Please provide a pdf document of only one A4 page with the naming convention “3946 – LAST NAME – FIRST NAME.PDF”. The page should contain:

A. the name of the applicant;

B. a first chart showing for the year 2019 and each EU country “Total Greenhouse gas emissions (excluding LULUCF and memory items, including international aviation)” (y-axis) vs. “Population” (x-axis); possible sources of information: https://ec.europa.eu/eurostat/databrowser/view/ENV\_AIR\_GGE/default/table?lang=en <https://ec.europa.eu/eurostat/databrowser/view/tps00001/default/table?lang=en>;

C. a second chart showing for the year 2019 and each EU country “Total Greenhouse gas emissions (excluding LULUCF and memory items, including international aviation)” (y-axis) vs. “Size of country in thousands of square kilometres” (x-axis); possible sources of information: https://ec.europa.eu/eurostat/databrowser/view/ENV\_AIR\_GGE/default/table?lang=en <https://europa.eu/european-union/about-eu/figures/living_en>;

D. a maximum of three brief bullet points with your main findings from those two charts. Note: Your submission for this exercise must be your own work. Any quotations from the published or unpublished work of others must be clearly identified as such and full references to the sources must be provided in proper form. All paraphrased material must be acknowledged. Failing to meet these requirements or passing off the work of others as your own, whether deliberately or not, is considered plagiarism and will lead to your exclusion from this selection procedure. You can save the application and resume it once you have finished the exercise and are ready to upload it.

\item As could be expected, the first chart shows a direct relationship between the tonnes of greenhouse gas emissions and the number of people living in a country: the higher is the population the more emissions that country will emit. What's more interesting about this graph is looking at the relative terms of this relationship: this feature is shown through the size of the points. When looking at these figures, we can see that some smaller countries are the worst placed: Luxembourg is the EU country that in 2019 has produced the higher number of tonnes of greenhouse emissions, compared to the size of its population. Specifically, it emitted around 20 tonnes of greenhouse gas emissions per millions of people, while the EU mean is 8.28 tonnes per millions of inhabitants: this figure is also quite higher compared to the second placed of this ranking, Ireland, which emits 12 tonnes per million people.

\item When looking at the second chart, the relationship is much less clear compared to the first graph, although an underlying direct relationship could be observed. Finland, Sweden and Malta are the EU countries that emit the less emissions compared to the size of their territories: the first two are well-known to have a large surface area, mostly uninhabited, therefore it is a natural consequence to perform better in this ranking: this translates in the graph to have the corresponding points a bit isolated. The worst placed EU country is, as for the first chart, Luxembourg but this time is strictly followed by its neighbors: the Netherlands, Belgium and some big countries such as Germany, the UK and Italy. These are all countries with an high population density and are known to be the host of many industries.

\item A comprehensive analysis of the charts and the underlying data shows that Scandinavian countries are the less polluting EU countries in terms of CO2, with Finland and Sweden performing well in both the charts showed.

Both positions offer the incredible opportunity to further expand my skills on data analytics and on the functioning of the ECB. As a statistician with strong programming abilities, I’ve always worked with large amount of data and I already had the chance to build interactive dashboards to present my advanced analytics projects, which involved many different types of datasets. Contributing to the development and modernization of ECB tools and to the production of statistics would be a perfect challenge for a profile like me.

1. Do you have experience in database technologies, data management and time series analysis tools, as well as modern statistical programming practices, using programming languages such as FAME, SQL, SAS, R, Python, .Net, Perl, Stata, Matlab, etc.? \*

 No

 Yes

2. Do you have experience in preparing charts, tables, dashboards and other visualisations of economic and financial data using tools such as Tableau, R/RShiny, FAME, SAS, QlikView, etc.? \*

 No

 Yes

3. Do you have analytical and quantitative skills, and the ability to define statistical concepts, procedures and methodologies and apply them to large-scale databases? \*

 No

 Yes

4. Do you have experience in defining the processes and developing tools for the preparation of press releases and official statistical publications? \*

 No

 Yes

5. Do you have experience in coordinating the publication of press releases and statistical publications in collaboration with data producers? \*

 No

 Yes

6. Are you familiar with publication technology based on FAME? \*

 No

 Yes