level (Figure 2), the IPCC notes the following facts **(5):** (1) To limit warming to 1.5°C with no or limited overshoot, global net anthropogenic CO2 emissions decline by about 45 percent from 2010 levels by 2030, reaching net zero around 2050. (2) To limit warming to below 2°C, CO2 emissions decline by about 25 percent by 2030 and reach net zero around 2070. (3) Non-CO2 emissions inpathways that limit global warming to 1.5°C show deep reductions that are similar to those in pathways limiting warming to 2°C. Achieving these emission cuts will require largescale transformation across key sectors. Several studies have quantified the sector-level changes implied by emissions scenarios that achieve given temperature outcomes as shown in the figure 2. Energy GHG emissions are obviously related to the economic growth of any country as the main driver of economy. During the period between 2006 and 2018, the Rwandan economy enjoyed a continuous growth justified by the increase in GDP and GDP per capita. This economic growth is the main reason of the increase in GHG emissions observed over the same period. It is also interesting to note a sharp increase in GHG emissions beyond the change in GDP. This trend could be [2]attributed to the use of indigenous fuels in electricity generation, which are less sensitive to the GDP. As indicated in the Figure 3. (6). In addition, GHG emissions are related to the population growth and the change in lifestyle. However, the adoption of energy efficiency measures and energy conservation policy could keep the later increase in the reasonable ranges.

1.2 Objective of the study

This study aimed at analysing the greenhouse gases emission in Rwanda and its future impacts on economic sectors to inform Decision makers for appropriate adaptation and mitigation planning.

1.2.1 Methodology

1.2.1.1 Data collection for baseline scenarios (2006-2015)

The greenhouse inventory was conducted in different energy sector and its associated sub sectors including energy, Transport, Buildings and industries. The data were collected using LEAP. The Long-range Energy Alternatives Planning (LEAP) planning tool to help governments jointly assess greenhouse gases, short-lived climate pollutants (SLCPs) and other air pollutant emissions; build mitigation climate, health and crops

1.2.1.2 . Key features of Long-range Energy Alternatives Planning (LEAP)

It is an integrated, scenario based modelling tool originally developed to track energy consumption, production and resource extraction in all sectors of an economy. It can account for both energy sector and non-energy sector greenhouse gas (GHG) emission sources and sinks.