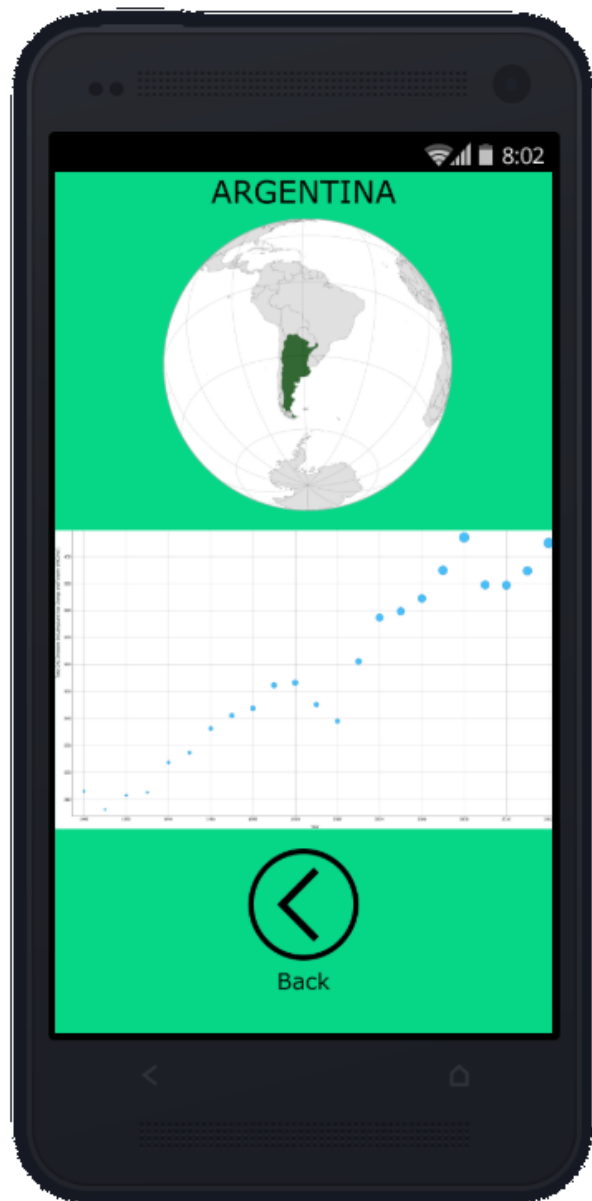
- ▶ The second page gives a general information about Greenhouse gas emissions.
- ▶ The arrow-button allows to go to the next page.



- ▶ This page has six countries from different continents. Touch on the flags allows to enter in the pages of each country which consist of the information about the geographic location and the overall GHG dataset.
- ▶ The button “compare” opens the next pages where the data of all the countries compared together.



- The arrow-button “Show the graphs” allows to go to next page and figure out the graph (visualized information) about the given dataset in this page.



Desktop Application

5 Extreme	> 15000
4 High	10000 to 15000
3 Considerable	5000 to 9999
2 Moderate	2000 to 4999
1 Low	< 2000



The countries that will be chosen change their color related to the GHG emissions level

