

ERPsim

Manufacturing Sustainability Student Friendly Challenge

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ERPsim Manufacturing Sustainability Student Challenge 2025
Hybrid | Feb 7-28, 2025

ERPsimLab
HEC MONTRÉAL



Serious games to learn enterprise
systems and business analytics



בְּרוּךְ הַבֹּא
välkommen 欢迎 velkommen
chào mừng ようこそ hoşgeldiniz merhba
خوش آمدید benvenuto willkommen 환영
witamy selamat datang
أهلاً بك Welcome bienvenu
fáilte welkom bine ati venit bienvenido
добро пожаловать स्वागत vitéjte
bem-vindo tervetuloa خوش آمدی
wamukelekile wëllkomm καλώς ήρθες

Teams

- A - Centria UAS
- B - Tecnológico de Monterrey
- C - Missouri University of Science & Technology
- D - Université Laval
- E - Durham College
- F - Oulu Business School
- G - UEH-ISB
- H - SIIT, Thammasat University
- I - Nha Trang university
- J - Montana Technological University
- K - Seneca Polytechnic
- L - Leeds Beckett University
- M - University of Michigan - Dearborn
- N - Duy Tan University
- O - West Chester University
- P - Universidad Peruana de Ciencias Aplicadas
- Q - International Management Institute, New Delhi
- R - Niagara College
- S - Universidade Presbiteriana Mackenzie
- T - Central Michigan University
- U - Georgia College & State University
- V - International University of Rabat

Breakout Room Assignment

To facilitate your Breakout Room assignment

- Click the "Participants" icon  on the Zoom in-meeting controls
- Hover your mouse over your name, then click the ellipses 
- Click "Rename". A pop-up box will appear
- In the pop-up box, rename yourself by adding the [letter of your team before your name](#)
- Click "Change" to save it.
- You will see the new name showing in the Participants window.
- **THANK YOU!**

Login Information

Students IDs: **A_1** to **A_5** ... **V_1** to **V_5**

Students Password: **ERPSIM** (please change the password on all the 5 users accounts)

Faculty IDs: **A_8, A_9** ... **V_8, V_9**

Faculty Password: **COACHES** (please change the password on the 2 coaches accounts)

Fiori Launchpad: <http://twister.ucc.uwm.edu/erp?sap-client=402>

OData service: <http://twister.ucc.uwm.edu/odata/402>

SAP GUI: Server twister.ucc.uwm.edu; Instance **00**; System ID **TWS**; Client **402**

APR
4



ERPsim North America Competition 2025

Online event

Friday, April 4, 2025 at 12:00 PM EDT

MAY
16



ERPsim LAC Competition 2025

Online event

Friday, May 16, 2025 at 12:00 PM EDT

MAY
23



ERPsim EMEA Competition 2025

Online event

Friday, May 23, 2025 at 9:00 AM EDT

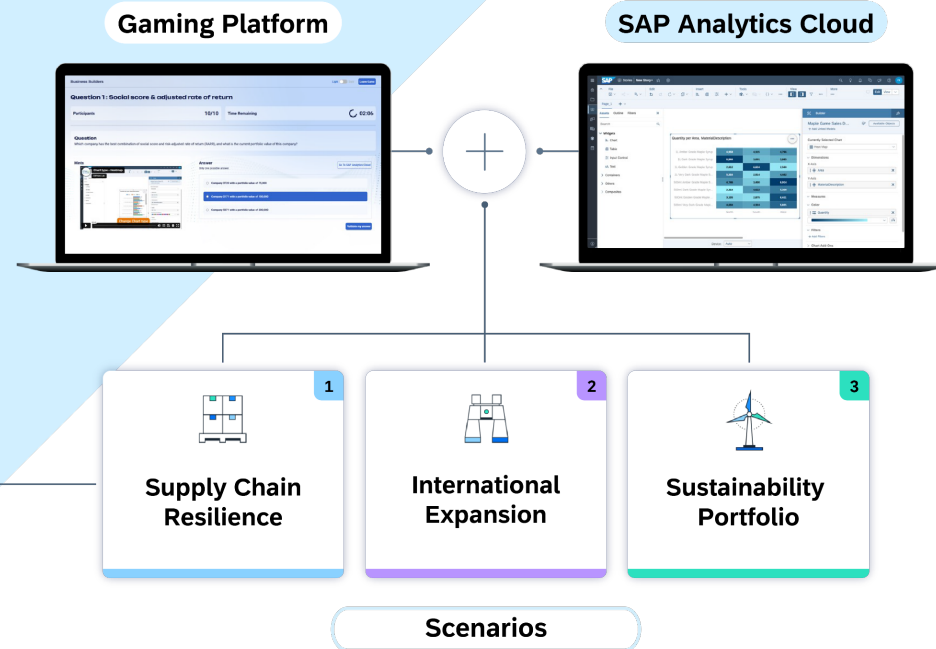
Business Builders Enhanced

Tuesday, February 18, 2025

[Register Now!](#)



New Questions



2025 ERPsim User Group Meeting

Save the Date

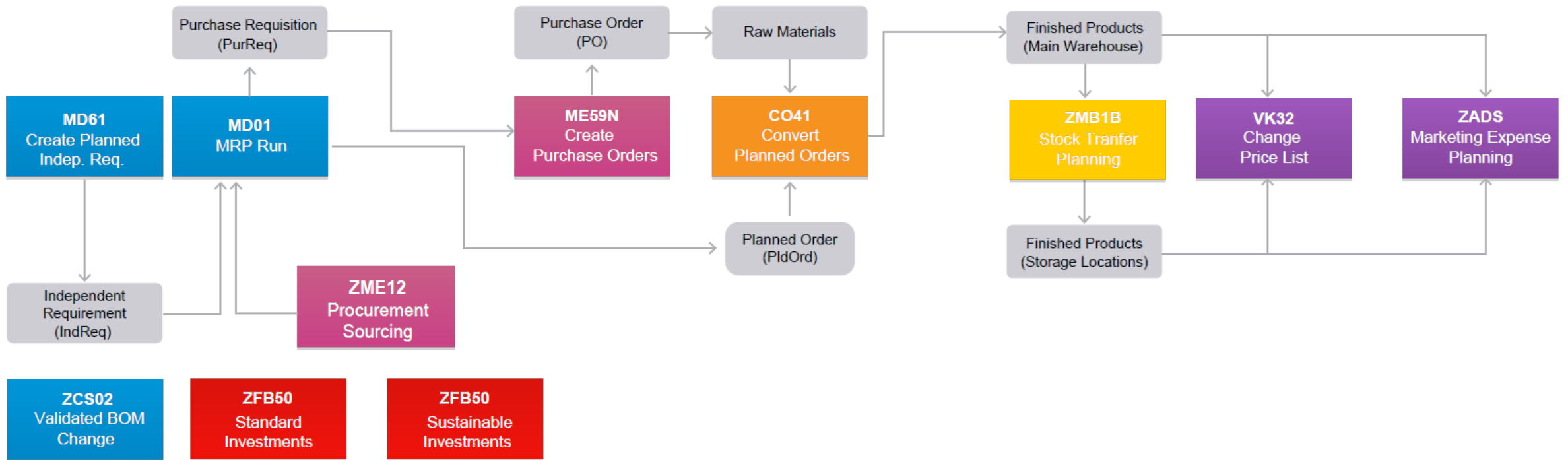
August 11-13, 2025

At HEC Hélène-Desmarais (downtown) campus
Montréal, Canada


Note that AMCIS 2025 will also happen in
Montréal on August 14-16, 2025!

