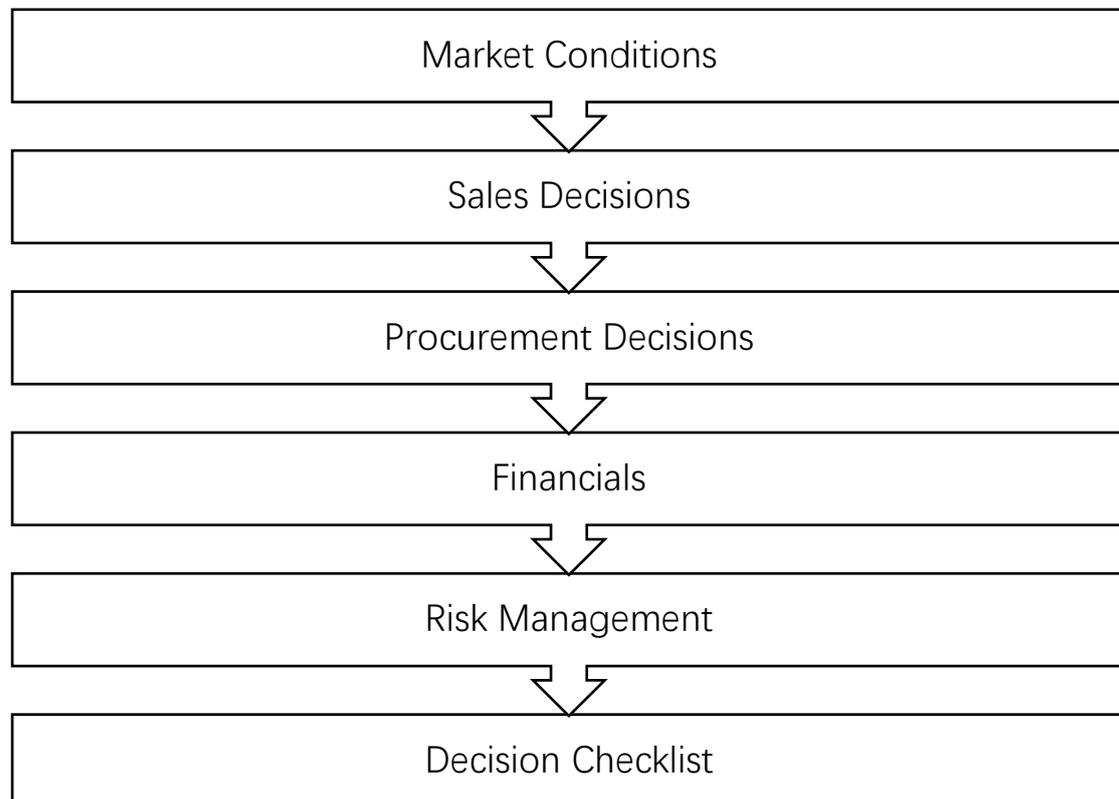


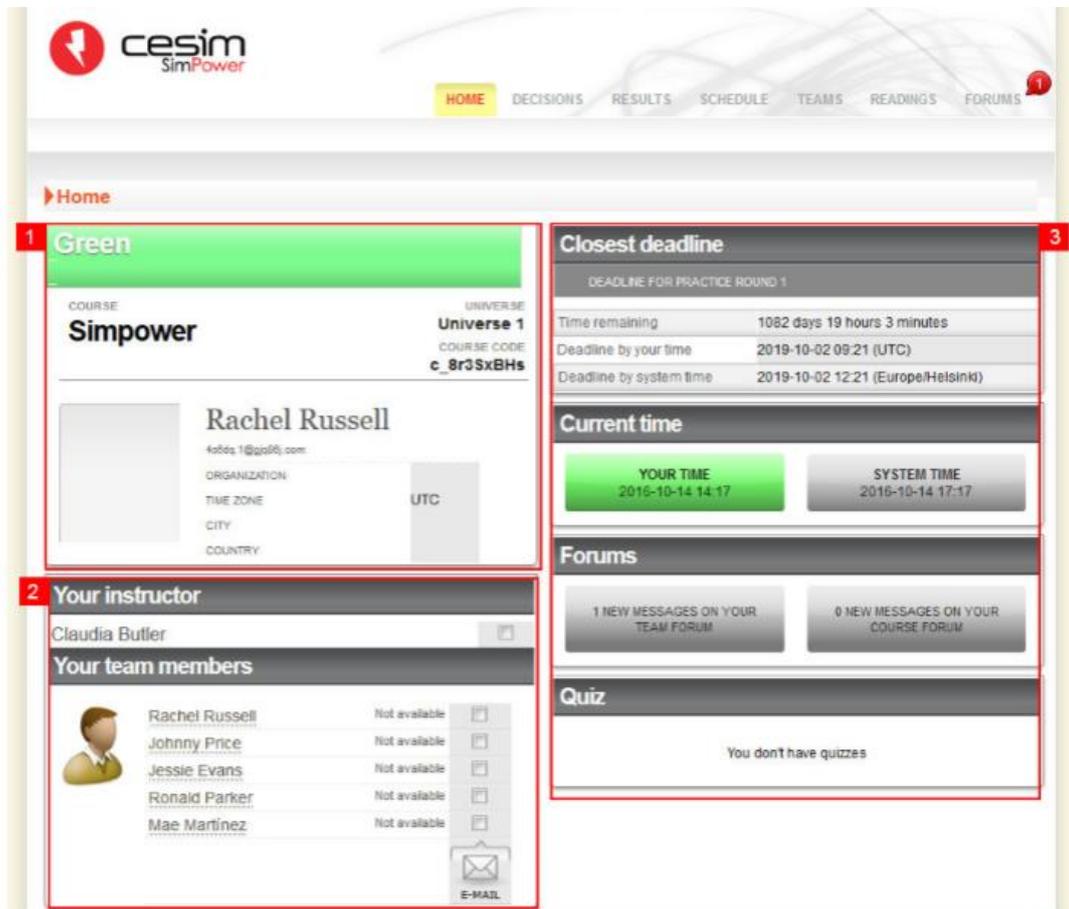


Decision-making guide

This platform provides corporations, universities, and other educational institutions easy-to-use and cost-effective business simulations in power industry. It includes sales decisions, procurement decisions, financials and risk management. Students are supposed to make decisions on marketing, procurement, finance and risk management according to the different market prospects given in each round as below. Every round students should finish the same process and submit decision data.



1 Home page



On home page, there are:

- (1) Player Information
- (2) Email function – Use this to easily reach your team members and instructor through emails. An easy to use checkbox allows you to choose which team members you want to reach.
- (3) This panel shows all the important on-going data of the course. On the top you see the main indicators of the last round. Below it, you will find information about round deadlines, forums messages and quizzes.

2 Decision Areas

The Decision Area is split into several theme based sub-categories (e.g. Demand, Production, etc.). Please refer to your decision making manual to determine where the decision making process should begin, and what the suggested order of the process is. Some areas should be filled out first, as the effect of those areas may influence some calculations and estimates elsewhere.

2.1 Market Conditions

The market conditions are given for each round and they give you an indication of the future market developments. Presented here, are the market outlooks and estimates of future costs, tax rates, etc. The market conditions will always be complemented with a "Parameters" page that will contain information as interests, fuel prices, purchases, variable costs, etc.