Ambient Display



Extreme

High

Moderate





Argentina



Australia



China



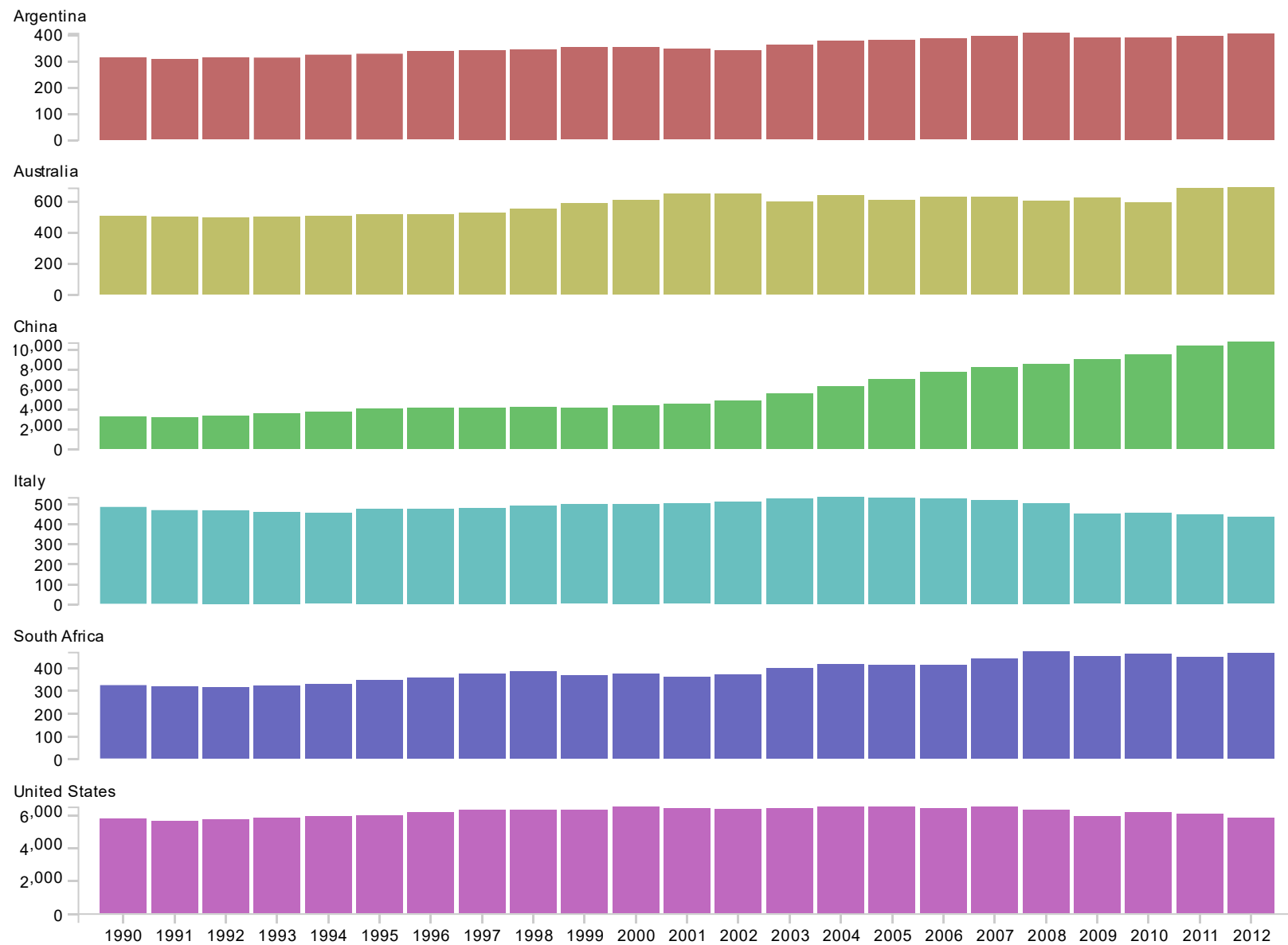