Game Scenario

Game Layout



Job Aid (Manufacturing Sustainability Preset 2)



Manufacturing Sustainability Game (Preset 2)

powered by ERPsim

User: **\$_1 to \$_9**

Initial password: **ERPSIM**

Adapted for Fiori and for SAP GUI with Fiori Visual Theme Activated
© ERPsim Lab, HEC Montréal
Last Update: July 31, 2023

CHANGE PRODUCT DESIGN
Validated BOM Change (ZCSO2)

Select the material to change by clicking

- 1
- 2 Change quantities and

If received error messages, click on to modify the entries

FORECAST SALES
Create Planned Indep. Req. (MD61)

Select Product group and enter the following information

- 1 Product group: **\$\$-P**
- 2
- 3 Enter your forecast quantities in the 2nd date column
- 4

CALCULATE REQUIREMENTS
MRP Run (MD01)

- 1 Press Enter or click
- 2 Ignore orange warnings
Press two more times on Enter
- 3 In the pop-up window, click

SELECT VENDOR
Procurement Sourcing (ZME12)

- 1 Click on
- 2 For each Material, assign a vendor
- 3

ORDER MATERIALS
Create Purchase Orders (MES0N)

- 1

Purchase orders are created

If no open requisitions:
No suitable requisitions found

RELEASE PRODUCTION
Convert Planned Orders (C041)

- 1
- 2 Select orders
- 3

If conversion fails, click on to see log

PLAN STOCK TRANSFER
Stock Transfer (ZMB1B)

- 1 In Planning Mode, select a Push or Pull transfer strategy
- 2 In Scheduling, enter your delivery frequency
- 3
- 4 Enter the amount of each product you wish to send/maintain in each region
- 5

MAINTAIN PRICES
Change Price List (V3Z2)

- 1 Open the Prices folder and double click on Price list
- 2 In Distribution channel, enter 10, 12 or 14
- 3
- 4 Modify your prices
- 5

PLAN MARKETING BUDGET
Marketing Expense Planning (ZADS)

- 1 Enter your daily amount of marketing expenditure for each product per area
- 2

STANDARD INVESTMENTS
Financial Postings (ZFB50)

- 1 Select the type of standard investment you wish to make
- 2 Enter the Posting Amount
- 3 Click on
- 4 Click on

SUSTAINABLE INVESTMENTS
Financial Postings (ZFB50)

- 1 Select the type of sustainable investment you wish to make
- 2 Click on
- 3 Click on

PRODUCTION COST
Product Cost Planning (ZCK11)

Shows variable and fixed costs for each finished product

Recalculates costs based on production capacity and productivity level

Shows daily amounts of fixed costs (overhead, depreciation and S, G & A)

STOCK LEVELS
Inventory Report (ZMB5Z)

Shows stock levels for both finished products and raw materials

Shows quantities of raw materials reserved for production

PROCUREMENT TRACKING
Purchase Order Tracking (ZME2N)

Shows the details/status of each purchase order

Shows expected goods delivery Date

SALES AND MARKET DATA
Summary Sales Report (ZVC2)

Shows aggregate daily sales by product

Detailed Sales Report (ZVA05)
Shows sales related info such as sales revenue by region

Price Market Report (ZMARKET)
Shows aggregate market sales data of past 5 days

FINANCIAL STATEMENTS
Financial Statements (F.01)

- 1 In Company Code, enter your <company code>.*
- 2 GUI step
Select ALV Tree Control
- 3 GUI step

MANAGE IT REPORTS
Report Management (ZITM)

Shows report availability and allows report(s) purchase

CASH FLOW
Liquidity Planning (ZFF7B)

Displays an estimate of your cashflow for the coming weeks

PRODUCTION SCHEDULE
Production Report (ZCO01S)


Shows released production orders

For each order, the time released, started and finished (or to start and finish if incomplete)

If Target Qty > Conf. Qty production is still pending

*To find your company code, refer to transaction ZORG (Organizational Structure)

■ Planning
 ■ Procurement
 ■ Production
 ■ Sales
 ■ Reports
 ■ Accounting
 ■ Logistics
 1/2



Manufacturing Sustainability Game (Preset 2)

powered by ERPsim

User: **\$_1 to \$_9**

Initial password: **ERPSIM**

Adapted for Fiori and for SAP GUI with Fiori Visual Theme Activated
© ERPsim Lab, HEC Montréal
Last Update: July 31, 2023

Bill of Materials

Nut	Strawberry	Original	Raisin	Blueberry	Mixed
\$\$-F01 500g \$\$-F11 1kg	\$\$-F03 500g \$\$-F13 1kg	\$\$-F05 500g \$\$-F15 1kg	\$\$-F04 500g \$\$-F14 1kg	\$\$-F02 500g \$\$-F12 1kg	\$\$-F06 500g \$\$-F16 1kg
20% wheat* 30% oat* 20% nut* 1 box / 1 bag*	20% wheat* 30% oat* 20% strawberry* 1 box / 1 bag*	20% wheat* 30% oat* 1 box / 1 bag*	20% wheat* 30% oat* 20% raisins* 1 box / 1 bag*	20% wheat* 30% oat* 20% blueberry* 1 box / 1 bag*	20% wheat* 30% oat* 30% fruits & nuts** 1 box / 1 bag*
*minimum	*minimum	*minimum	*minimum	*minimum	*minimum **requires all fruits/nut

STORAGE CAPACITY AND COSTS

Product Type	Current Space	Daily Cost per additional 50 000 units*	Daily Carbon cost per additional 50 000 units*
Finished products	250 000 boxes	€500	2 500 (kg of CO ₂ e)/day
Raw materials	250 000 kg	€1 000	5 000 (kg of CO ₂ e)/day
Packaging (bags and boxes)	750 000 units	€100	1 500 (kg of CO ₂ e)/day

*Billed automatically

FIXED COSTS (€ paid each 5 days)*

Labor	20 000
Manufacturing overhead	15 000
S, G & A	40 000
Depreciation (Building)	1 250
Depreciation (Equipment)	50 000

*Billed automatically

DAILY OVERHEAD CARBON

Purchased Energy (kg of CO ₂ e)	500
Other Overhead (kg of CO ₂ e)	400

PRODUCTION CONSTRAINTS

Capacity (units/day)	24 000
Additional Capacity Cost (€ per 1 000 units)	1 000 000**
Additional Capacity Carbon Emission (kg per 1 000 units)	1 000
Production Carbon Emission	0.30 kg per box
Setup Carbon Emission	50 kg per hour
Minimum/Maximum Lot Size	16 000/48 000

**Investing in additional capacity will increase equipment depreciation costs

SETUP TIME REDUCTION

Setup Time (hrs)	Cost (€)	Carbon (kg)
8	-	-
7	50 000	100
6	125 000	250
5	250 000	500
4	500 000	1 000
3	1 250 000	2 500

SUPPLIERS

Vendor	V01	V11	V02	V12
Lead time (days)	2-3	1-4	2-3	1-4
Delivery Cost (euros)	-	€ 1 000	-	€ 2 000
Delivery Carbon (kg of CO ₂ e)	10 000	10 000	6 000	15 000

CUSTOMERS

DC 10: Hypermarkets Payment Time: 20 days Approximate Market Size €90 000 per team per week
DC 12: Grocery Chains Payment Time: 10-20 days Approximate Market Size €360 000 per team per week
DC 14: Independent Grocers Payment Time: 1-20 days Approximate Market Size €135 000 per team per week

TRANSPORTATION AND CARBON FEES

Movement type	Cost (€)	Carbon (kg)
Main Warehouse to Regions	500	750
Regions to Customers	-	200
Main WH to Customers (per unit)	0.05	0.25

FIXED CARBON TAX

Price (€/kg of CO ₂ e)	0.20
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SUSTAINABLE INVESTMENTS

Type	Cost (€)	Carbon (kg of CO ₂ e)	Reduction (%)	Max. Reduction (%)
Freight Fleet Improvement	10 000	2 000	15	45
Sustainable Manufacturing	10 000	2 000	15	45

■ Planning
 ■ Procurement
 ■ Production
 ■ Sales
 ■ Reports
 ■ Accounting
 ■ Logistics
 2/2

Rounds Evolution

Round 1&2

- Carbon tax at 0.20€/kg CO₂e
- Initial inventory
- Initial planned orders
- Sales from main or regional warehouses
- Standard & sustainable investments allowed
- ZITM unavailable (all reports available)
- Suppliers V11 and V12 now available