HOME DECISIONS RESULTS SCHEDULE TEAMS READINGS FORUMS

MARKET CONDITIONS SALES PROCUREMENT RISK MANAGEMENT FINANCIALS DECISION CHECKLIST

Outlook Parameters

You are on Rachel Russell's decision area. None of your team members have opted decisions as team decisions. Time remaining: 1082 days. Your team members.

Market outlook

Demand

Households' confidence to the overall economic situation is slightly getting stronger. This makes especially families with young children willing to consume more. Taxation and controlling policies for small and medium sized companies are being reformed in EU. Small industry is now pretty careful in new investments because they wait for the new regulations, which are informed next year. The offers for purchases are limited to 500 GWh for each product.

Costs

One of the U.N. Kyoto Protocol's means was to launch emissions trading to reduce greenhouse gases. At the beginning of this year trade takes place in European emissions market. Trade in carbon dioxide (CO₂) emissions allowances has picked up, with prices rising as companies try to meet targets to cut greenhouse gases. This has lead especially to the increasing costs of Coal plants. State offers 85% of needed CO₂ allowances for free. It is assumed that in three years the State will decrease up to the 50% the CO₂ free allowances. Spot prices seem to go up hand in hand with increasing costs.

Income statement Balance sheet Sales report Production report Derivatives report

change the interest rates. Companies can sell or acquire one plant of each type this year.

