

# FINPLAN

## Hands-on 6: Setting up a case study for a single combined cycle power plant

Useful references:

- 1) [Download the FINPLAN software](#)
- 2) [Introduction to FINPLAN](#)
- 3) [Glossary of Financial Terms](#)
- 4) [Completed Hands-on 6 case study \(\*\*before\*\* financially balancing the case study\)](#)
- 5) [Completed Hands-on 6 case study \(\*\*after\*\* financially balancing the case study\)](#)
- 6) [Video Tutorials](#)
- 7) [FINPLAN Google Group](#)

## Learning outcomes

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This exercise will help you obtain some hands-on experience on how to use the FINPLAN interface by creating a complete case study to analyze the financial viability and structure of power projects.

In this exercise, you will learn how to set up and assess a single combined cycle power plant.

By the end of this exercise, you will be able to:

1. Set up a new case study in FINPLAN and interpret the results
2. **Adjust a case study to be financially balanced**
3. Export FINPLAN results
4. Check Intermediate results
5. Create the Cash Flow Statement
6. Check the Operating Account
7. Check the Balance Sheet
8. Calculate Financial Ratios
9. Estimate the Shareholder's Return



# Activity 1

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## Set up a new case study in FINPLAN

Background information, economic and financial data on the power plant are below.

### Background information

A utility would like to assess the financial viability of a single combined cycle power plant from 2015 – 2040, financed with a mix of equity and debt instruments in both local currency and US Dollars. After a construction time of 3 years, the 300 MW plant will generate 2,000 GWh from imported gas from 2020 onwards until the end of its lifetime in 30 years. The plant will cost 300 million USD, with expenditures distributed 25%, 50% and 25% over the construction time. A debt-to-equity rate of around 70:30 is envisaged. It is depreciated linearly over 20 years. Electricity can currently (2015) be sold at 0.24 local currency units (LC) per kWh, increasing with inflation. O&M costs are expected to amount to 29.44 million LC. Gas import costs amount to 109 million USD.

### Economic information

- Inflation USD: 1%
- Inflation Local Currency: 5%
- Exchange rate: 3 units of local currency per USD for 2014, 3.2 for 2015; exchange rate reflects inflation rates
- Income tax: 20%, losses to be carried forward, no losses in start year.

### Financial information

- Initial Balance Sheet: 80 million as short-term deposits; 80 million equity
- Sources of financing - USD: 60% export credit over 12 years with uniform principal and interest repayment at an interest rate of 5.5%.
- Equity: 80 initially, 100 million LC in 2017 and 130 million in 2019. No limit to dividends being paid out.
- New Commercial Loans: 60 mil. USD in 2018, 10 mill. in 2019, over 8 years, interest: 3% over inflation
- Bonds: 10 million USD in 2018 over 5 years. Expected rate: 5%
- Short term deposits: interest rate -1% over inflation
- Stand-by facility: interest rate 4% over inflation.



- Shareholder's targeted return data: 10% approx. average return, disposal year 2040 (in which the assets are assumed to be sold), discount rate: 6%
- Terms of project finance loan: 6% discount rate (to calculate the net present value of the cash available in the future), 12 years average loan term, 1.4 security ratio for loan period, 30 years expected life, 1.6 security ratio for project life, 2020 first year of debt service

There is a lot of data to go through, but **don't worry** – this hands-on will guide you to input all the data from above.

First, we need to create a new case study on FINPLAN. From the **background information** section, we know a few things about the project to create a new case study.

**Try it:**

1. Create a new case study and name it "CCGT Demonstration".

A screenshot of the 'Create new case study' form in the FINPLAN software. The form has a title 'Create new case study' at the top. Below it, there is a text input field containing 'CCGT Demonstration'. Underneath that, there is a description field with the text 'Hands-on 6 case study on a single combined cycle power plant.' and a small edit icon (two diagonal lines) to its right. At the bottom of the form is a green button labeled 'Create case study'.

2. Fill in the "New Case Study" page with information from the background information paragraph. Reading through it, we know the following:
  - a. Starting year: 2015
  - b. Ending year: 2040
  - c. Study type: Single plant
  - d. Local currency: Local currency
  - e. Foreign currency: US Dollar
3. Don't forget to "Save".

General information

Name of the case study

CCGT Demonstration

Start year

2015

End year

2040

Study type

Single Plant

Case description

Hands-on 6 case study on a single combined cycle power plant.

Local Currency

Local Currency

Foreign Currencies (Drag & Drop)

Looking for

Local Currency

Afghanistan Afghani

Albanian Lek

Algerian Dinar

Angolan Kwanza

Angolan New Kwanza

Argentine Peso

Armenian Dram

Aruban Florin

Australian Dollar

US Dollar

Now, we need to add information for the remaining Case Data (General Data, Taxation Data, etc.). Remember to save your data after each step!