Round 3&4

- Carbon tax at 0.30€/kg CO₂e*
- Random disruption 1

Round 5&6

- Carbon tax at 0.40€/kg CO₂e*
- Random disruption 2

* Values might be different, depending on the Random Disruptions

Challenge Rules

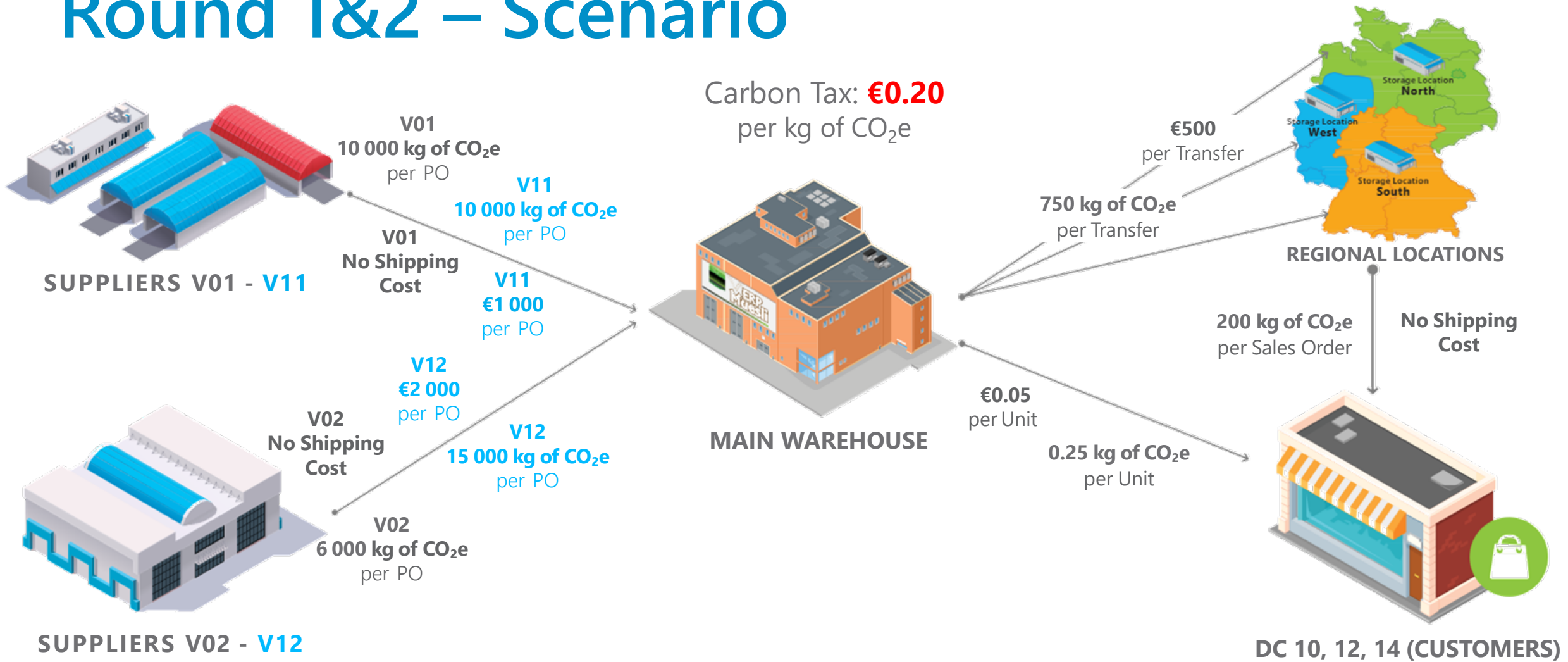
- Teams will play 6 Rounds of the ERPsim **Manufacturing Sustainability** (Preset 2+) scenario.
- Teams are **only allowed** to perform **transactions** described on the **Job Aid**.
- Teams must **finish with a debt less than the initial one** (8 Million EUR).
- Investing in **capacity increase** and **setup time reduction** is **irreversible**.
- **Coaches** can login but not allowed to input transactions.
- **Coaches** can join their team's breakout rooms but will be asked to come back to the main session when the simulation is running.
- Teams have **access** to the **OData** service.
- Teams must **behave ethically** and responsibly.
- Teams will be ranked based on their **company valuation**.

Round 1&2

Round 1&2 - Facts

- Carbon Tax Implemented
 - Carbon Tax Value: **0.20 €/kg** of CO₂e
 - Credit Rating impact
- Two **Additional Suppliers** (V11, V12)
- Initial inventory
- Initial planned orders
- Sales from main or regional warehouses
- Access to all reports
 - **ZITM** unavailable
- Standard and Sustainable Investments
 - **ZFB50** enabled

Round 1&2 – Scenario

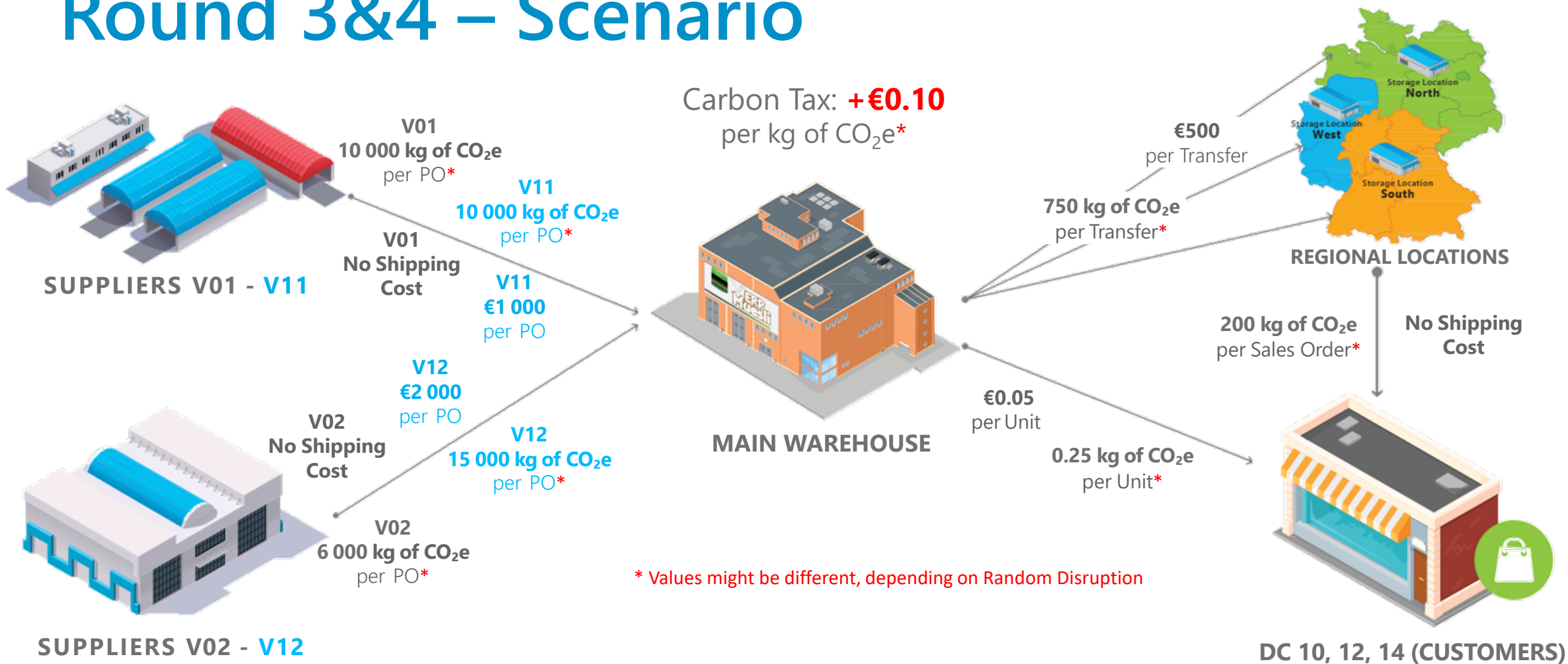


Round 3&4

Round 3&4 – Facts

- Carbon Tax Value: Increase by € 0.10/kg of CO₂e
- Random disruption!