2.2 Sales Decisions

2.2.1 Large Scale Industry

In the large scale industry page you make marketing decisions concerning this segment. You can set the price either as an absolute price or as a margin over the market price. You can check the actual market price that was realized during that round from Market report-page under Results. You can only use one pricing method the absolute price or the margin price. If you want to change the pricing systems insert zero to both cells and then set the new price. You will also insert the marketing budgets and sales estimates.

Large-scale industry

Short (1 year)	This year	Last year
Pricing methods:		
Fixed price	46.39	€/MWh
Or		
Margin (Spot price+)	0.00	1.00 €/MWh
Sales (estimate)	541	573 GWh
Turnover	25 097	27 184 k €
Variable costs	25 063	26 611 k €
Gross profit	34	573 k €
Personal selling	350	350 k €
Advertising	100	100 k €
Product-level profit	-416	123 k €

Long (2 years)	This year	Last year
Pricing methods:		
Fixed price	46.86	€/MWh
Or		
Margin (Spot price+)	0.00	1.00 €/MWh
Sales per year (estimate)	541	574 GWh
Turnover	25 351	27 199 k €
Variable costs	25 307	26 625 k €
Gross profit	44	574 k €
Personal selling	450	450 k €
Product-level profit	-406	124 k €

2.2.2 Other Segments

"Other Segments" -page contains pricing, advertising budget and personal selling budget decisions for four segments (new segment might not be available). You also set the sales estimates for these segments.

Other segments

Households	This year	Last year
Price	51.30	51.30 €/MWh
Sales (estimate)	497	627 GWh
Turnover	25 496	32 181 k €
Variable costs	23 047	29 140 k €
Gross profit	2 449	3 041 k €
Personal selling	300	300 k €
Advertising	450	450 k €
Product-level profit	1 699	2 291 k €

New segment	This year	Last year
Price		0.00 €/MWh
Sales (estimate)	0	0 GWh
Turnover	0	0 k €
Variable costs	0	0 k €
Gross profit	0	0 k €
Personal selling		0 k €
Advertising		0 k €
Product-level profit	-250	0 k €

Electric heating	This year	Last year
Price	50.30	50.30 €/MWh
Sales (estimate)	439	523 GWh
Turnover	22 082	26 307 k €
Variable costs	20 456	24 389 k €
Gross profit	1 625	1 918 k €
Personal selling	200	200 k €

Small-scale industry	This year	Last year
Price	49.30	49.30 €/MWh
Sales (estimate)	969	1 089 GWh
Turnover	47 772	53 664 k €
Variable costs	44 921	50 551 k €
Gross profit	2 851	3 113 k €
Personal selling	100	100 k €

Income statement Balance sheet Sales report Production report Derivatives report

2.2.3 District Heat

"District Heat" -page summarizes the sales of district heat. Here you can check if you are fulfilling the demand. You will also see the expected income. Remember that the demand figures are only good estimates and are subject to various weather conditions.

The screenshot shows a web interface for a decision support system. The top navigation bar includes 'HOME', 'DECISIONS' (highlighted), 'RESULTS', 'SCHEDULE', 'TEAMS', 'READINGS', and 'FORUMS'. Below this is a secondary menu with 'MARKET CONDITIONS', 'SALES', 'PROCUREMENT', 'RISK MANAGEMENT', 'FINANCIALS', and 'DECISION CHECKLIST'. The user is logged in as 'Rachel Russell' and is viewing the 'Heat' section. A status bar indicates 'You are on Rachel Russell's decision area.', 'None of your team members have copied decisions as team decisions.', and 'Time remaining: 1082 days'. The main content area is titled 'Sales of district heat' and contains a table with the following data:

	This year	Last year	
Demand			
Summer	80.00	76.80 GWh	
Winter	200.00	216.00 GWh	
Sales			
Summer	80.00	76.80 GWh	
Winter	200.00	200.00 GWh	
Total sales of district heat	280.00	276.80 GWh	
Price of district heat€/ MWh	11.43	11.10 k € / GWh	
Net sales from district heat			
Summer	915	852 k €	
Winter	2 287	2 220 k €	
Total	3 201	3 072 k €	

2.3 Procurement Decisions

2.3.1 Own Production

On Own production-page you decide steering prices and investments on production. Steering price decisions are made for both types of plants and for both summer and winter. These prices will be used to decide whether you produce by yourself or buy all the electricity from the market. In investment decisions you decide the number of plants you want to build and how much you are going to use on improvements. Improvements decrease the variable costs. You can also make plant sales/acquisitions if they are allowed.