Case data

General data

Taxation data

Initial balance sheet

Sales and purchase data

Plant data

Financial manager

### Try it:

1. In the "Inflation Information" tab, enter the inflation values for both US Dollar and Local Currency. Follow the information from the **economic information** section.

General information **Inflation information** Currency exchange rates

**Inflation information**

US Dollar (%)  
☒ Steady Rate 1  
☐ Yearly Input

Local Currency (%)  
☒ Steady Rate 5  
☐ Yearly Input

A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | US Dollar (%) | Local Currency (%) |
|------|---------------|--------------------|
| 2015 |               |                    |
| 2016 |               |                    |
| 2017 |               |                    |

- In the next page, "Currency exchange rates", input the data for Local Currency (US Dollar) for the years 2014 and 2015.
- Tick the "Exchange Rate Reflects Inflation Rates box", as this is also instructed in the **economic information** section at the top of the document.

General information Inflation information **Currency exchange rates**

**Currency exchange rates**

Local Currency (US Dollar) (%)  
☐ Steady Rate  
☒ Exchange Rate Reflects Inflation Rates  
☐ Yearly Exchange Rate

A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | Local Currency (US Dollar) |
|------|----------------------------|
| 2014 | 3.000                      |
| 2015 | 3.200                      |
| 2016 |                            |
| 2017 |                            |

- Click on "Taxation data" from the menu pane, add in the values for "Tax and depreciation information" following the **economic information** section.
- We will leave the "Declining Balance Depreciation Rate for Assets of 2014" and "Value Added Tax" sections **blank** as we were not provided with this information in the description of this case study at the beginning of Activity 1.

Manage case studies

En Es Fr

Case data

- General data
- Taxation data**
- Initial balance sheet
- Sales and purchase data

Plant data

Financial manager

Calculate

Intermediate results

**Tax and depreciation information** Royalty payment

**Tax and depreciation information**

Declining Balance Depreciation Rate for Assets of 2014 (%)

**Value Added Tax**

☐ VAT on Investment VAT Rate for Investment (%) % of Investment

**Income Tax**

☒ Tax Loss should be carried forward Loss in Start Year (Million) 0 Tax rate ☐ Yearly Input ☒ Steady Rate (%) 20

A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | Tax rate (%) |
|------|--------------|
| 2015 |              |
| 2016 |              |

6. Now click on “Initial Balance Sheet” from the menu pane. “Assets & Liabilities” should come up. Input the data for Short Term Deposits and Equity from the **financial information** section. This section tells us that short-term deposits and equity are both at 80 million.

7. We will leave the rest empty as we were not provided with more information.

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Manage case studies

En Es Fr

Case data

- General data
- Taxation data
- Initial balance sheet**
- Sales and purchase data

Plant data

Financial manager

Calculate

Intermediate results

**Assets and liabilities** Old commercial loans Old bonds data Committed investment data

**Assets and liabilities**

| Assets                                  |    | Equity and Liabilities |    |
|-----------------------------------------|----|------------------------|----|
| Gross Fixed Assets                      |    | Equity                 | 80 |
| Less: Accumulated Depreciation          |    | Retained Earning       |    |
| Less: Accumulated Consumer Contribution |    | Net Bonds Outstanding  |    |
| Net Fixed Assets                        |    | Net Loans Outstanding  |    |
| Work in Progress                        |    | Consumer Deposits      |    |
| Receivables (including VAT)             |    | Current Maturity       |    |
| Short Term Deposits                     | 80 |                        |    |

8. Now go to “Sales and purchase data” on the left menu pane. This will take you to “Sales Data”. Click on the + symbol to add data.



Manage case studies

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Case data

- General data
- Taxation data
- Initial balance sheet
- Sales and purchase data**

**Sales data**

Purchase data Consumers contribution and deposits Fixed revenues and other income

| Product name and units | Client | Currency | Quantity | Price for first year |
|------------------------|--------|----------|----------|----------------------|
|------------------------|--------|----------|----------|----------------------|

9. From the **background information** section, we know that:
- The power plant will be selling **electricity** for a client.
  - Electricity can currently (2015) be sold at **0.24 Local Currency** units per kWh.
  - Prices will **increase** with inflation.
  - The plant will generate **2,000 GWh** from **2020** onwards.
10. Fill the above information in their respective boxes. We will name the client “**Utility**” for this case study.
11. To represent a price increase with inflation, we will input **0** into the “Standard Change in Addition to Inflation” box. This will ensure the value is increasing with inflation.