Round 3&4 – Scenario

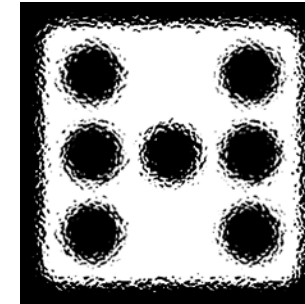


Random Disruptions

Event	Name	Context	Scope
1	Cold Spell	The cold spell increases the carbon emission per unit of raw material purchased, as suppliers must use energy-intensive protection measures to protect the fruits/nuts/cereals from the cold. However, your company requires less energy to stock them in a cool environment.	All suppliers, 2 random raw materials
2	Heat Wave	The heat wave increases the carbon per unit of raw material purchased, as suppliers must use energy to protect the fruits and/or nuts from the intense heat before the harvest. Furthermore, your company requires more energy to stock them in a cool environment.	All suppliers, 2 random raw materials
3	Disruption in Supply Chain (Vendors)	Disruptions in your supplier's supply chain required them to use less-optimal sourcing and routing. Therefore, all products purchased from this supplier will be generating more carbon emissions.	Random suppliers, All products
4	New Legislation, Renewable Energy Adoption	New legislations in Germany increases drastically the carbon tax while reducing the carbon footprint of purchasing energy as more energy is now generated by renewable sources.	-
5	Waste Heat Recovery System	Newly installed waste heat recovery system on your machineries allow your company to reuse heat from your production process, thus reducing the amount of energy purchased. However, the more complex machineries require more care when cleaning up between production batches.	-
6	Main Warehouse Relocation	A recent relocation of your main warehouse increases the distance between your main hub and two regions and Germany while reducing the distance with the third region. The distance difference will be impacting the carbon emissions generated by deliveries from the main warehouse to the regions and by sales delivered directly from the main warehouse.	Random regions

Round 3&4 - Random Disruption

Event	Name
1	Cold Spell
2	Heat Wave
3	Disruption in Supply Chain (Vendors)
4	New Legislation, Renewable Energy Adoption
5	Waste Heat Recovery System
6	Main Warehouse Relocation

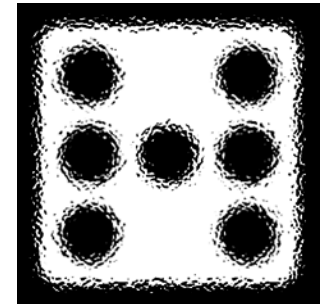


Disruption 1 – Cold Spell

Main Impact	Impact 2	Impact 3	Impact on students' strategies
Increase carbon per unit purchased	Decrease carbon for overstocking raw materials and finished goods	Decrease slightly carbon for purchased energy	Students must assess whether to continue ordering the affected raw materials. If they decide against it, they may need to revise their production, sales, and marketing strategies accordingly.

Impact	Default values	New values
Carbon emission per unit purchased for the impacted raw materials	Product-dependant	+2.5 kg/unit
Carbon emission for overstocking raw materials	5 000 kg/container	-2 500 kg/container
Carbon emission for overstocking finished goods	2 500 kg/container	-1 000 kg/container
Carbon emission for purchased energy	500 kg/day	-100 kg/day

Event	Raw Material Impacted
1	Nuts and Strawberries
2	Nuts and Blueberries
3	Nuts and Raisins
4	Strawberries and Blueberries
5	Strawberries and Raisins
6	Blueberries and Raisins

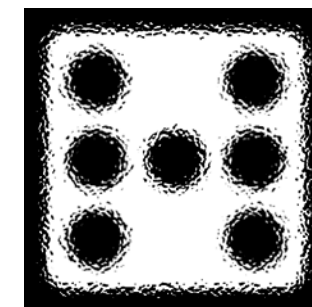


Disruption 2 – Heat Wave

Main Impact	Impact 2	Impact 3	Impact on students' strategies
Increase carbon per unit purchased	Increase carbon for overstocking raw materials and finished goods	Increase slightly carbon for purchased energy	Students must assess whether to continue ordering the affected raw materials. If they decide against it, they may need to revise their production, sales, and marketing strategies accordingly.

Impact	Default values	New values
Carbon emission per unit purchased for the impacted raw materials	Product-dependant	+2.5 kg/unit
Carbon emission for overstocking raw materials	5 000 kg/container	+2 500 kg/container
Carbon emission for overstocking finished goods	2 500 kg/container	+1 000 kg/container
Carbon emission for purchased energy	500 kg/day	+100 kg/day

Event	Raw Material Impacted
1	Nuts and Strawberries
2	Nuts and Blueberries
3	Nuts and Raisins
4	Strawberries and Blueberries
5	Strawberries and Raisins
6	Blueberries and Raisins

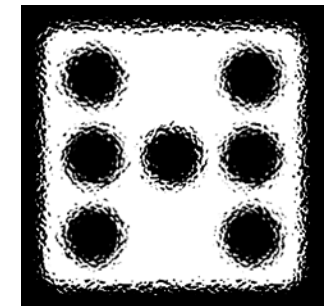


Disruption 3 – Supply Chain (vendors)

Main Impact	Impact 2	Impact 3	Impact on students' strategies
Increase carbon for procurement goods movements	Increase carbon per unit purchased		Students must determine whether to continue ordering from the affected suppliers. If they choose not to, they may need to adjust their procurement strategies.

Impact	Default values	New values
Carbon emission for procurement goods movements from the impacted suppliers	Supplier-dependant	+3 000 kg/movement
Carbon emission per unit purchased from the impacted suppliers	Product-dependant	+1.00 kg/unit

Event	Suppliers Impacted
1	V01 and V02
2	V01 and V12
3	V11 and V02
4	V11 and V12



Disruption 4 – New Legislation and Renewable Energy Adoption

Main Impact	Impact 2	Impact 3	Impact on students' strategies
Increase significantly carbon tax	Decrease carbon for purchased energy		The significant rise in the carbon tax will compel students to reassess how their carbon emissions affect their profitability and reevaluate their operations.

Impact	Default values	New values
Carbon tax	0.30 €/kg CO2e	+0.25 €/kg CO2e
Carbon emission for purchased energy	500 kg/day	-250 kg/day

Disruption 5 – Waste Heat Recovery System

Main Impact	Impact 2	Impact 3	Impact on students' strategies
Decrease carbon per unit produced	Increase carbon for setup time	Decrease carbon for purchased energy	Increasing carbon emissions during setup time while reducing carbon emissions during production will require students to reassess their investment strategies and to optimize their production schedule.

Impact	Default values	New values
Carbon per unit produced	0.30 kg/box produced	-0.15 kg/box produced
Carbon per hour of setup time	50 kg/hour	+200 kg/hour
Carbon emission for purchased energy	500 kg/day	-200 kg/day

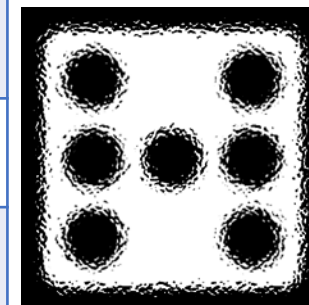
Disruption 6 – Main Warehouse Relocation

Main Impact	Impact 2	Impact 3	Impact on students' strategies
Increase carbon for internal goods movement toward 2 regions	Decrease carbon for internal goods movement toward one region	Increase slightly carbon for sales from the main warehouse	The substantial rise in carbon emissions in two regions, coupled with a decrease in another, requires students to reassess their decision to sell in these regions. Furthermore, the increase in carbon emissions when selling from the main warehouse should incite students to use the regional warehouses.