The screenshot displays the 'cesim SimPower' web application. The navigation menu includes HOME, DECISIONS, RESULTS, SCHEDULE, TEAMS, READINGS, FORUMS, MARKET CONDITIONS, SALES, PROCUREMENT, RISK MANAGEMENT, FINANCIALS, and DECISION CHECKLIST. The current page is 'Own production', with sub-tabs for Purchases, Electricity exchange, and Eolic. A status bar indicates the user is in Rachel Russell's decision area, no team members have copied decisions, and 1082 days remain.

Plants information

Coal	This year	Last year		Natural gas	This year	Last year	
Number	2	2 plants		Number	2	2 plants	
Capacity	1 000	1 000 GWh		Capacity	500	500 GWh	
New capacity for next year	0	0 GWh		New capacity for next year	0	0 GWh	
Electricity production				Electricity production			
Summer	500.00	500.00 GWh		Summer	250.00	250.00 GWh	
Winter	500.00	500.00 GWh		Winter	250.00	250.00 GWh	
Variable costs on electricity	20.00	17.26 € / MWh		Variable costs on electricity	19.22	18.31 € / MWh	
District heat production				District heat production			
District heat production capacity	0	0 GWh		District heat production capacity	400	400 GWh	
Summer	0	0 GWh		Summer	200	200 GWh	
Winter	0	0 GWh		Winter	200	200 GWh	
New heat capacity for next year	0	0 GWh		New heat capacity for next year	0	0 GWh	
CO2 allowances needed (tons)	800 000			CO2 allowances needed (tons)	150 000		
Free CO2 allowances (tons)	680 000			Free CO2 allowances (tons)	127 500		
Additional allowances needed (tons)	120 000			Additional allowances needed (tons)	22 500		

2.3.2 Carbon Emissions Trade

Coal and natural gas fired power plants emit CO₂ for which the companies need to have allowances or permits. The government may give part of the allowances free of charge, but the companies need to purchase the rest of the allowances they need at CO₂ allowance market price. Coal plants emit more CO₂ per MWh than natural gas plants, and thus need more CO₂ allowances.

The screenshot shows the 'cesim SimPower' web application. The navigation bar includes 'HOME', 'DECISIONS', 'RESULTS', 'SCHEDULE', 'TEAMS', 'READINGS', and 'FORUMS'. Below this, there are links for 'MARKET CONDITIONS', 'SALES', 'PROCUREMENT', 'RISK MANAGEMENT', 'FINANCIALS', and 'DECISION CHECKLIST'. The 'Purchases' sub-menu is active, showing options for 'Own production', 'Purchases', 'Electricity exchange', and 'Eolic'. A status bar indicates the user is in Rachel Russell's decision area, with 1082 days remaining. The main content area is titled 'Contract purchases' and contains two summary tables and a detailed table.

Contract purchases short	Summer	Winter		Contract purchases long	Summer	Winter	
Amount	0	0	GWh	Amount per year	0	0	GWh
Price	45.09	46.58	€/MWh	Price	46.90	47.85	€/MWh

Contract purchases of electricity GWh	This year		Last year	
	SUMMER	WINTER	SUMMER	WINTER
One year contracts				
Agreed purchase amount	0	0	0	0
Price,€/ MWh	45.09	46.58	44.34	45.53
Two year contracts				
Contracts from last year				
Agreed purchase amount	0	0	0	0
Price,€/ MWh	46.06	46.86	35.98	36.78
Contracts from this year				
Agreed purchase amount	0	0	0	0
Price,€/ MWh	46.90	47.85	46.06	46.86

2.3.3 Purchases

On the Purchases-page you decide on additional purchases from other wholesalers, both for the summer and for the winter. You can also make two-year contracts. If you make a two-year contract you are delivered the agreed amount both this year and the next year with the price indicated this year. Purchases-page also has information on all the purchase contracts that are in effect and on the amount purchased from the electricity market. The amount purchased from the market is the amount not covered by own production and contract purchases.

