

# Notes on use of LINDA model

## Cell styles in the Excel workbook containing LINDA model

The workbook uses cell styles consistently to indicate the nature of the workbook content. The most important styles from the user point of view are the following:

- *Data*: These cells contain the data from external sources and the user can input data and change the data values in these cells. Most of the external data resides in the sheets with blue tab color, starting from sheet “PowerplantData”.
  - Derivatives of this content type are styles *DataCrossCheck*, *DataEstimated*, *DataFromSimilarSource*, *DataGuessed* and *DataPlaceHolder*. Cells with these styles are all treated as data cells by the VBA code that is used with the LINDA model and the function of these styles is only to semantically mark some data as special.
- *Calc*: These cells contain model computations and should not be changed by the user unless changes to the model structure are intended.
- *Copy*: These cells contain only references to some other part of the workbook, with the aim of making some computation easier to understand.
- *Input*: These cells contain values that are intended to be changed by the user to use the LINDA model as a part of scenario construction.

## Sheets

- The **Input** sheet is used to input the main drivers of the LINDA model: Sectoral economic growth, electricity intensity and fuel use intensity changes. Also the *scenario start year* can be changed on this sheet. Input sheet also contains the command button that collects all figures in the workbook to the **Figures** sheet. User is asked to select a column where the figures are printed. The idea is that the user can create all figures that are needed and easily collect them to the **Figures** sheet.
- The **EstimatedData** sheet is important for the use of the model. This sheet is used to collect all data from the data input sheets (with blue tab color) and used in imputation of missing data points. The sheet contains two command buttons: *Estimate missing values for this sheet*-button fetches data from the actual external data sheets and imputes values for the missing data points. *Flush data*-button empties all cells in the **EstimatedData** sheet. After the data estimation is done, the user can correct the estimated datapoints (which have the cell style *DataEstimated*) as needed.
  - The **ModelData** sheet copies its contents from the **EstimatedData** sheet and the other sheets containing the computations of the model copy their data from the **ModelData** sheet.

- All this is necessary to make it possible to easily change the scenario start year

### Other notes

- The **Transportation** sheet contains a dropdown list in cell **A2**. Here a choice can be made between *LINDA intensity approach* and *TRANS-LINDA approach*. The TRANS-LINDA approach requires specialized transport data that is not available for many countries. This data is input in sheet **TransLindaData**. If the data is not available, the normal LINDA intensity approach should be used.