Details

Product name and units: Electricity (GWh) Client: Utility Currency: Local Currency

Quantity: ☒ Yearly data ☐ Fixed

Price for first year (Per kWh): 0.24

Price: ☐ Yearly current price ☐ Yearly price change in addition to inflation (%) ☒ Standard change in addition to inflation (%)

0

A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | Quantity  | Standard change in addition to inflation (%) |
|------|-----------|----------------------------------------------|
| 2015 |           |                                              |
| 2016 |           |                                              |
| 2017 |           |                                              |
| 2018 |           |                                              |
| 2019 |           |                                              |
| 2020 | 2,000,000 |                                              |
| 2021 |           |                                              |

**Well done!** You have now added in all the Case Data.



We now must add in Plant Data.

### Try it:

1. Click on “Plant Data” from the menu pane. Now click on the + symbol to add in data.

manage case studies

En Es Fr

Case data

- General data
- Taxation data
- Initial balance sheet
- Sales and purchase data
- Plant data**

Plant data

+ Name Plant type Status Ownership Unit size First operational year Construction period Plant life in years Product type

2. Name your plant. For this case study, let's go with “CCGT”.
3. From the **background information** section, we know the following information:
  - a. Plant type: Imported gas
  - b. Status: Future
  - c. Ownership: Utility
  - d. Unit size: 300 MW
  - e. First operational year: 2020
  - f. Construction time: 3 years
  - g. Lifetime: 30 years
  - h. Product: Electricity
4. Add the above information accordingly.

Plant details

Name  
CCGT

Plant type  
Gas (imported)

Status  
Future

Ownership  
Utility

Unit size (MW)  
300

First operation year  
2020

Construction period  
3



Plant life in years  
30

Product  
☒ Electricity  
☐ Heat  
☐ Water  
☐ CO2



- Now click on the pencil icon to add more information on the plant (plant data, plant production, O&M costs etc.).

**Plant data**

|                                                                                   | Name | Plant type     | Status | Ownership | Unit size | First operational year | Construction period | Plant life in years | Product type |                                                                                     |
|-----------------------------------------------------------------------------------|------|----------------|--------|-----------|-----------|------------------------|---------------------|---------------------|--------------|-------------------------------------------------------------------------------------|
|  | CCGT | Gas (imported) | Future | Utility   | 300       | 2020                   | 3                   | 30                  | E            |  |

- Enter the amount of electricity the power plant will generate in “Plant production”. You can find this in **background information**.

**Plant production**

A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | Electricity (GWh) |
|------|-------------------|
| 2020 | 2,000,000         |
| 2021 |                   |
| 2022 |                   |

- Go to “O&M costs”. Fill in the associated O&M cost following the **background information**.

**Operation & Maintenance costs**

A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | US Dollar (Million) | Local Currency (Million) |
|------|---------------------|--------------------------|
| 2020 |                     | 29,440                   |
| 2021 |                     |                          |
| 2022 |                     |                          |

- Go to “Fuel cost”. Now fill in the associated fuel cost following the **background information**.

|            |                  |             |                  |                       |             |                      |              |                 |
|------------|------------------|-------------|------------------|-----------------------|-------------|----------------------|--------------|-----------------|
| Plant data | Plant production | O & M costs | <b>Fuel cost</b> | General expenses data | Investments | Sources of financing | Depreciation | Decommissioning |
|------------|------------------|-------------|------------------|-----------------------|-------------|----------------------|--------------|-----------------|

**Fuel cost information**
Bar chart icon
Left arrow
Right arrow
Download icon
Save icon
Help icon

A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | US Dollar | Local Currency |
|------|-----------|----------------|
| 2020 | 109.000   |                |
| 2021 |           |                |
| 2022 |           |                |

9. We will skip “General expenses data” as we have no information on this.
10. Now we need add in information on investments. Click on “Investments”.
11. Complete this section. You will find the input values in the **background information** section.

|            |                  |             |           |                       |                    |                      |              |                 |
|------------|------------------|-------------|-----------|-----------------------|--------------------|----------------------|--------------|-----------------|
| Plant data | Plant production | O & M costs | Fuel cost | General expenses data | <b>Investments</b> | Sources of financing | Depreciation | Decommissioning |
|------------|------------------|-------------|-----------|-----------------------|--------------------|----------------------|--------------|-----------------|

**Investment cost in constant prices**
Bar chart icon
Left arrow
Right arrow
Download icon
Save icon
Help icon

**US Dollar (Million)**

**Local Currency (Million)**

Inflation will be applied to investment costs

| Year   | US Dollar (% distribution) | Local Currency (% distribution) |
|--------|----------------------------|---------------------------------|
| 1:2016 | 25.000                     |                                 |
| 2:2017 | 50.000                     |                                 |
| 3:2018 | 25.000                     |                                 |

12. Now go to “Sources of financing”. Click on “US Dollar” in the drop-down box.
13. Fill in this page following the **financial information**.