Impact	Default values	New values
Carbon for internal goods movements toward the new region of the warehouse	750 kg/movement	-250 kg/movement
Carbon for internal goods movements toward the second closest region	750 kg/movement	+250 kg/movement
Carbon for internal goods movements toward the farthest region	750 kg/movement	+500 kg/movement
Carbon from sales from the main warehouse	0.25 kg/unit moved	+0.10 kg/unit moved



Event	Raw Material Impacted
1	Moved to the North closer to the West
2	Moved to the North closer to the South
3	Moved to the South closer to the North
4	Moved to the South closer to the West
5	Moved to the West closer to the South
6	Moved to the West closer to the North

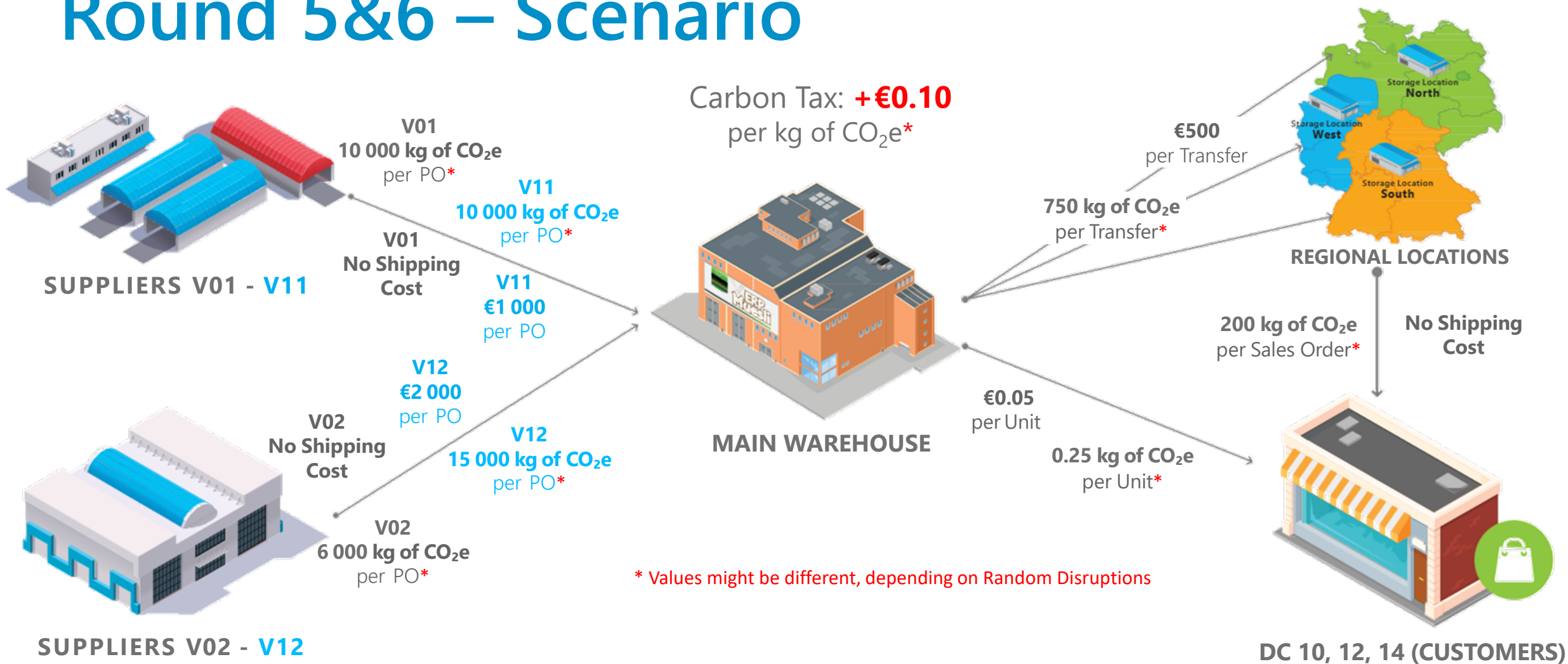


Round 5&6

Round 5&6 – Facts

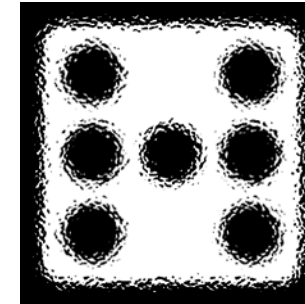
- Carbon Tax Value: Increase by € 0.10/kg of CO₂e
- Random disruption!

Round 5&6 – Scenario



Round 5&6 - Random Disruption

Event	Name
1	Cold Spell
2	Heat Wave
3	Disruption in Supply Chain (Vendors)
4	New Legislation, Renewable Energy Adoption
5	Waste Heat Recovery System
6	Main Warehouse Relocation



Practice Game Results

Round 1 - Results

Financial Statements - R1

Team	Credit ratings	Interest Rate (%)	Rank	Company valuation	Cumulative Net Income	Total sales	Gross Margin (%)	Net Margin (%)	ROE (%)	ROA (%)	D/E (%)	Mktg/S (%)	Round Net Income	Round Productivity	Round Sales per Team	CO2e (kg)	CO2e per Unit Sold (kg/unit)	CO2e per Sales (kg/€)
A	BBB	9.000	1	182,941,402.46	1,523,531.86	4,029,990.00	75.509	37.805	6.764	4.441	52.316	0.283	1,523,531.86	77.499	4,029,990.00	1,754,770.35	3.09	0.44
B	AA-	7.250	2	177,336,454.76	1,149,195.93	3,060,234.10	75.815	37.553	5.188	3.760	38.000	1.176	1,149,195.93	72.500	3,060,234.10	338,756.33	0.68	0.11
C	AA-	7.250	3	124,415,176.53	1,166,392.28	2,646,103.91	65.241	44.080	5.262	3.793	38.733	0.000	1,166,392.28	81.667	2,646,103.91	509,752.00	0.91	0.19
K	A+	7.750	4	110,743,169.02	855,193.53	2,288,612.00	73.240	37.367	3.913	2.904	34.731	0.008	855,193.53	43.958	2,288,612.00	333,357.50	0.88	0.15
E	AA-	7.250	5	96,381,145.60	848,573.24	2,074,047.80	71.006	40.914	3.884	2.843	36.616	0.003	848,573.24	40.000	2,074,047.80	250,305.61	0.65	0.12
U	A+	7.750	6	92,140,880.68	902,212.79	2,215,117.45	65.991	40.730	4.119	2.977	38.379	0.000	902,212.79	60.000	2,215,117.45	461,149.00	0.99	0.21
O	A+	7.750	7	88,852,129.36	631,677.10	2,258,900.00	64.165	27.964	2.920	2.099	39.148	0.001	631,677.10	69.583	2,258,900.00	430,967.00	0.86	0.19
G	A	8.000	8	79,877,415.00	331,274.15	2,349,960.00	62.785	14.097	1.553	1.100	41.169	1.579	331,274.15	73.333	2,349,960.00	657,549.50	1.26	0.28
T	A+	7.750	9	70,499,649.36	681,142.40	1,805,422.40	69.659	37.728	3.142	2.290	37.189	0.000	681,142.40	33.333	1,805,422.40	277,972.00	0.89	0.15
N	BB+	9.750	10	60,444,573.67	(508,239.26)	2,009,243.09	69.874	(25.295)	(2.480)	(1.549)	60.167	0.000	(508,239.26)	33.103	2,009,243.09	275,091.88	0.72	0.14
Q	A+	7.750	11	59,413,432.51	578,089.86	1,751,753.73	65.289	33.001	2.679	1.954	37.075	0.000	578,089.86	39.963	1,751,753.73	271,841.00	0.71	0.16
J	A+	7.750	12	55,412,121.19	542,577.02	1,712,160.00	64.487	31.690	2.519	1.837	37.136	0.038	542,577.02	40.000	1,712,160.00	271,820.00	0.71	0.16
F	A	8.000	13	53,262,668.33	46,793.35	1,690,746.69	69.309	2.768	0.222	0.166	33.884	0.057	46,793.35	49.166	1,690,746.69	459,472.37	1.11	0.27
R	A	8.000	14	(1,073,582.00)	(10,735.82)	856,080.00	64.335	(1.254)	(0.051)	(0.037)	38.115	0.000	(10,735.82)	0.000	856,080.00	163,420.00	0.85	0.19
S	A	8.000	15	(1,081,160.00)	(10,811.60)	856,080.00	64.335	(1.263)	(0.052)	(0.037)	38.115	0.000	(10,811.60)	0.000	856,080.00	163,420.00	0.85	0.19
L	A	8.000	16	(1,096,682.00)	(10,966.82)	856,080.00	64.335	(1.281)	(0.052)	(0.038)	38.115	0.000	(10,966.82)	0.000	856,080.00	163,420.00	0.85	0.19
P	A	8.000	17	(1,120,013.00)	(11,200.13)	856,080.00	64.335	(1.308)	(0.053)	(0.039)	38.116	0.000	(11,200.13)	0.000	856,080.00	163,420.00	0.85	0.19
D	A	8.000	18	(1,127,521.00)	(11,275.21)	856,080.00	64.335	(1.317)	(0.054)	(0.039)	38.116	0.000	(11,275.21)	0.000	856,080.00	163,420.00	0.85	0.19
H	A	8.000	19	(1,127,710.00)	(11,277.10)	856,080.00	64.335	(1.317)	(0.054)	(0.039)	38.116	0.000	(11,277.10)	0.000	856,080.00	163,420.00	0.85	0.19
M	A	8.000	20	(1,166,413.00)	(11,664.13)	856,080.00	64.335	(1.362)	(0.056)	(0.040)	38.116	0.000	(11,664.13)	0.000	856,080.00	163,420.00	0.85	0.19
V	A	8.000	21	(1,181,935.00)	(11,819.35)	856,080.00	64.335	(1.381)	(0.056)	(0.041)	38.117	0.000	(11,819.35)	0.000	856,080.00	163,420.00	0.85	0.19
I	A	8.000	22	(1,197,308.00)	(11,973.08)	856,080.00	64.335	(1.399)	(0.057)	(0.041)	38.117	0.000	(11,973.08)	0.000	856,080.00	163,420.00	0.85	0.19