Contract purchases

Contract purchases short	Summer	Winter		Contract purchases long	Summer	Winter	
Amount	0	0	GWh	Amount per year	0	0	GWh
Price	45.09	46.58	€/ MWh	Price	46.90	47.85	€/ MWh

Contract purchases of electricity GWh	This year		Last year	
	SUMMER	WINTER	SUMMER	WINTER
One year contracts				
Agreed purchase amount	0	0	0	0
Price,€/ MWh	45.09	46.58	44.34	45.53
Two year contracts				
Contracts from last year				
Agreed purchase amount	0	0	0	0
Price,€/ MWh	46.06	46.86	35.98	36.78
Contracts from this year				
Agreed purchase amount	0	0	0	0
Price,€/ MWh	46.90	47.85	46.06	46.86

2.3.4 Electricity Market

Electricity market-page shows you the amount of electricity you are about to buy from/sell to the electricity market, according to current decisions and estimates.

Electricity exchange market

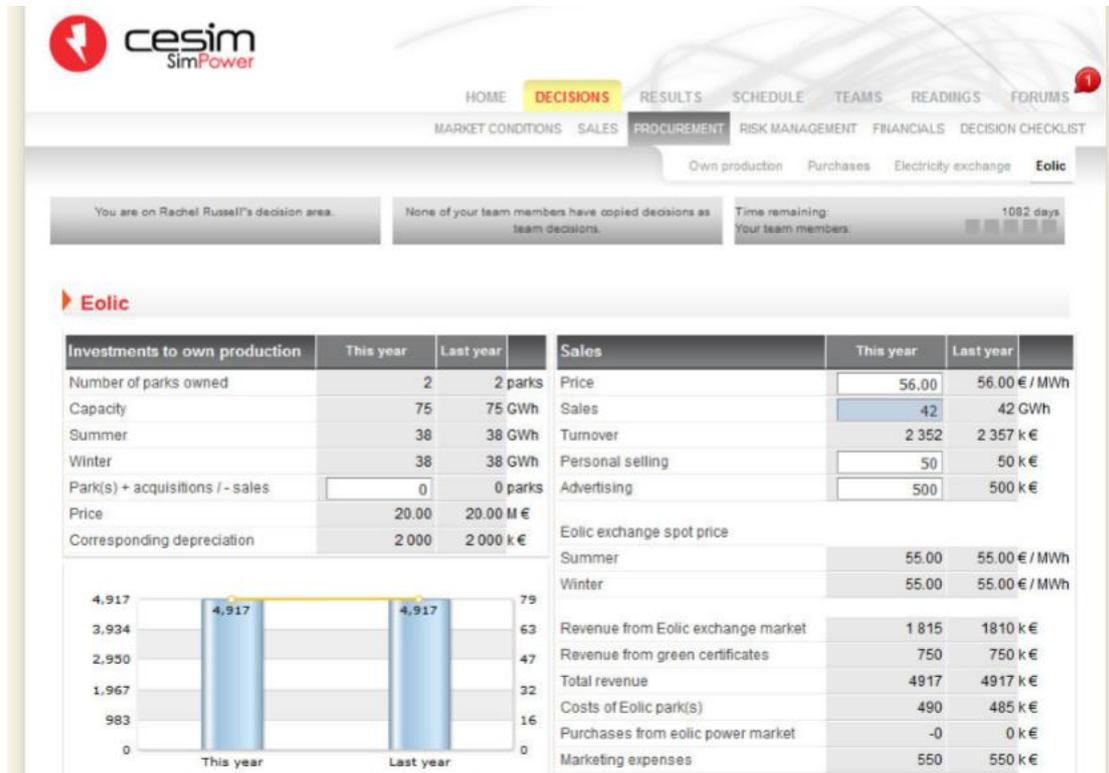
Electricity sale to/ purchase from the exchange market, net volume	This year (ESTIMATE)	Last year
Summer		
Sales (+) Purchases (-)	-846	-1 017 GWh
Exchange spot price	45.55	45.79 €/ MWh
Winter		
Sales (+) Purchases (-)	-1 215	-1 445 GWh
Exchange spot price	47.05	46.99 €/ MWh

2.3.5 Eolic (Wind Power)

All of the wind power related decisions are made on the Eolic-page i.e. the marketing decisions are made separate from other customer segments. You decide whether to invest into more wind power

by deciding to acquire wind parks or sell them - provided that you already have built them. You can also decide wind power price, advertising and personal selling levels. Moreover, the sales estimation for eolic power is made here. Furthermore, it should be noted that the wind power exchange is separate from the general electricity market.