Plant data   Plant production   O & M costs   Fuel cost   General expenses data   Investments   **Sources of financing**   Depreciation   Decommissioning

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**Sources of financing** Bar chart icon Left arrow Right arrow Download icon Save icon Help icon

US Dollar

☒ Export Credit 1  
**Terms of financing**

☐ Export Credit 2

☐ Project Loans

| Year   | Constant Prices (Million) | Export Credit 1 | Export Credit 2 | Project Loans |
|--------|---------------------------|-----------------|-----------------|---------------|
| 1:2016 | 75.000                    | 60.000          |                 |               |
| 2:2017 | 150.000                   | 60.000          |                 |               |
| 3:2018 | 75.000                    | 60.000          |                 |               |

**14.** Now we move on to “Terms of financing”. Click on this box, underneath “Export Credit 1”.

US Dollar

☒ Export Credit 1  
**Terms of financing**

☐ Export Credit 2

☐ Project Loans

**15.** Fill in the values by following the **financial information** at the top of this document.

**Terms of financing** Left arrow Save icon Help icon

|                                                      |                                                                                     |                         |                                                                          |
|------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------|--------------------------------------------------------------------------|
| Total amount in constant prices (Million)            | 180                                                                                 | IDC financing option    | <input type="radio"/> Yes<br><input checked="" type="radio"/> No         |
| Term (years)                                         | 12                                                                                  | Loan for IDC (% of IDC) |                                                                          |
| Repayment option                                     | <input type="radio"/> Uniform (P)<br><input checked="" type="radio"/> Uniform (P+I) | Term (years)            |                                                                          |
| Interest Option                                      | <input checked="" type="radio"/> Constant<br><input type="radio"/> Floating         | Interest rate (%)       |                                                                          |
| Interest rate (%)                                    | 5.5                                                                                 | Repayment option        | <input type="radio"/> Uniform (P)<br><input type="radio"/> Uniform (P+I) |
| Spread above the inflation (%)                       |                                                                                     |                         |                                                                          |
| Fees (exposure fee, commitment fee, etc.)            |                                                                                     |                         |                                                                          |
| <input type="checkbox"/> One time initial (Millions) |                                                                                     |                         |                                                                          |
| <input type="checkbox"/> Paid upfront (%)            |                                                                                     |                         |                                                                          |
| <input type="checkbox"/> Paid as drawdown (%)        |                                                                                     |                         |                                                                          |

**16.** Now we move to Depreciation Data & Decommissioning. Click on “Depreciation”.

**17.** Fill in the depreciation information from the **background information**.

Depreciation

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☒ Linear  

20

Number of years

☐ Sum of the years digits  

Number of years

☐ Declining balance  

Depreciation rate (%)

☐ Declining switching to linear  

Number of years

Depreciation rate (%)

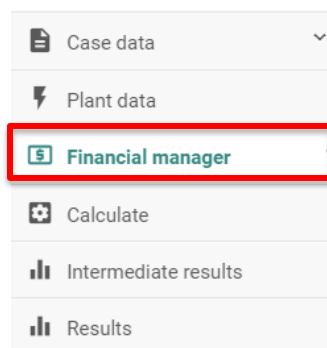
18. We will leave “Decommissioning” empty as we do not have information on this.

**Well done!** You have now inputted all Plant Data.

We will now have to move on to the Financial Data i.e., “Financial manager” tab.

### Try it:

1. Click on the “Financial manager” tab on the left menu pane. The first page will be on “Equity”.



2. From the **financial information** section, we know that there is no limit to dividends being paid out. Therefore, we will put in a large number i.e., 999 for “Maximum Dividend”. This large number will ensure that whatever profit is made will be released in the form of dividends.
3. From the **financial information** section, add in the values for equity.

## Equity



### Local Currency (Million)

Maximum dividend (%)

999

Initial equity

80

A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | Equity  | Equity returned |
|------|---------|-----------------|
| 2015 |         |                 |
| 2016 |         |                 |
| 2017 | 100.000 |                 |
| 2018 |         |                 |
| 2019 | 130.000 |                 |
| 2020 |         |                 |
| 2021 |         |                 |

- Now go to the next page, "New commercial loans".
- Follow the **financial information** and input the values for new commercial loans.