Round 2 - Results

Financial Statements - R2

Team	Credit ratings	Interest Rate (%)	Rank	Company valuation	Cumulative Net Income	Total sales	Gross Margin (%)	Net Margin (%)	ROE (%)	ROA (%)	D/E (%)	Mktg/S (%)	Round Net Income	Round Productivity	Round Sales per Team	CO2e (kg)	CO2e per Unit Sold (kg/unit)	CO2e per Sales (kg/€)
A	A-	8.250	1	208,654,114.12	3,843,354.83	7,815,930.30	78.016	49.173	15.470	11.032	40.233	0.389	2,319,822.97	91.666	3,785,940.30	2,302,896.35	2.22	0.29
B	AA+	6.500	2	146,810,782.14	2,163,693.18	5,197,917.60	75.344	41.626	9.341	7.667	21.829	0.693	1,014,497.25	76.458	2,137,683.50	687,166.63	0.81	0.13
C	AA+	6.500	3	146,485,811.16	2,624,537.45	5,455,142.91	68.446	48.111	11.109	8.131	36.632	0.088	1,458,145.17	95.000	2,809,039.00	961,678.25	0.96	0.18
O	AA	7.000	4	95,588,437.45	1,535,788.02	4,642,653.30	62.295	33.080	6.815	4.903	39.000	0.001	904,110.92	90.625	2,383,753.30	862,866.50	0.92	0.19
U	AA-	7.250	5	90,799,129.60	1,702,483.68	4,108,594.54	68.167	41.437	7.499	5.436	37.954	0.000	800,270.89	70.000	1,893,477.09	851,312.50	1.06	0.21
T	BBB	9.000	6	77,126,132.31	1,221,066.20	3,943,908.40	74.129	30.961	5.495	3.781	45.338	0.000	539,923.80	61.667	2,138,486.00	696,364.30	1.18	0.18
G	AA-	7.250	7	75,415,143.47	989,033.94	4,194,050.00	65.090	23.582	4.498	3.270	37.554	1.035	657,759.79	89.167	1,844,090.00	1,080,804.50	1.14	0.26
K	A-	8.250	8	59,543,759.18	982,351.75	3,472,203.70	73.977	28.292	4.469	3.317	34.745	0.324	127,158.22	97.200	1,183,591.70	720,192.50	1.28	0.21
F	BBB-	9.250	9	58,359,354.87	847,102.42	3,650,736.05	69.799	23.204	3.877	2.468	57.079	0.068	800,309.07	80.567	1,959,989.36	869,747.56	0.97	0.24
N	BB-	10.250	10	40,634,288.28	(126,602.32)	3,390,103.42	73.266	(3.734)	(0.607)	(0.397)	52.661	0.000	381,636.94	73.749	1,380,860.33	816,231.67	1.46	0.24
J	AA-	7.250	11	39,675,559.47	(106,083.26)	3,101,556.82	64.912	(3.420)	(0.508)	(0.366)	38.768	0.060	(648,660.28)	65.000	1,389,396.82	627,447.45	0.92	0.20
Q	BBB+	8.750	12	32,095,084.55	495,353.88	3,157,773.08	63.592	15.687	2.304	1.598	44.223	0.000	(82,735.98)	66.578	1,406,019.35	1,334,602.30	1.96	0.42
E	A-	8.250	13	29,009,058.61	542,268.28	2,549,169.80	71.330	21.272	2.517	1.785	41.006	0.012	(306,304.96)	75.000	475,122.00	814,927.19	1.81	0.32
I	AA	7.000	14	(4,761,967.09)	(87,302.73)	1,600,703.15	64.570	(5.454)	(0.417)	(0.302)	38.254	0.000	(75,329.65)	38.333	744,623.15	281,381.25	0.78	0.18
H	BBB+	8.750	15	(14,473,480.00)	(307,561.45)	1,249,052.00	66.269	(24.624)	(1.486)	(1.058)	40.532	0.000	(296,284.35)	21.667	392,972.00	384,400.00	1.41	0.31
R	A+	7.750	16	(29,066,257.02)	(569,214.20)	856,080.00	64.335	(66.491)	(2.786)	(2.002)	39.157	0.000	(558,478.38)	0.000	0.00	181,420.00	0.94	0.21
S	A+	7.750	17	(29,070,126.64)	(569,289.98)	856,080.00	64.335	(66.500)	(2.786)	(2.002)	39.157	0.000	(558,478.38)	0.000	0.00	181,420.00	0.94	0.21
L	A+	7.750	18	(29,078,052.77)	(569,445.20)	856,080.00	64.335	(66.518)	(2.787)	(2.003)	39.157	0.000	(558,478.38)	0.000	0.00	181,420.00	0.94	0.21
P	A+	7.750	19	(29,089,966.47)	(569,678.51)	856,080.00	64.335	(66.545)	(2.788)	(2.004)	39.157	0.000	(558,478.38)	0.000	0.00	181,420.00	0.94	0.21
D	A+	7.750	20	(29,093,800.34)	(569,753.59)	856,080.00	64.335	(66.554)	(2.789)	(2.004)	39.158	0.000	(558,478.38)	0.000	0.00	181,420.00	0.94	0.21
M	A+	7.750	21	(29,113,660.09)	(570,142.51)	856,080.00	64.335	(66.599)	(2.791)	(2.005)	39.158	0.000	(558,478.38)	0.000	0.00	181,420.00	0.94	0.21
V	A+	7.750	22	(29,121,586.21)	(570,297.73)	856,080.00	64.335	(66.617)	(2.792)	(2.006)	39.159	0.000	(558,478.38)	0.000	0.00	181,420.00	0.94	0.21