Italy



South Africa

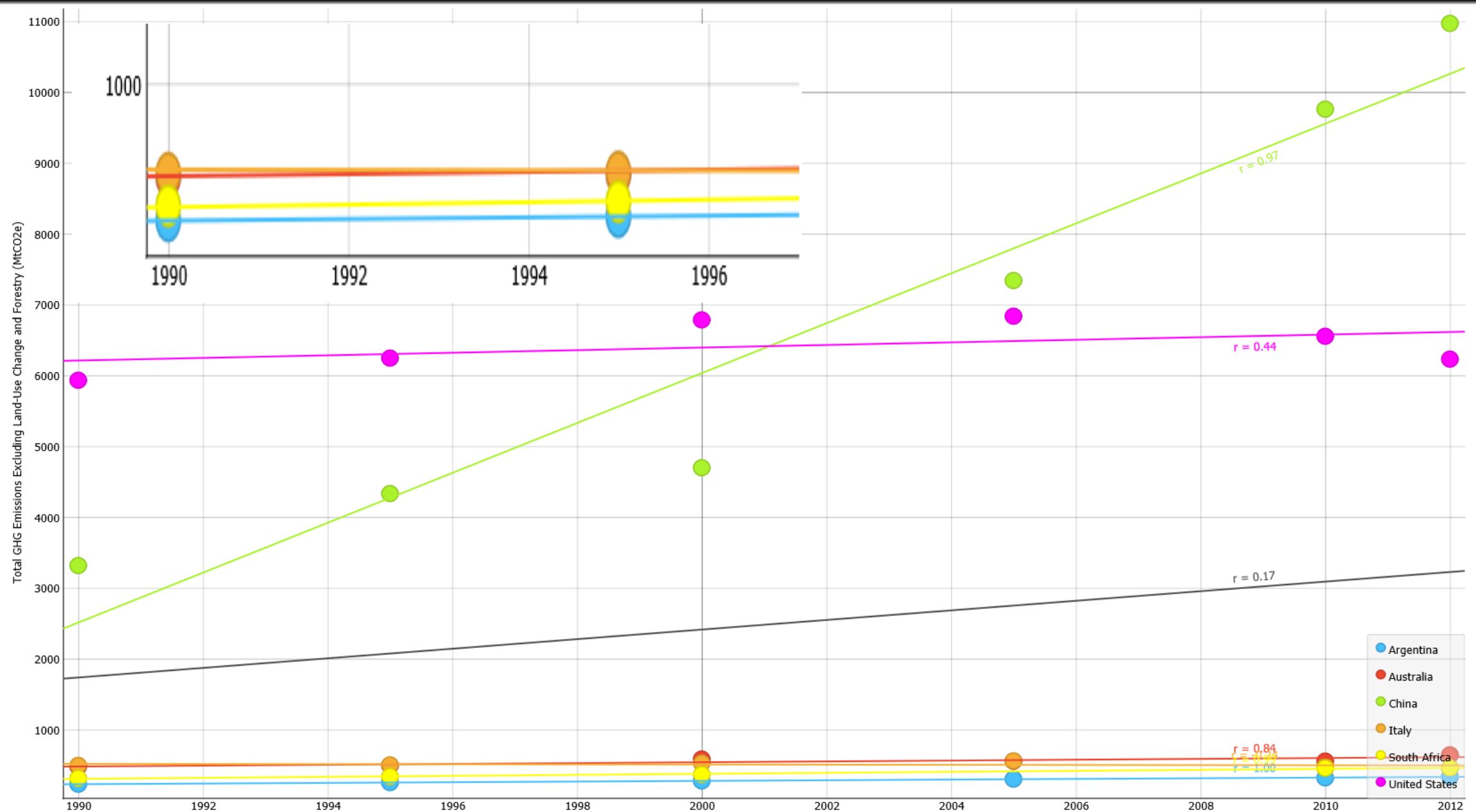


USA



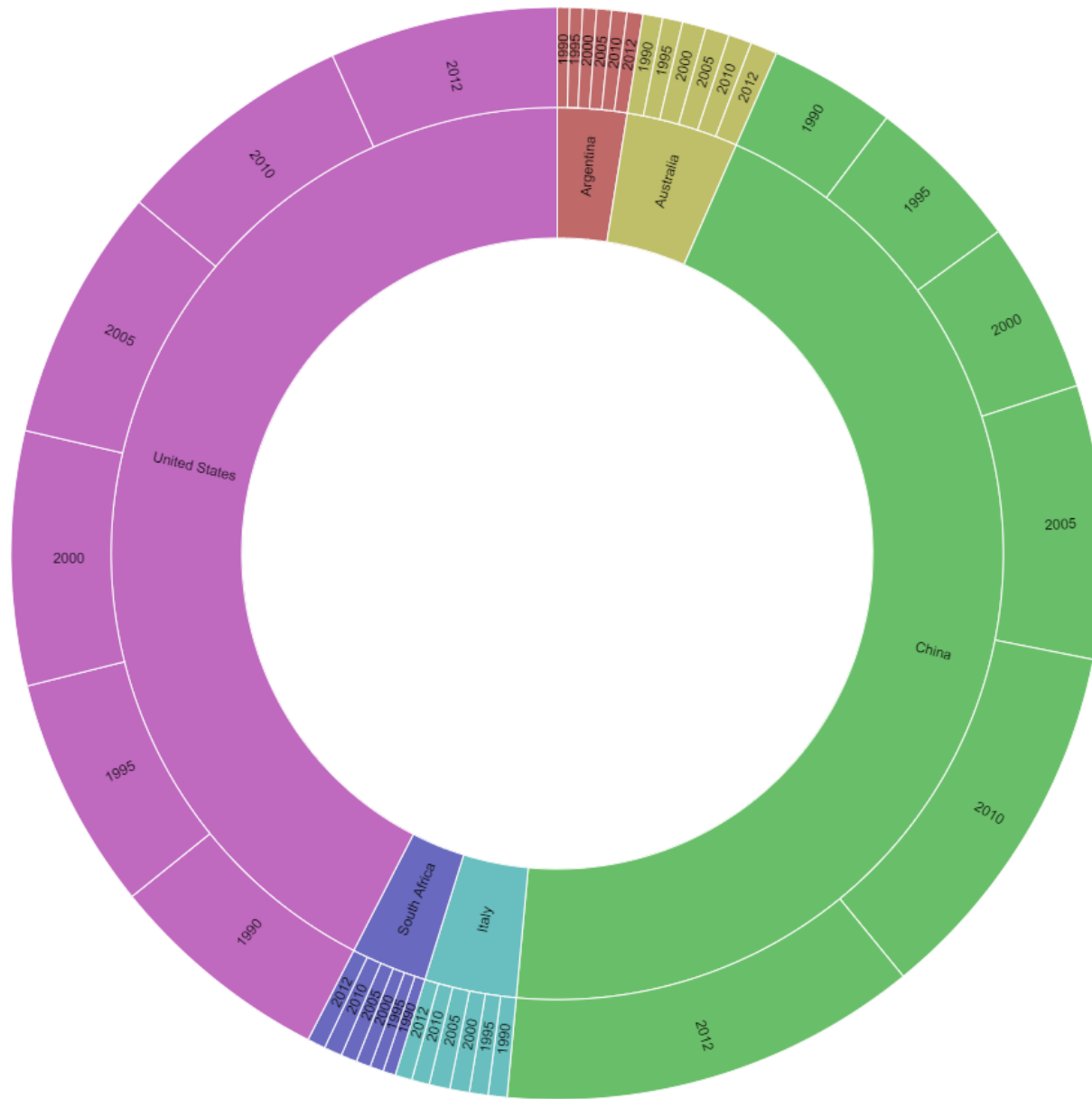