Equity

New commercial loans
New bonds
Other financial data

### New commercial loans

#### US Dollar (Million)

Interest spread above Inflation (%)

3

Term (Year's)

8

#### Local Currency (Million)

Interest spread above Inflation (%)

Term (Year's)







A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | US Dollar - Drawdown (Million) | Local Currency - Drawdown (Million) |
|------|--------------------------------|-------------------------------------|
| 2015 |                                |                                     |
| 2016 |                                |                                     |
| 2017 |                                |                                     |
| 2018 | 60.000                         |                                     |
| 2019 | 10.000                         |                                     |
| 2020 |                                |                                     |
| 2021 |                                |                                     |

- Now go to "New Bonds".
- Follow the **financial information** and input the values for bonds.

Equity   New commercial loans   **New bonds**   Other financial data

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**New bonds** |  |  |  |  |  | 

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**US Dollar (Million)**

Expected Rate (%)

Bonds Term (Year's)

**Local Currency (Million)**


Expected Rate (%)

Bonds Term (Year's)

A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | US Dollar - Issued (Million) | Local Currency - Issued (Million) |
|------|------------------------------|-----------------------------------|
| 2015 |                              |                                   |
| 2016 |                              |                                   |
| 2017 |                              |                                   |
| 2018 | 10.000                       |                                   |
| 2019 |                              |                                   |

8. Now go to the next page, "Other financial data".
9. Fill in the first box, "Other financial data", from the **financial information** section.
10. As we are not given information on "Short Loans", we will input this as 0.

**Other financial data** 


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Spread for short term deposits (%) above local inflation

Spread for stand-by facility (%) above local inflation

Short loans outstanding initial (Million Local Currency)

11. Fill in the second box, "Shareholders' return data".
12. Input the values as shown in the **financial information** section.

**Shareholders' return data** 

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Approximate average return

Disposal year

Discount rate

13. Now go to “Terms of project finance loan”.

14. Input the values as shown in the **financial information** section.

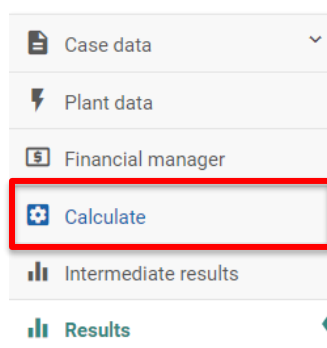
| Terms of project finance loan      |      |
|------------------------------------|------|
| Discount rate                      | 6    |
| Average loan term (years)          | 12   |
| Security ratio for loan period     | 1.4  |
| Expected life of project (years)   | 30   |
| Security ratio for project life    | 1.6  |
| First year of cash to debt service | 2020 |

**Well done!** You have now added in all the financial data on FINPLAN.













Now we need to run our model and read our results.

**Try it:**

1. Click on “Calculate”.



2. Once results are generated, click on “Cash inflows and outflows in local currency” from Results.

|                                                         |                                                                                                                                                                         |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1. Results</b>                                       |                                                                                                                                                                         |
| 1.1. Operating account in local currency                |   |
| 1.2. <b>Cash inflows and outflows in local currency</b> |   |
| 1.3. Balance sheet in local currency                    |   |
| 1.4. Shareholders' return in local currency             |   |
| 1.5. Financial ratios                                   |   |
| 1.6. Project finance analysis in local currency         |   |

3. Ensure that the power plant is under construction at the correct time. To double-check, make sure that there are values for "Investment" from 2017 to 2019. Also double-check that "Sales" only appear after the year 2019.

| Cash inflows and outflows in local currency               |        |        |         |         |         |         |         |  |
|-----------------------------------------------------------|--------|--------|---------|---------|---------|---------|---------|--|
| Million                                                   | 2015   | 2016   | 2017    | 2018    | 2019    | 2020    | 2021    |  |
| Cash available in short term deposits (at end of previ... | 80.000 | 80.000 | 80.000  | 68.301  | 76.196  | 53.322  | 51.084  |  |
| Inflows                                                   |        |        |         |         |         |         |         |  |
| Revenues                                                  | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 612.615 | 643.246 |  |
| Fixed revenues                                            | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 0.000   | 0.000   |  |
| Sales                                                     | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 612.615 | 643.246 |  |
| Others                                                    | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 0.000   | 0.000   |  |
| Interest earned                                           | 3.200  | 3.200  | 3.200   | 2.732   | 3.048   | 2.133   | 2.043   |  |
| New equity                                                | 0.000  | 0.000  | 100.000 | 0.000   | 130.000 | 0.000   | 0.000   |  |
| Bonds issue                                               | 0.000  | 0.000  | 0.000   | 35.996  | 0.000   | 0.000   | 0.000   |  |
| Loans drawdowns                                           | 0.000  | 0.000  | 155.750 | 539.935 | 205.895 | 0.000   | 0.000   |  |
| Stand-by facility                                         | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 0.000   | 0.000   |  |
| Total inflows                                             | 3.200  | 3.200  | 258.950 | 578.662 | 338.943 | 614.748 | 645.289 |  |
| Flow from short term deposits                             | 0.000  | 0.000  | 11.699  | 0.000   | 22.874  | 2.239   | 0.039   |  |
| Total cash available                                      | 3.200  | 3.200  | 270.650 | 578.662 | 361.817 | 616.987 | 645.328 |  |
| Outflows                                                  |        |        |         |         |         |         |         |  |
| Investment                                                | 0.000  | 0.000  | 267.450 | 561.858 | 295.088 | 0.000   | 0.000   |  |