Round 3 - Results

Financial Statements - R3

Team	Credit ratings	Interest Rate (%)	Rank	Company valuation	Cumulative Net Income	Total sales	Gross Margin (%)	Net Margin (%)	ROE (%)	ROA (%)	D/E (%)	Mktg/S (%)	Round Net Income	Round Productivity	Round Sales per Team	CO2e (kg)	CO2e per Unit Sold (kg/unit)	CO2e per Sales (kg/€)
T	A	8.000	1	138,746,251.67	3,742,387.55	7,897,912.90	77.165	47.385	15.125	10.957	38.042	0.000	2,521,321.35	89.583	3,954,004.50	1,070,227.02	1.03	0.14
N	A	8.000	2	137,370,411.33	3,138,612.34	8,183,628.80	77.918	38.352	13.002	9.127	42.458	0.037	3,265,214.66	69.785	4,793,525.38	1,004,362.03	0.83	0.12
A	BBB+	8.750	3	133,412,025.10	3,877,508.30	8,893,317.10	77.171	43.600	15.586	11.849	31.538	0.572	34,153.47	69.763	1,077,386.80	2,962,115.00	2.56	0.33
B	AA+	6.500	4	108,666,710.70	2,500,417.85	6,546,208.60	74.153	38.196	10.640	8.752	21.569	0.550	336,724.67	31.250	1,348,291.00	1,023,662.33	0.97	0.16
C	AAA+	6.000	5	106,417,946.00	2,660,448.65	6,328,150.41	68.272	42.041	11.244	8.403	33.812	0.076	35,911.20	17.500	873,007.50	1,034,485.50	0.92	0.16
K	AA-	7.250	6	102,295,147.02	2,644,551.01	6,562,183.20	77.158	40.300	11.185	8.808	26.975	0.920	1,662,199.26	96.400	3,089,979.50	1,114,902.31	1.13	0.17
O	AA+	6.500	7	100,976,096.74	2,518,732.60	7,105,571.90	62.027	35.447	10.709	7.681	39.425	0.002	982,944.58	89.583	2,462,918.60	1,334,892.50	0.97	0.19
E	AA	7.000	8	97,084,968.00	2,493,586.62	6,308,177.80	72.067	39.529	10.614	7.750	36.950	0.010	1,951,318.34	75.931	3,759,008.00	1,226,624.66	1.13	0.19
U	AA-	7.250	9	71,844,467.56	2,013,125.65	5,612,914.54	65.460	35.866	8.748	6.563	33.294	0.000	310,641.97	71.667	1,504,320.00	1,347,391.50	1.18	0.24
F	BBB	9.000	10	70,605,024.00	1,897,163.28	5,866,568.63	71.585	32.339	8.286	5.625	47.289	0.063	1,050,060.86	96.770	2,215,832.58	1,264,911.43	0.85	0.22
G	A+	7.750	11	48,689,936.34	1,047,766.88	5,339,840.00	64.535	19.622	4.752	3.412	39.268	0.925	58,732.94	56.042	1,145,790.00	1,636,109.50	1.34	0.31
J	AA-	7.250	12	42,496,681.24	415,219.16	4,723,751.48	65.849	8.790	1.939	1.414	37.076	0.054	521,302.42	69.667	1,622,194.66	921,717.84	0.92	0.20
Q	A-	8.250	13	36,952,878.04	932,181.89	5,218,950.63	64.984	17.861	4.250	3.146	35.110	0.000	436,828.01	89.843	2,061,177.55	2,378,936.30	2.13	0.46
H	A	8.000	14	6,662,681.33	199,880.44	2,742,926.23	68.979	7.287	0.943	0.676	39.477	0.000	507,441.89	78.333	1,493,874.23	725,753.50	1.35	0.26
I	A+	7.750	15	(19,862,052.09)	(583,447.78)	1,712,160.00	63.847	(34.077)	(2.858)	(2.021)	41.369	0.000	(496,145.05)	1.667	111,456.85	341,520.00	0.89	0.20
R	A	8.000	16	(37,670,387.33)	(1,130,111.62)	856,080.00	64.335	(132.010)	(5.688)	(4.055)	40.262	0.000	(560,897.42)	0.000	0.00	199,420.00	1.04	0.23
S	A	8.000	17	(37,672,913.33)	(1,130,187.40)	856,080.00	64.335	(132.019)	(5.688)	(4.055)	40.262	0.000	(560,897.42)	0.000	0.00	199,420.00	1.04	0.23
L	A	8.000	18	(37,678,087.33)	(1,130,342.62)	856,080.00	64.335	(132.037)	(5.689)	(4.056)	40.262	0.000	(560,897.42)	0.000	0.00	199,420.00	1.04	0.23
P	A	8.000	19	(37,685,864.33)	(1,130,575.93)	856,080.00	64.335	(132.064)	(5.690)	(4.057)	40.263	0.000	(560,897.42)	0.000	0.00	199,420.00	1.04	0.23
D	A	8.000	20	(37,688,367.00)	(1,130,651.01)	856,080.00	64.335	(132.073)	(5.690)	(4.057)	40.263	0.000	(560,897.42)	0.000	0.00	199,420.00	1.04	0.23
M	A	8.000	21	(37,701,331.00)	(1,131,039.93)	856,080.00	64.335	(132.118)	(5.692)	(4.058)	40.264	0.000	(560,897.42)	0.000	0.00	199,420.00	1.04	0.23
V	A	8.000	22	(37,706,505.00)	(1,131,195.15)	856,080.00	64.335	(132.137)	(5.693)	(4.059)	40.264	0.000	(560,897.42)	0.000	0.00	199,420.00	1.04	0.23

Round 4 - Results

Financial Statements - R4

Team	Credit ratings	Interest Rate (%)	Rank	Company valuation	Cumulative Net Income	Total sales	Gross Margin (%)	Net Margin (%)	ROE (%)	ROA (%)	D/E (%)	Mktg/S (%)	Round Net Income	Round Productivity	Round Sales per Team	CO2e (kg)	CO2e per Unit Sold (kg/unit)	CO2e per Sales (kg/€)
T	AAA+	6.000	1	213,943,623.40	6,758,120.78	12,357,326.40	78.724	54.689	24.346	18.846	29.186	0.073	3,015,733.23	86.608	4,459,413.50	1,269,618.41	0.81	0.10
A	AA-	7.250	2	195,955,263.02	7,014,989.03	13,970,415.80	77.939	50.213	25.040	20.778	20.512	0.524	3,137,480.73	86.070	5,077,098.70	4,123,447.40	2.40	0.30
N	AA-	7.250	3	139,203,384.89	4,346,793.60	10,776,488.30	76.657	40.336	17.149	11.944	43.578	0.028	1,208,181.26	70.000	2,592,859.50	1,466,267.49	0.92	0.14
K	AA+	6.500	4	137,543,678.70	4,721,981.82	10,131,333.70	76.863	46.608	18.358	15.634	17.422	0.726	2,077,430.81	82.758	3,569,150.50	1,570,981.59	1.03	0.16
O	AA+	6.500	5	106,310,042.05	3,636,109.84	9,727,989.95	63.734	37.378	14.759	12.000	22.990	0.013	1,117,377.24	93.750	2,622,418.05	1,819,786.00	1.00	0.19
E	AA+	6.500	6	98,285,738.79	2,031,905.64	9,122,417.80	72.957	22.274	8.822	6.690	31.877	0.008	(461,680.98)	85.458	2,814,240.00	1,442,679.82	0.99	0.16
F	BBB+	8.750	7	70,270,518.43	2,633,163.70	7,650,838.00	72.255	34.417	11.142	7.944	40.263	0.066	736,000.42	76.601	1,784,269.37	1,571,433.53	0.80	0.21
U	AA	7.000	8	62,744,458.73	1,927,296.82	7,340,773.50	64.792	26.255	8.406	6.477	29.779	0.000	(85,828.83)	80.000	1,727,858.96	1,743,657.95	1.14	0.24
B	AA	7.000	9	62,105,264.27	1,903,859.69	6,546,208.60	74.153	29.083	8.312	6.942	19.742	0.550	(596,558.16)	0.000	0.00	1,171,662.33	1.11	0.18
C	AA+	6.500	10	58,912,241.58	2,111,021.99	6,328,150.41	68.272	33.359	9.134	6.785	34.616	0.076	(549,426.66)	0.000	0.00	1,052,485.50	0.94	0.17
J	AA	7.000	11	55,686,841.27	1,335,184.18	6,802,031.98	67.815	19.629	5.978	4.374	36.656	0.041	919,965.02	71.000	2,078,280.50	1,207,510.18	0.89	0.18
G	AA	7.000	12	49,655,572.09	1,480,704.31	6,936,760.00	64.332	21.346	6.587	4.858	35.586	0.799	432,937.43	70.000	1,596,920.00	1,885,289.50	1.20	0.27
Q	A	8.000	13	42,565,348.92	1,523,947.29	7,027,322.13	66.488	21.686	6.766	5.562	21.648	0.000	591,765.40	91.100	1,808,371.50	2,924,066.70	1.98	0.42
H	BBB+	8.750	14	(8,970,944.71)	(381,265.15)	2,778,750.73	68.239	(13.721)	(1.849)	(1.331)	38.889	0.001	(581,145.59)	50.625	35,824.50	912,107.50	1.69	0.33
I	A	8.000	15	(29,866,368.00)	(1,194,654.72)	1,712,160.00	63.847	(69.775)	(6.032)	(4.296)	40.393	0.000	(611,206.94)	0.000	0.00	459,520.00	1.20	0.27
V	A	8.000	16	(34,577,842.00)	(1,383,113.68)	1,337,790.00	64.691	(103.388)	(7.051)	(4.974)	41.737	0.000	(251,918.53)	25.000	481,710.00	338,500.00	1.10	0.25
R	A-	8.250	17	(41,442,763.35)	(1,692,246.17)	856,080.00	64.335	(197.674)	(8.765)	(6.197)	41.434	0.000	(562,134.55)	0.000	0.00	217,420.00	1.13	0.25
S	A-	8.250	18	(41,444,619.18)	(1,692,321.95)	856,080.00	64.335	(197.683)	(8.765)	(6.197)	41.434	0.000	(562,134.55)	0.000	0.00	217,420.00	1.13	0.25
L	A-	8.250	19	(41,448,420.49)	(1,692,477.17)	856,080.00	64.335	(197.701)	(8.766)	(6.198)	41.435	0.000	(562,134.55)	0.000	0.00	217,420.00	1.13	0.25
P	A-	8.250	20	(41,454,134.20)	(1,692,710.48)	856,080.00	64.335	(197.728)	(8.767)	(6.199)	41.435	0.000	(562,134.55)	0.000	0.00	217,420.00	1.13	0.25
D	A-	8.250	21	(41,455,972.90)	(1,692,785.56)	856,080.00	64.335	(197.737)	(8.768)	(6.199)	41.435	0.000	(562,134.55)	0.000	0.00	217,420.00	1.13	0.25
M	A-	8.250	22	(41,465,497.47)	(1,693,174.48)	856,080.00	64.335	(197.782)	(8.770)	(6.201)	41.436	0.000	(562,134.55)	0.000	0.00	217,420.00	1.13	0.25