Simpower can be played with or without the eolic module. It is up to the instructor whether to include it or not.



2.4 Financials

From the "Cash Flow Statement", the management group can follow the cash flow from operations, cash spent on investments, and changes in the company's cash position. Here you make the decisions for the change in the long-term loan. You can either pay it off by putting in a negative figure or take some more by inserting a positive figure. In addition to the cash flow statement, you will find some key financial indicators in this section.

Related financial statements can be found at the bottom page in a separate menu along with other reports.

You are on Rachel Russell's decision area. None of your team members have copied decisions as team decisions. Time remaining: 1082 days. Your team members.

Cash flow statement

Cash flow budgeting	This year	Last year	Financing	This year	Last year
Cash Flow From Operations			Equity		
Operating profit before depreciation	29 090	34 801	Issuing (+)/purchasing (-) shares	0	0 k-units
Net financing expenses	-2 377	-2 937	Share issue/buyback price	8.30	20.00 €
Income taxes paid	-4 724	-6 140	Proceeds from equity issue	0	0 k €
Changes in working capital			Number of shares	10 000	10 000 k-units
Decrease (+)/increase (-) in trade receivables	3 522	-2 411	Face value of share	5.00	5.00 €
Decrease (-)/increase (+) in interest-free liabilities	58	2	Dividend payout (per share)	0.00	0.00 €
Net cash flow from operations	25 569	23 315	Market value of share (estimate)	30.00	8.30 €
Investments			Company market capitalisation	300 000	83 015 k €
Coal plants	-0	0	Loans		
Natural gas plants	-0	0	Change in long-term loans	0	0 k €
Eolic plants	-0	0	Long-term loans	141 600	141 600 k €
Net cash flow from investments	0	0	Key indicators		
Financing (Increase +/Decrease -)			Sales margin	30.8	30.6 %
Long-term liabilities	0	0	Operating margin	16.1	17.2 %
Short-term liabilities	0	0			
Dividend payment	-0	-0			

2.5 Risk Management

"Electricity futures" -page allows you to trade electricity futures. Sales contracts are inserted as positive figures and purchase contracts as negative figures. Here you see also trading reports from this and last year. On the right-hand side of the page, you can see the open position section. In open position section of the page, you can see how much of your activity in the electricity market is covered with futures. In top of the section you have your open position for both summer and winter. These figures show the difference of amounts traded in the electricity market and the futures market. To minimize the risks involved with market price you should try to make the absolute difference as small as possible i.e. as close to zero as possible. In the bottom part, you have your open position broken apart so that you can see how it is formed.

The screenshot displays the Cesim SimPower web interface. At the top, there is a navigation menu with options: HOME, DECISIONS (highlighted), RESULTS, SCHEDULE, TEAMS, READINGS, and FORUMS. Below this is a secondary menu: MARKET CONDITIONS, SALES, PROCUREMENT, RISK MANAGEMENT (highlighted), FINANCIALS, and DECISION CHECKLIST. A status bar indicates: "You are on Rachel Russell's decision area.", "None of your team members have copied decisions as team decisions.", and "Time remaining: 1052 days".

The main content area is titled "Electricity futures" and contains two tables:

Electricity futures		
Sales + / purchases -		
Yr1 summer	45.55	0 GWh
		€ / MWh
Yr1 winter	47.05	0 GWh
		€ / MWh
Yr1	46.30	0 GWh
		€ / MWh
Yr2	47.26	0 GWh
		€ / MWh

Futures position	
Yr1 summer	0.00 k€
Yr1 winter	0.00 k€
Yr1	0.00 k€
Yr2 (1)	0.00 k€
Yr2 (2)	0.00 k€
Security requirement on position	-0.00 k€
Total security requirement	0.00 k€

Below these tables is a table titled "Composition of open position":

	This year		Last year	
	SALES	PURCHASES	SALES	PURCHASES
Market electricity				
Summer	0.00	845.80	0.00	1 016.71 GWh
Winter	0.00	1 214.85	0.00	1 444.64 GWh
Effect of spot price based contracts on open position				
Sales from contracts made last year	573.65		575.42	GWh
Contracts this year				
Large-scale industry short	0.00		573.34	GWh
Large-scale industry long	0.00		573.65	GWh