4. Check the Cash Available in Short Term Deposits. As a short-term deposit has a low interest rate, it should be emptied as quickly as possible. However, our results show that this is not the case: cash is available throughout.



## Cash inflows and outflows in local currency

| Million                                                   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020    | 2021    |
|-----------------------------------------------------------|--------|--------|--------|--------|--------|---------|---------|
| Cash available in short term deposits (at end of previ... | 80.000 | 80.000 | 80.000 | 68.301 | 76.196 | 53.322  | 51.084  |
| Inflows                                                   |        |        |        |        |        |         |         |
| Revenues                                                  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 612.615 | 643.246 |
| Fixed revenues                                            | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000   | 0.000   |
| Sales                                                     | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 612.615 | 643.246 |

5. Check the Stand-by facility. It should be rarely used. This is the case.
6. Check flows from the Short Term Deposits. As mentioned, it should be emptied as soon as possible. However, we can see that there are substantial Flows from the Short Term Deposits during several years.

| Million                                                   | 2015   | 2016   | 2017    | 2018    | 2019    | 2020    | 2021    |
|-----------------------------------------------------------|--------|--------|---------|---------|---------|---------|---------|
| Cash available in short term deposits (at end of previ... | 80.000 | 80.000 | 80.000  | 68.301  | 76.196  | 53.322  | 51.084  |
| Inflows                                                   |        |        |         |         |         |         |         |
| Revenues                                                  | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 612.615 | 643.246 |
| Fixed revenues                                            | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 0.000   | 0.000   |
| Sales                                                     | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 612.615 | 643.246 |
| Others                                                    | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 0.000   | 0.000   |
| Interest earned                                           | 3.200  | 3.200  | 3.200   | 2.732   | 3.048   | 2.133   | 2.043   |
| New equity                                                | 0.000  | 0.000  | 100.000 | 0.000   | 130.000 | 0.000   | 0.000   |
| Bonds issue                                               | 0.000  | 0.000  | 0.000   | 35.996  | 0.000   | 0.000   | 0.000   |
| Loans drawdowns                                           | 0.000  | 0.000  | 155.750 | 539.935 | 205.895 | 0.000   | 0.000   |
| Stand-by facility                                         | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 0.000   | 0.000   |
| Total inflows                                             | 3.200  | 3.200  | 258.950 | 578.662 | 338.943 | 614.748 | 645.289 |
| Flow from short term deposits                             | 0.000  | 0.000  | 11.699  | 0.000   | 22.874  | 2.239   | 0.039   |
| Total cash available                                      | 3.200  | 3.200  | 270.650 | 578.662 | 361.817 | 616.987 | 645.328 |

7. From the results above, we can conclude that this case study is **not balanced**. We have too much cash available. We added new equity and new bonds in this case study, which could be an explanation as to why we have too much money.

## Activity 2

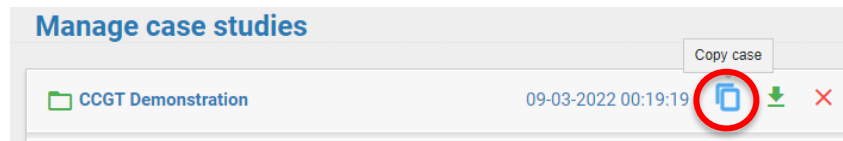
### Adjust a case study to be financially balanced

We need to adjust the input data for the CCGT case study so that it is financially balanced.



## Try it:

1. Create a **copy** of your “CCGT Demonstration” case study and name it “**CCGT Demonstration - Balanced**”. You can rename it in General data > General information. We will use this new file to make some changes.



2. **2017:** Looking at our results, cash is available in the Short-Term Deposit in 2017, yet further equity is injected, which is not required. The equity should therefore be reduced to **30 million LC** in 2017 and results should be recalculated.