Bar chart

Comparison of GHG emissions between six countries from 1990 to 2012



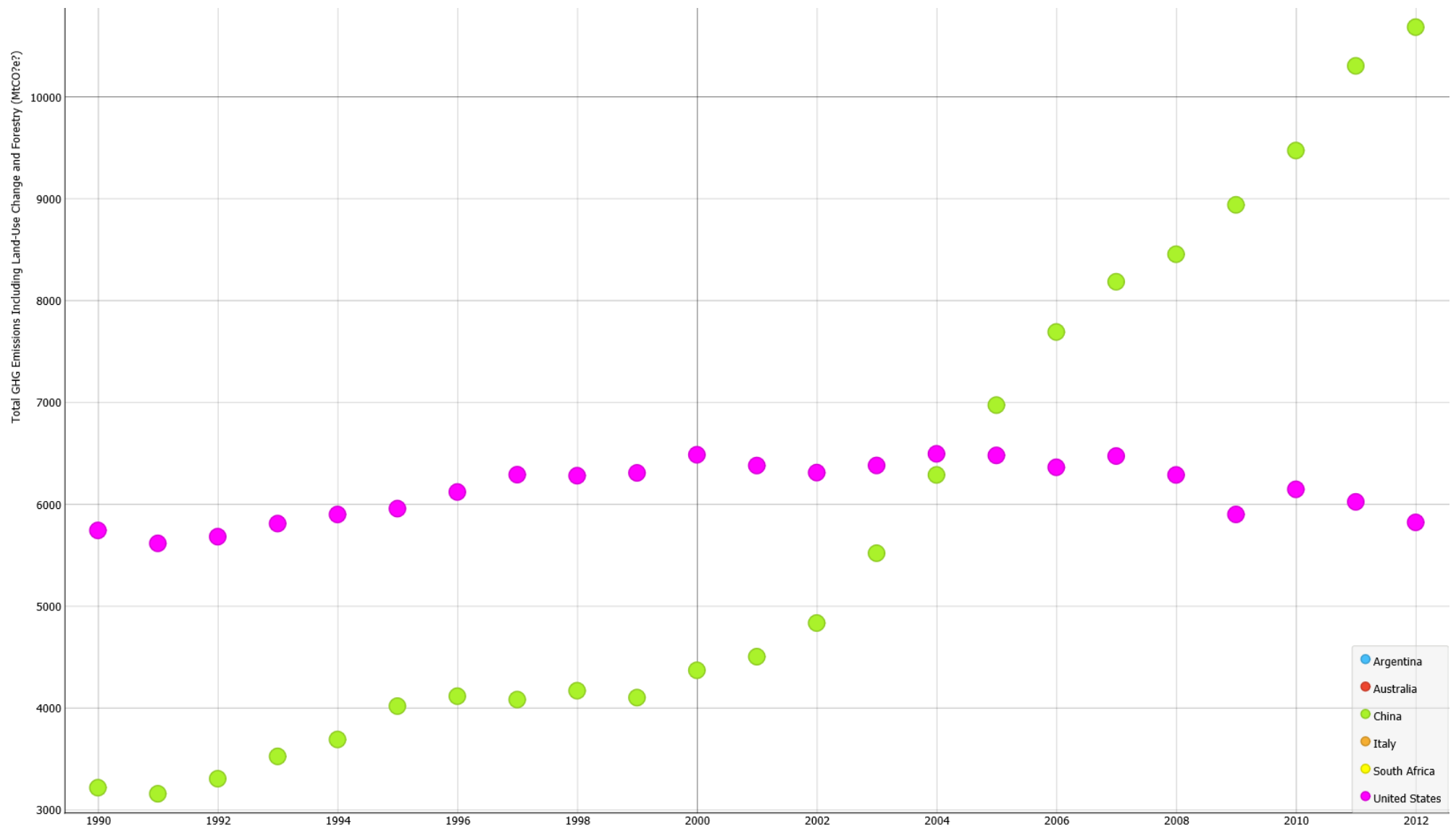
Scatter plot

Comparison of GHG emissions between six countries in six different years between 1990 to 2012



