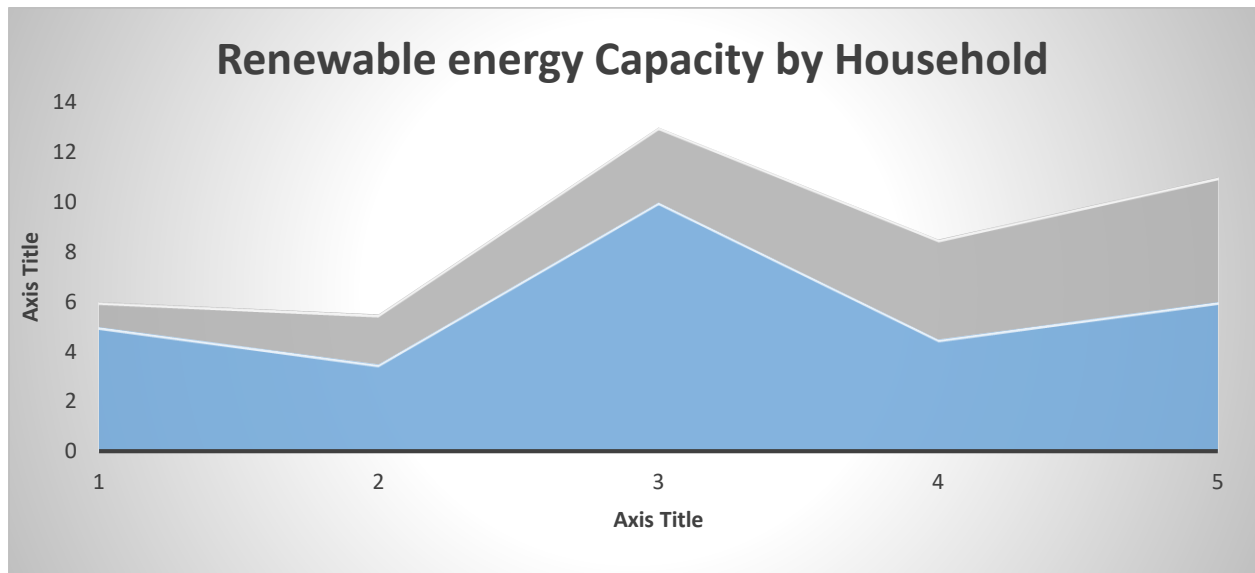


## DOCUMENTATION OF EXCEL WORKBOOK



This chart visualizes the **Renewable Energy Capacity** (in kW or MW) installed by different households, represented by their **Household ID**. It helps to assess how much renewable energy capacity is being installed at the individual household level.

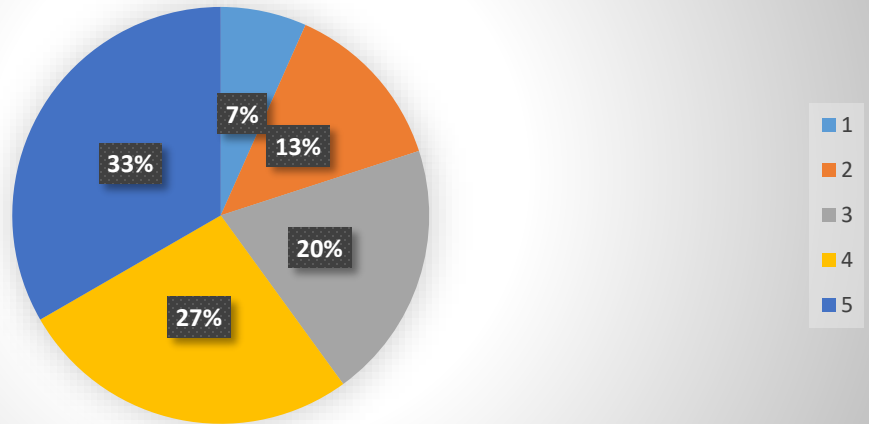
- **X-Axis (Horizontal):** Represents the **Household ID** (a unique identifier for each household that installed renewable energy).
- **Y-Axis (Vertical):** Displays the **Installed Capacity** (in kW or MW) for renewable energy by each household.

### Insights:

This chart allows us to see:

- The variation in renewable energy capacity across different households.
- Whether certain households are installing significantly more capacity than others (e.g., larger solar panel systems).
- Identify outliers or patterns, such as clusters of households with similar capacity installations.