2.6 Decision Checklist

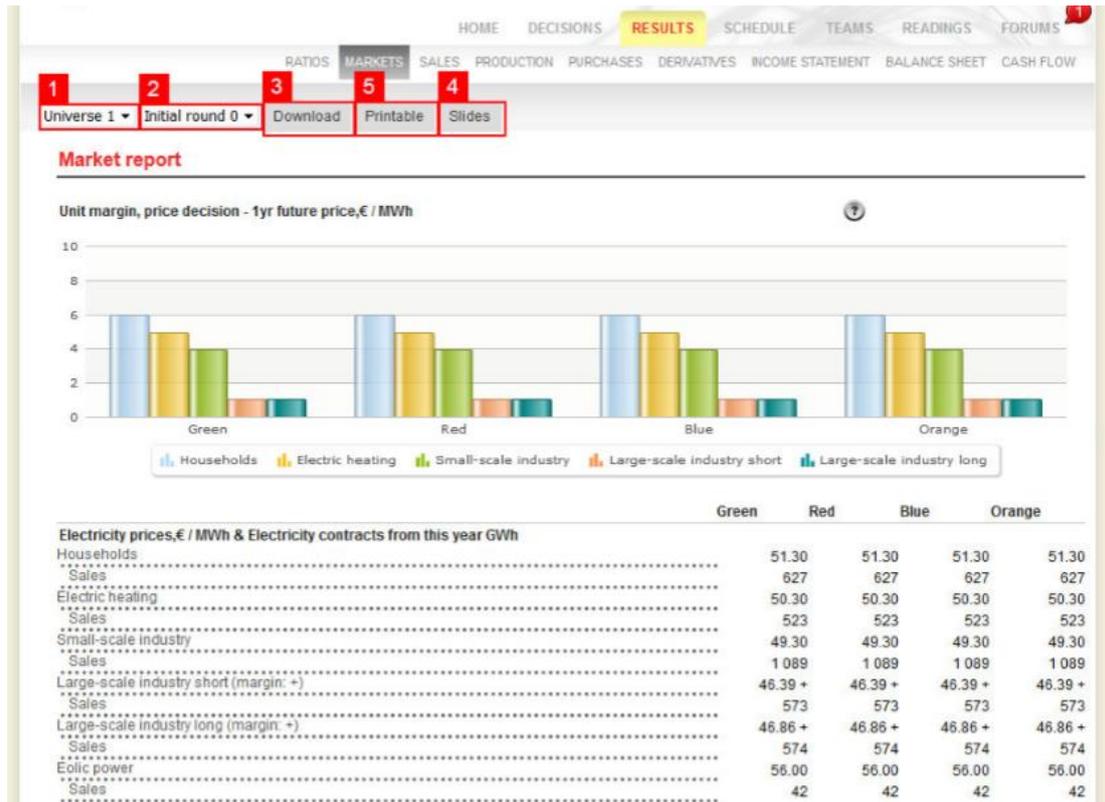
Cesim simulations offer the user an innovative decision making area, through which the team members have a high level of control over the decision making process. The "Decision Checklist" is split into two general sections: The individual "Student Decision Areas", and the "Team Decision Area". Please note, that once the round deadline has passed, the round results will be calculated only based on the Team Decision Area. During each round of the game, you can easily identify changes already made by the highlighted cells on the checklist.

HOME DECISIONS RESULTS SCHEDULE TEAMS READINGS FORUMS							
MARKET CONDITIONS SALES PROCUREMENT RISK MANAGEMENT FINANCIALS DECISION CHECKLIST							
You are on Rachel Russell's decision area.		None of your team members have copied decisions as team decisions.			Time remaining: 1082 days Your team members:		
Legend : <input type="checkbox"/> Team <input type="checkbox"/> Current <input type="checkbox"/> Changed							
1	PRACTICE ROUND 1 ▾	GREEN	RACHEL RUSSELL	JOHNNY PRICE	JESSIE EVANS	RONALD PARKER	MAE MARTINEZ
2	Go to decision area:	GO	GO	GO	GO	GO	GO
3	Save as team's decisions		COPY	COPY	COPY	COPY	COPY
4	Import to my decision area	IMPORT		IMPORT	IMPORT	IMPORT	IMPORT
Budget for the round							
	Net profit for the year	11566.7	11566.7	11566.7	11566.7	11566.7	11566.7
	Changes in Sales (%)	-10.3	-10.3	-10.3	-10.3	-10.3	-10.3
Large-scale industry/ One year sales							
	Price	46.39	46.39	46.39	46.39	46.39	46.39
	Margin	0	0	0	0	0	0
	Personal selling	350	350	350	350	350	350
	Advertising	100	100	100	100	100	100
Large-scale industry/ Two year sales							
	Price	46.86	46.86	46.86	46.86	46.86	46.86
	Margin	0	0	0	0	0	0
	Personal selling	450	450	450	450	450	450
Sales to other segments							
	Price, households	51.3	51.3	51.3	51.3	51.3	51.3
	Contact Center	300	300	300	300	300	300
	Advertising	450	450	450	450	450	450