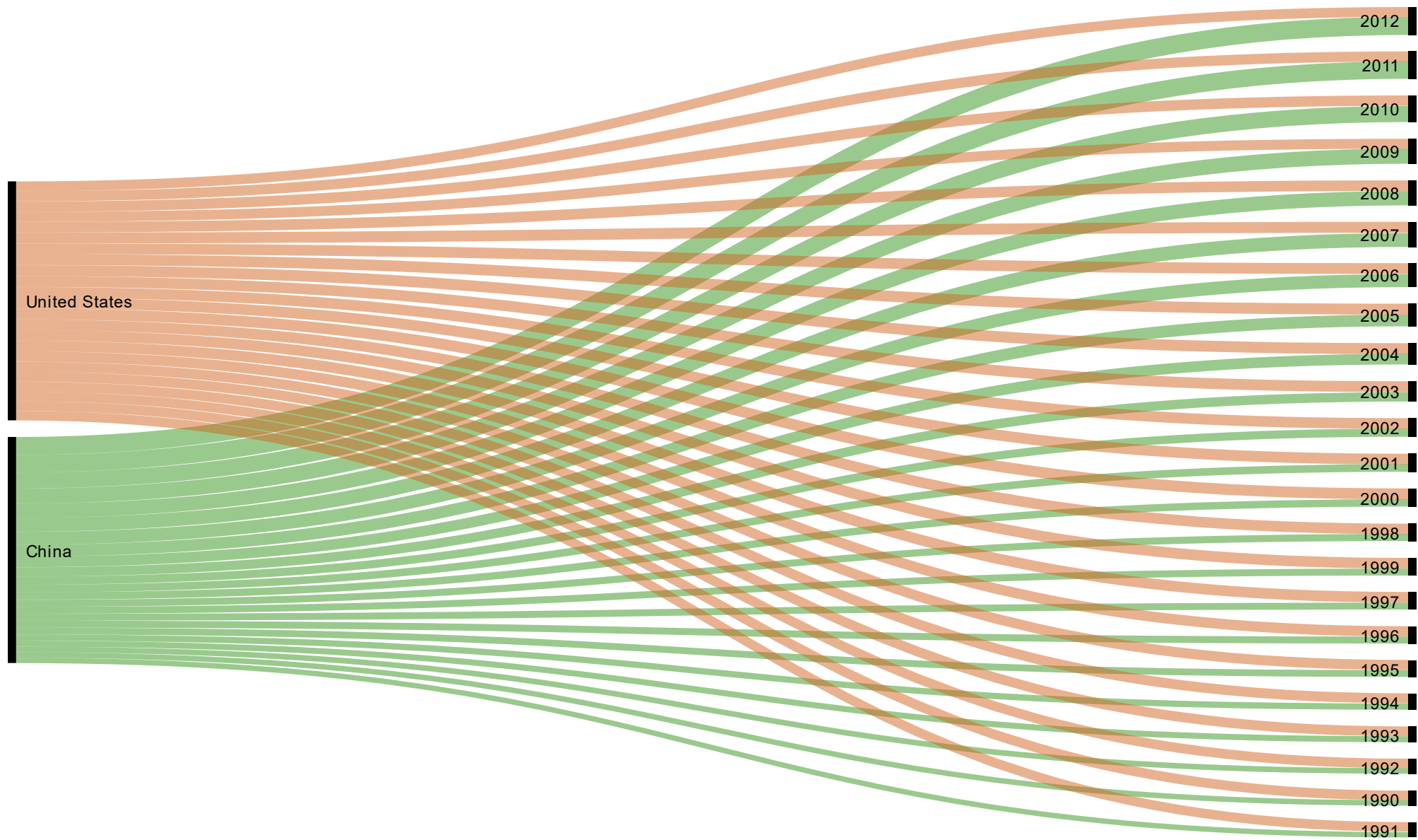
Sunburst

Comparison of GHG emissions between six countries in six different years between 1990 to 2012