Equity Bar chart icon Left arrow Right arrow Download icon Save icon Help icon

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**Local Currency (Million)**  
Maximum dividend (%)  
999

---

Initial equity  
80

---

A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | Equity  | Equity returned |
|------|---------|-----------------|
| 2015 |         |                 |
| 2016 |         |                 |
| 2017 | 30.000  |                 |
| 2018 |         |                 |
| 2019 | 130.000 |                 |
| 2020 |         |                 |

3. **2018:** The high Debt Equity Ratio of ~0.9 in 2018 (check this under Results > Financial ratios) may not be acceptable to a lender. Furthermore, the capital markets may only be accessible once the plant has been in operation. Therefore, the 10 million USD bond issued in 2018 should be **removed**. The commercial loan in 2018 should also be reduced to **30 million USD**. The missing amount of equity for 2018 should be replaced with **140 million LC**. This also improves the debt equity ratio during construction.

## New bonds



### US Dollar (Million)

Expected Rate (%)

5

Bonds Term (Year's)

5

### Local Currency (Million)

Expected Rate (%)

Bonds Term (Year's)

A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | US Dollar - Issued (Million) | Local Currency - Issued (Million) |
|------|------------------------------|-----------------------------------|
| 2015 |                              |                                   |
| 2016 |                              |                                   |
| 2017 |                              |                                   |
| 2018 | 0.000                        |                                   |
| 2019 |                              |                                   |
| 2020 |                              |                                   |

## New commercial loans



### US Dollar (Million)

Interest spread above Inflation (%)

3

Term (Year's)

8

### Local Currency (Million)

Interest spread above Inflation (%)

Term (Year's)

A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | US Dollar - Drawdown (Million) | Local Currency - Drawdown (Million) |
|------|--------------------------------|-------------------------------------|
| 2015 |                                |                                     |
| 2016 |                                |                                     |
| 2017 |                                |                                     |
| 2018 | 30.000                         |                                     |
| 2019 | 10.000                         |                                     |
| 2020 |                                |                                     |

## Equity



### Local Currency (Million)

Maximum dividend (%)

999

Initial equity

80

A value entered for one year will also be applicable for subsequent years, until a new value is entered for a future year.

| Year | Equity  | Equity returned |
|------|---------|-----------------|
| 2015 |         |                 |
| 2016 |         |                 |
| 2017 | 30.000  |                 |
| 2018 | 140.000 |                 |
| 2019 | 130.000 |                 |
| 2020 |         |                 |

4. When looking at the results after recalculating, our short-term deposit is emptied as soon as possible, i.e., in the first year of construction. Also the stand-by facility is barely used compared to the overall investment costs and our financial ratios have improved. Our debt service coverage ratio is still quite low, which we accept for the time being. We assume that this is not our only project and that we have cash reserves available within our company. In reality, we would of course have to demonstrate to the financiers that this cash is available and reserved for this project. (Alternatively, we could increase the equity or debt further to have extra cash available, but this would just end up in the short-term deposit at a low interest rate. Further, we could of course increase the electricity price if this was a realistic option.)

| Cash inflows and outflows in local currency               |        |        |         |         |         |         |         |  |  |
|-----------------------------------------------------------|--------|--------|---------|---------|---------|---------|---------|--|--|
| Million                                                   | 2015   | 2016   | 2017    | 2018    | 2019    | 2020    | 2021    |  |  |
| Cash available in short term deposits (at end of previ... | 80.000 | 80.000 | 80.000  | 0.000   | 0.000   | 0.000   | 9.449   |  |  |
| Inflows                                                   |        |        |         |         |         |         |         |  |  |
| Revenues                                                  | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 612.615 | 643.246 |  |  |
| Fixed revenues                                            | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 0.000   | 0.000   |  |  |
| Sales                                                     | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 612.615 | 643.246 |  |  |
| Others                                                    | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 0.000   | 0.000   |  |  |
| Interest earned                                           | 3.200  | 3.200  | 3.200   | 0.000   | 0.000   | 0.000   | 0.378   |  |  |
| New equity                                                | 0.000  | 0.000  | 30.000  | 140.000 | 130.000 | 0.000   | 0.000   |  |  |
| Bonds issue                                               | 0.000  | 0.000  | 0.000   | 0.000   | 0.000   | 0.000   | 0.000   |  |  |
| Loans drawdowns                                           | 0.000  | 0.000  | 155.750 | 431.948 | 205.895 | 0.000   | 0.000   |  |  |
| Stand-by facility                                         | 0.000  | 0.000  | 1.699   | 0.000   | 5.580   | 0.000   | 0.000   |  |  |
| Total inflows                                             | 3.200  | 3.200  | 190.650 | 571.948 | 341.475 | 612.615 | 643.624 |  |  |
| Flow from short term deposits                             | 0.000  | 0.000  | 80.000  | 0.000   | 0.000   | 0.000   | 0.000   |  |  |
| Total cash available                                      | 3.200  | 3.200  | 270.650 | 571.948 | 341.475 | 612.615 | 643.624 |  |  |
| Outflows                                                  |        |        |         |         |         |         |         |  |  |
| Investment                                                | 0.000  | 0.000  | 267.450 | 561.858 | 295.088 | 0.000   | 0.000   |  |  |