3Results

The winning criterion in the simulation is the cumulative total shareholder return per annum. This ratio captures the annualized growth of the original investment the best possible way. It takes into consideration the market value of the company, total dividends and the exact times at which the dividends were paid to the shareholders. Moreover, the market value of the company reflects profitability, market position and the risks involved in operating activities.

Company's marketing efforts contribute to the long-term goodwill of the company, which is used partly to calculate company's market position. The risk policy of the company, which can be estimated e.g. with the net open position, is one of the most important risk factors.



4Schedule

cesim SimPower

HOME DECISIONS RESULTS **SCHEDULE** TEAMS READINGS FORUMS

► Schedule listing

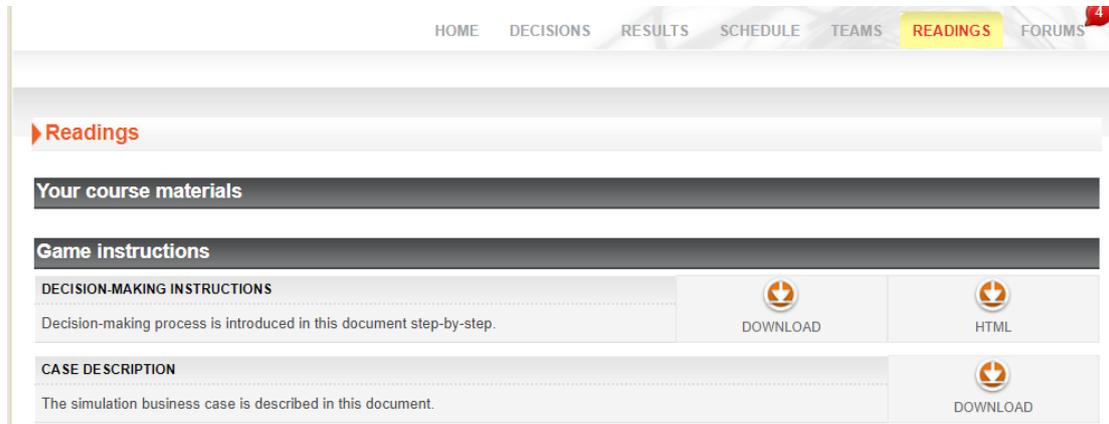
YOUR TIME	SYSTEM TIME
2016-10-14 14:21	2016-10-14 17:21
Your time	System time
Practice round 1	2019-10-02 09:21
Practice round 2	2019-10-09 09:21
Round 1	2019-10-16 09:21
Round 2	2019-10-23 09:21
Round 3	2019-10-30 10:21
Round 4	2019-11-06 10:21

In the schedule section, you can see a list of the amount of rounds that have been set for the course, as well as the deadlines for each round. In cases where the user's computer time is different from the system time, this page will show the deadlines in both user time and the system time set for the course.

The simulation games are often started with practice rounds. Please note that practice round results

have no effect on the results of the real rounds, and are simply used to learn game mechanics and practice forecasting results. Once the practice round(s) are over, the game will reset to the initial market situation.

For more details, please refer to decision-making instructions as below.



The screenshot shows a navigation bar with the following items: HOME, DECISIONS, RESULTS, SCHEDULE, TEAMS, READINGS (highlighted in yellow), and FORUMS (with a red notification bubble containing the number 4). Below the navigation bar, there is a 'Readings' section with a right-pointing arrow. Underneath, there are two dark grey headers: 'Your course materials' and 'Game instructions'. The 'Game instructions' section contains three rows of content:

Game instructions		
DECISION-MAKING INSTRUCTIONS		
Decision-making process is introduced in this document step-by-step.	DOWNLOAD	HTML
CASE DESCRIPTION		
The simulation business case is described in this document.	DOWNLOAD	