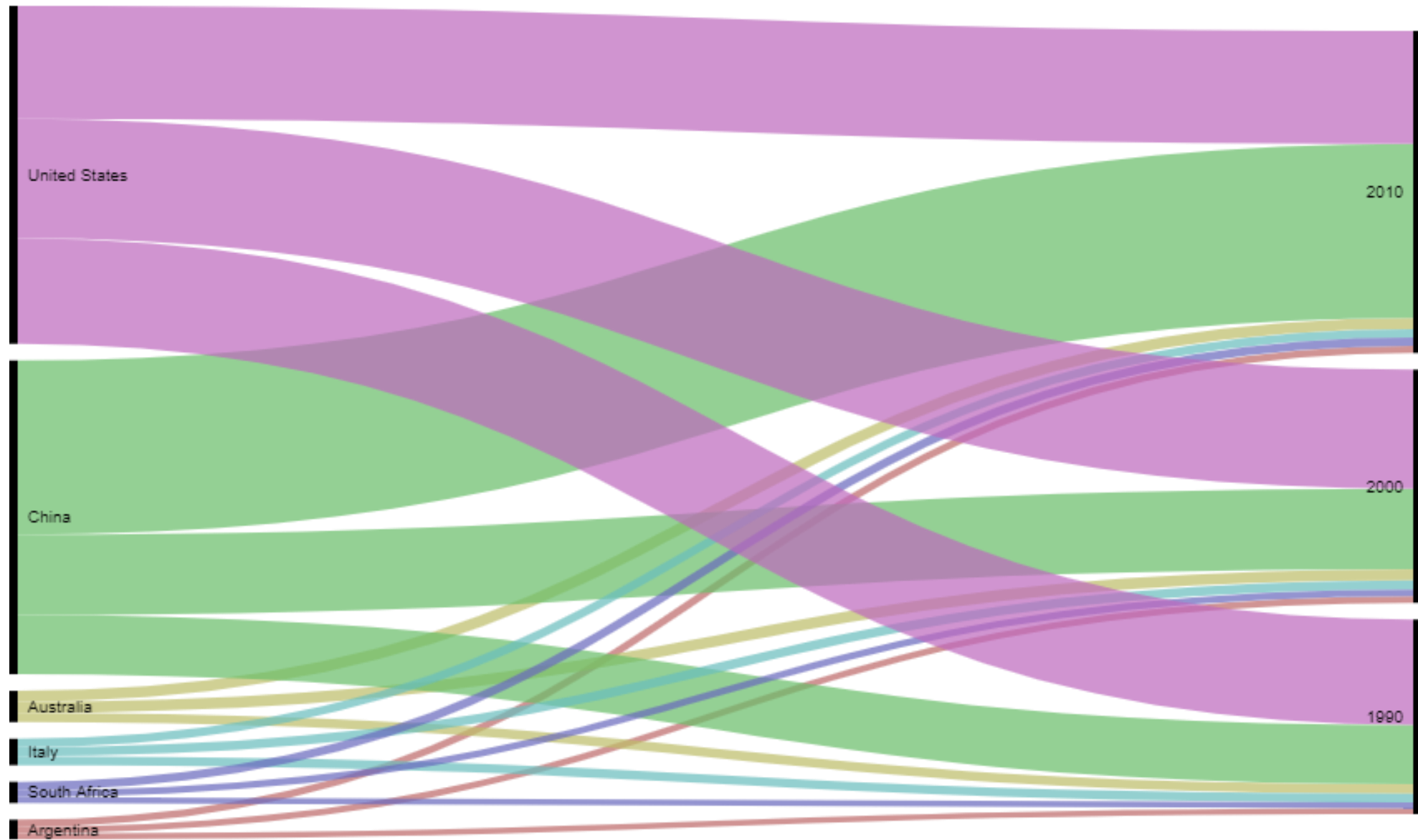
Scatter plot

Comparison of GHG emissions between USA and China in all the period of dataset



Alluvial diagram

Comparison of GHG emissions between USA and China in all the period of dataset



Alluvial diagram
Comparison of GHG emissions between six countries in 1990,2000 and 2010



Treemap
Comparison of GHG emissions between six countries in 1990 and 2012

References

- ▶ https://en.wikipedia.org/wiki/Greenhouse_gas
- ▶ <https://dailytimes.com.pk/377839/greenhouse-gas-emission-in-pakistan/>
- ▶ <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>
- ▶ https://www.profiz.ru/eco/3_2017/parnikovye_gazy/
- ▶ <https://universeru.com/2014/10/iskusstvennye-zvezdy-ili-zachem-svetit-lazerom-v-nochnoe-nebo/>
- ▶ <https://quibbll.com/mir/iz-ogromnogo-teleskopa-v-chili-svetyat-lazerami-v-nebo/33864/>