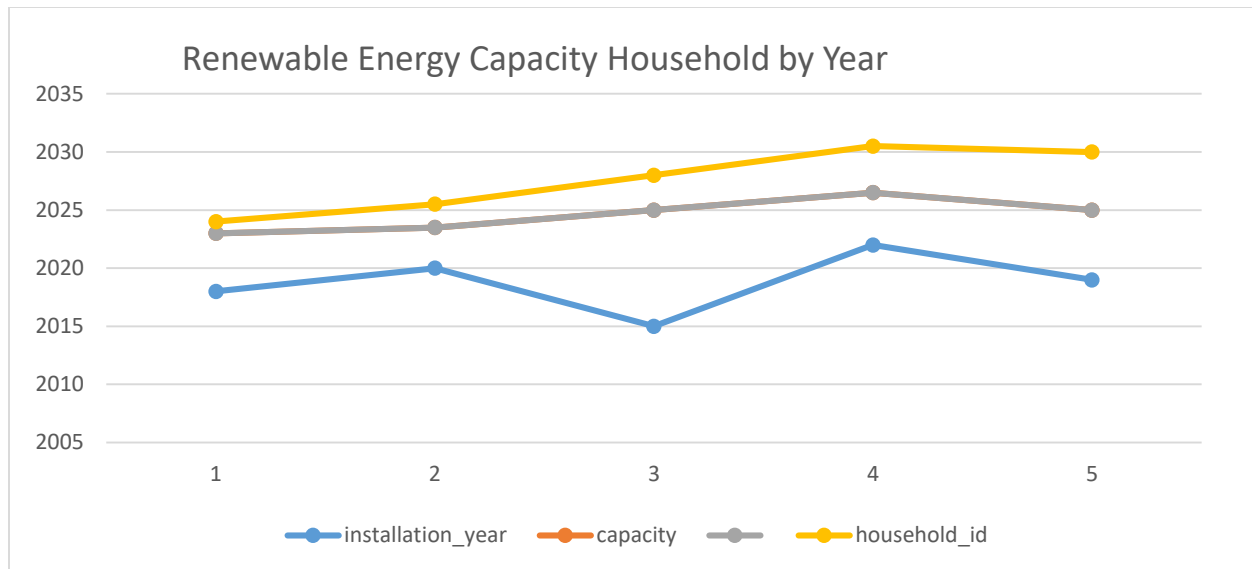
## Renewable Energy Source Adoption by Year



### BRIEF EXPLANATION

This pivot table summarizes the adoption of different renewable energy sources by households over time, displaying the number of households that adopted each energy source per year. By tracking the adoption trend across different years, we can analyze patterns in renewable energy uptake and identify which sources (e.g., solar, wind, etc.) gained more popularity in specific periods.

- **Rows:** The pivot table uses the **Adoption Year** as the row labels, organizing the data chronologically by year.
- **Columns:** The **Source ID** is used in the column section, representing each type of renewable energy source (with Source IDs corresponding to different energy types).
- **Values:** The count or sum of **Household ID** (or another relevant field) shows how many households adopted each energy source in each year.



### A BRIEF EXPLANATION

This chart visualizes the **Renewable Energy Capacity** (in kW or MW) installed by different households, represented by their **Household ID**. It helps to assess how much renewable energy capacity is being installed at the individual household level.