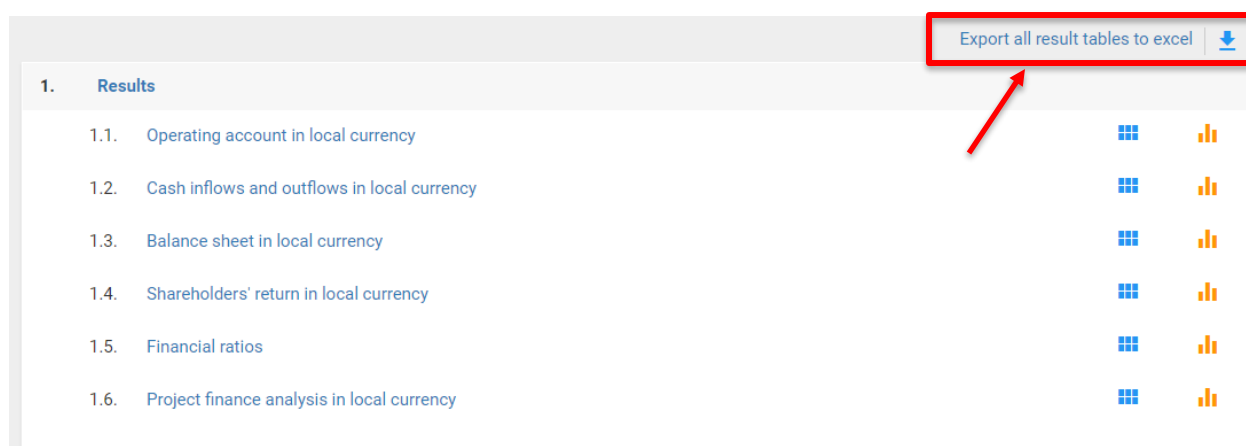
**Well done!** You now know how to adjust data to achieve a balanced financial model.

# Activity 3













## Export FINPLAN results

It will be easier to compare results if you export them to Excel. It is also suggested that you then print out the Operating Account, the Cash Inflows and Outflows and the Balance Sheet.

You can do this by clicking on “Results” and the “Export all ...” button in the top right corner.



The screenshot shows the 'Results' section of the FINPLAN interface. The 'Export all result tables to excel' button is highlighted with a red box and a red arrow. The results are listed as follows:

| Results                                          | Excel Icon                                                                            | Bar Chart Icon                                                                        |
|--------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1.1. Operating account in local currency         |    |    |
| 1.2. Cash inflows and outflows in local currency |    |    |
| 1.3. Balance sheet in local currency             |    |    |
| 1.4. Shareholders' return in local currency      |   |   |
| 1.5. Financial ratios                            |  |  |
| 1.6. Project finance analysis in local currency  |  |  |

Before going through the following questions, please take some time to compare the different statements (Operating account, Cash inflows and outflows, Balance sheet) and see how they are linked. Try to think of the purpose of each of them.

# Activity 4

## Intermediate results

Sometimes you will look at your Financial Statements and see unexpected results. Often, the intermediate results allow you to check if the data you entered is used by FINPLAN as you expect it.

### Example:

Let's say the sales are zero in the “Results – Cash inflows and outflows” throughout the project period, even though you entered an electricity price. In the intermediate results, you



can check under “Sales” what quantity of electricity is being multiplied with which electricity price, and you can maybe find out that the quantity was zero (e.g., because of forgetting to press the “save” button when entering data).

Please take some time to go through the Intermediate Results and familiarize yourself with what you find there. The following questions can be a starting point.

## Activity 5

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Now take your time to go through the following statements. If you are unsure about their definitions and terms used, check the section in the document ‘Introduction to FINPLAN’ explaining the results. For more detailed explanations, check the definitions on pages like [investopedia.com](https://investopedia.com).

- Cash Flow Statement
- Operating Account
- Balance Sheet
- Financial Ratios
- Shareholder’s Return

The questions in the online quiz will relate to these statements. It is thus suggested that you keep FINPLAN open on your computer while answering the quizzes.

Should you want to compare your results with the correct solution, simply restore the FINPLAN case using the link provided at the beginning of this document. Refer to the previous hands-on exercise to see how this is done.

**Note:** There is also a FINPLAN Google Group for further support. Please sign up to the group and ask or answer any FINPLAN-related questions [here](#).