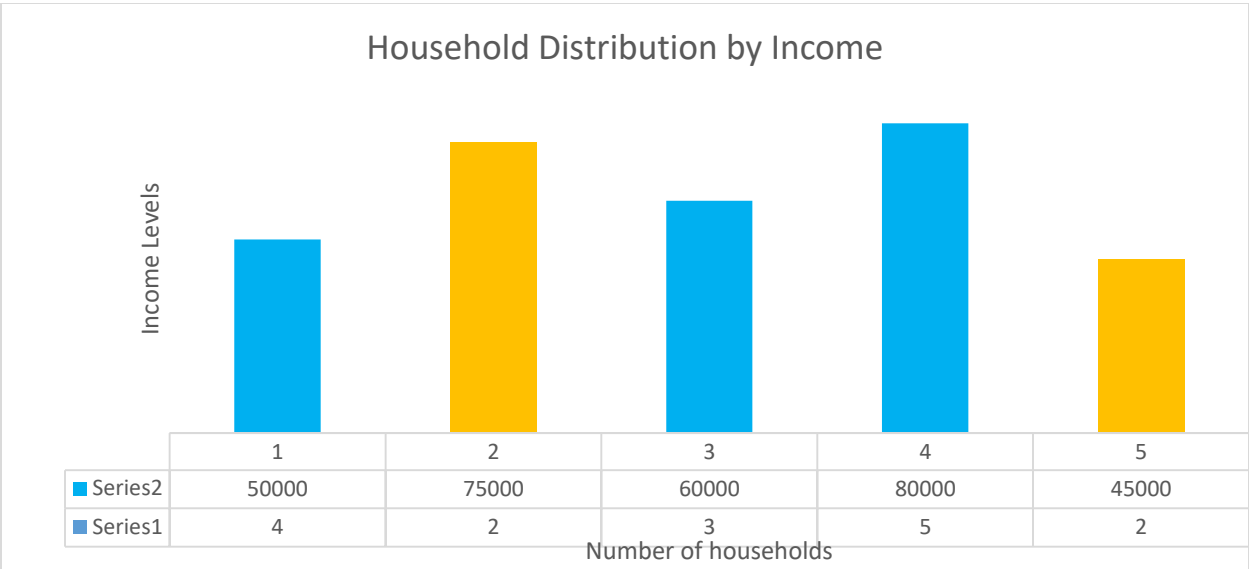
- **X-Axis (Horizontal):** Represents the **Household ID** (a unique identifier for each household that installed renewable energy).
- **Y-Axis (Vertical):** Displays the **Installed Capacity** (in kW or MW) for renewable energy by each household.

### Insights:

This chart allows us to see:

- The variation in renewable energy capacity across different households.
- Whether certain households are installing significantly more capacity than others (e.g., larger solar panel systems).
- Identify outliers or patterns, such as clusters of households with similar capacity installations.

This chart is useful for analyzing household-level renewable energy adoption and how energy production capacity varies based on household decisions.

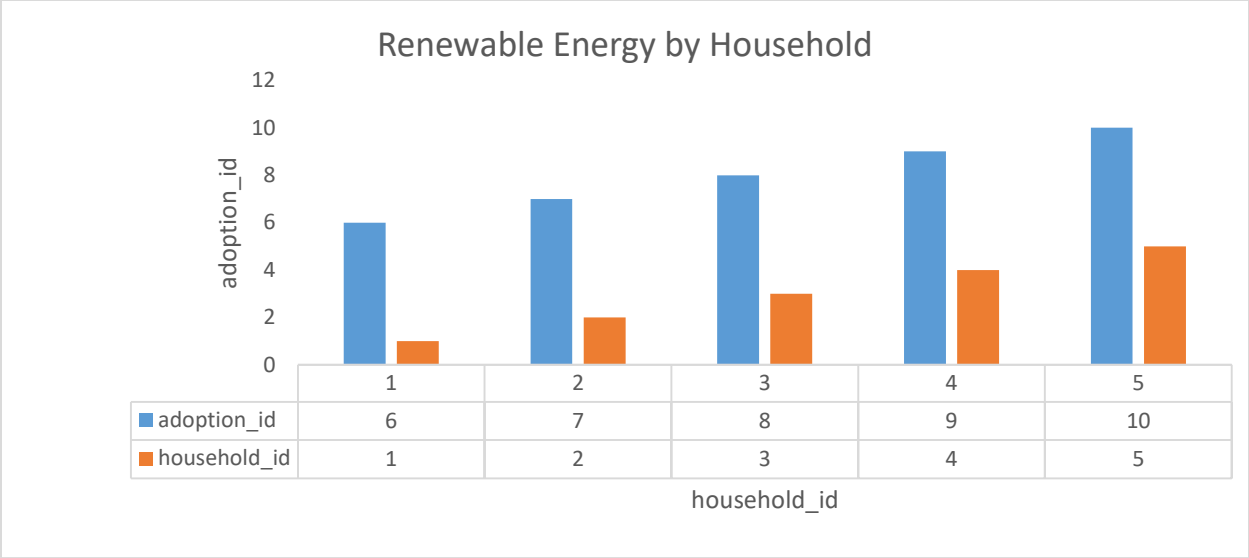


A BRIEF EXPLANATION

This bar chart displays the relationship between **Household Count** and **Income Level**, providing insights into how the number of households varies across different income brackets. It helps to identify which income levels have higher or lower representation in the dataset.

- **X-Axis (Horizontal):** Represents the different **Income Levels** (e.g., Low, Middle, High income).
- **Y-Axis (Vertical):** Displays the **Number of Households** within each income level category.

This chart helps analyze the economic demographics of households, which can be important when considering the affordability and accessibility of renewable energy solutions. It can reveal, for example, whether households in higher income levels are more likely to adopt renewable energy solutions or if certain income groups have limited access



### A BRIEF EXPLANATION

This chart visualizes the **Renewable Energy Capacity** (in kW or MW) installed by different households, represented by their **Household ID**. It helps to assess how much renewable energy capacity is being installed at the individual household level.

- **X-Axis (Horizontal):** Represents the **Household ID** (a unique identifier for each household that installed renewable energy).
- **Y-Axis (Vertical):** Displays the **Installed Capacity** (in kW or MW) for renewable energy by each household.

### Insights:

This chart allows us to see:

- The variation in renewable energy capacity across different households.
- Whether certain households are installing significantly more capacity than others (e.g., larger solar panel systems).
- Identify outliers or patterns, such as clusters of households with similar capacity installations.

This chart is useful for analyzing household-level renewable energy adoption and how energy production capacity varies based on household decisions

## MY INTERGRATION PROCESS

### 1. DOWNLOAD AND INSTALL THE ODBC DRIVER

1. **Download the ODBC Driver:**
  - Depending on your version of SQL Server, download the appropriate ODBC driver.
2. **Install the ODBC Driver:**
  - Run the downloaded installer and follow the installation prompts to complete the installation.

### 2 CREATE A SYSTEM DSN (DATA SOURCE NAME)

1. **Open ODBC Data Source Administrator:**
  - Press Windows + R, type `odbcad32.exe`, and hit **Enter**. This will open the ODBC Data Source Administrator.
2. **Add a New Data Source:**
  - Click on the **System DSN** tab.
  - Click on the **Add** button to create a new data source.
3. **Choose Driver:**
  - Select the **SQL Server** driver (or the driver for your database) from the list and click **Finish**.
4. **Configure the DSN:**
  - **Name:** Enter a name for your DSN (e.g., RenewableEnergyDB).
  - **Description:** Provide a description (optional).
  - **Server:** Enter the name of your SQL Server instance (e.g., localhost or .\SQLEXPRESS).
  - Click **next** and enter the authentication details (Windows Authentication or SQL Server Authentication).
  - Configure any additional settings as necessary (database, language, etc.).
  - Click **Finish** to save the DSN.

### 3 IMPORT DATA INTO EXCEL

1. **Open Excel:**
  - Launch Microsoft Excel on your computer.
2. **Navigate to the Data Tab:**
  - Click on the **Data** tab in the Ribbon.
3. **Get External Data:**
  - Click on **Get Data** (or **Get External Data**).
  - Select **From Other Sources** and then choose **From ODBC**.
4. **Select Your DSN:**
  - In the dialog that appears, choose the DSN you created earlier (e.g., RenewableEnergyDB) from the dropdown list.
  - Click **OK**.
5. **Enter Credentials:**
  - If prompted, enter your SQL Server credentials (username and password) and click **Connect**.

**6. Select Data to Import:**

- A navigator pane will open. Choose the tables you want to import (e.g., Households, RenewableEnergySources, and Adoption Records).
- Click **Load** to import the selected data into Excel.

#### **4 ENSURE DATA CONSISTENCY**

**1. Data Validation:**

- After importing, review the data in Excel to ensure that all records are correctly imported without any errors.
- Check for inconsistencies, such as missing values, incorrect data types, or formatting issues.

**2. Data Formatting:**

- Format the imported data (e.g., date formats, currency formatting) to maintain consistency and readability.

**3. Pivot Tables and Charts:**

- Use Excel's PivotTable feature to analyze the data.
- Create PivotTables to summarize key insights, ensuring that any calculations are consistent with the source data.

**4. Save Your Work:**

- Save the Excel workbook with the imported data and any analysis you have done to ensure you don't lose any progress.

#### **PITCHDECK LINK:**

**<https://gamma.app/docs/Renewable-Energy-Project-A-Sustainable-Future-emj11l7ttiid5qo?mode=doc>**