Round 5 - Results

Financial Statements - R5

Team	Credit ratings	Interest Rate (%)	Rank	Company valuation	Cumulative Net Income	Total sales	Gross Margin (%)	Net Margin (%)	ROE (%)	ROA (%)	D/E (%)	Mktg/S (%)	Round Net Income	Round Productivity	Round Sales per Team	CO2e (kg)	CO2e per Unit Sold (kg/unit)	CO2e per Sales (kg/€)
A	AAA+	6.000	1	259,485,229.84	10,520,217.91	19,597,177.80	78.054	53.682	33.376	31.792	4.984	0.422	3,505,228.88	88.333	5,626,762.00	5,180,316.75	2.12	0.26
T	AAA+	6.000	2	213,950,907.04	8,587,954.46	15,538,970.70	78.786	55.267	29.025	23.468	23.682	0.173	1,829,833.68	65.833	3,181,644.30	1,575,466.68	0.82	0.10
K	AAA+	6.000	3	145,278,278.48	5,872,428.27	12,633,861.95	77.169	46.482	21.853	19.813	10.294	0.596	1,150,446.45	86.771	2,502,528.25	1,883,477.21	1.00	0.15
O	AAA+	6.000	4	123,106,996.48	4,977,791.52	12,690,982.14	64.812	39.223	19.162	16.483	16.249	0.017	1,341,681.68	94.792	2,962,992.19	2,308,046.00	1.02	0.18
N	AA-	7.250	5	117,866,464.78	4,760,823.87	12,007,260.45	77.315	39.650	18.481	13.221	39.785	0.025	414,030.27	23.750	1,230,772.15	1,530,921.90	0.87	0.13
E	A+	7.750	6	85,579,534.98	2,886,081.40	12,130,390.80	73.014	23.792	12.083	8.892	35.887	0.007	854,175.76	95.635	3,007,973.00	3,302,397.76	1.75	0.27
Q	AA	7.000	7	82,756,760.36	3,636,684.85	10,292,362.33	71.105	35.334	14.761	12.467	18.400	0.000	2,112,737.56	60.715	3,265,040.20	3,048,998.35	1.64	0.30
J	AA+	6.500	8	65,816,155.39	2,329,681.96	9,108,861.48	68.570	25.576	9.986	7.383	35.255	0.031	994,497.78	82.333	2,306,829.50	1,562,431.18	0.90	0.17
F	BBB+	8.750	9	56,350,667.67	2,678,629.22	8,775,475.69	71.689	30.524	11.312	8.171	38.449	0.079	45,465.52	52.990	1,124,637.69	2,016,613.02	0.90	0.23
H	AA-	7.250	10	38,745,445.55	1,816,192.76	6,226,900.28	75.335	29.167	7.960	5.826	36.636	0.001	2,197,457.91	39.375	3,448,149.55	1,224,533.75	1.30	0.20
C	AA+	6.500	11	34,753,224.56	1,556,654.85	6,328,150.41	68.272	24.599	6.901	5.094	35.466	0.076	(554,367.14)	0.000	0.00	1,070,485.50	0.95	0.17
B	A+	7.750	12	33,045,403.85	1,291,181.23	6,546,208.60	74.153	19.724	5.792	4.816	20.284	0.550	(612,678.46)	0.000	0.00	1,319,662.33	1.25	0.20
G	A+	7.750	13	24,763,490.25	914,879.21	6,936,760.00	64.332	13.189	4.175	3.058	36.505	0.885	(565,825.10)	0.000	0.00	1,903,289.50	1.21	0.27
U	A	8.000	14	18,579,367.53	(1,147,698.29)	8,263,850.54	64.384	(13.888)	(5.781)	(4.264)	35.575	0.000	(3,074,995.11)	53.083	923,077.04	2,067,157.00	1.19	0.25
I	BBB	9.000	15	(33,630,806.95)	(1,821,668.71)	1,712,160.00	63.847	(106.396)	(9.499)	(6.703)	41.714	0.000	(627,013.99)	0.000	0.00	577,520.00	1.50	0.34
V	A-	8.250	16	(37,981,110.47)	(1,938,619.18)	1,350,480.00	64.744	(143.550)	(10.170)	(7.164)	41.970	0.008	(555,505.50)	0.000	12,690.00	356,700.00	1.14	0.26
R	BBB+	8.750	17	(42,505,560.85)	(2,258,107.92)	856,080.00	64.335	(263.773)	(12.048)	(8.444)	42.685	0.000	(565,861.75)	0.000	0.00	235,420.00	1.23	0.28
S	BBB+	8.750	18	(42,506,987.29)	(2,258,183.70)	856,080.00	64.335	(263.782)	(12.049)	(8.444)	42.685	0.000	(565,861.75)	0.000	0.00	235,420.00	1.23	0.28
L	BBB+	8.750	19	(42,509,909.08)	(2,258,338.92)	856,080.00	64.335	(263.800)	(12.050)	(8.445)	42.686	0.000	(565,861.75)	0.000	0.00	235,420.00	1.23	0.28
P	BBB+	8.750	20	(42,514,300.80)	(2,258,572.23)	856,080.00	64.335	(263.827)	(12.051)	(8.446)	42.686	0.000	(565,861.75)	0.000	0.00	235,420.00	1.23	0.28
D	BBB+	8.750	21	(42,515,714.07)	(2,258,647.31)	856,080.00	64.335	(263.836)	(12.052)	(8.446)	42.686	0.000	(565,861.75)	0.000	0.00	235,420.00	1.23	0.28
M	BBB+	8.750	22	(42,523,034.92)	(2,259,036.23)	856,080.00	64.335	(263.881)	(12.054)	(8.448)	42.687	0.000	(565,861.75)	0.000	0.00	235,420.00	1.23	0.28

Round 6 - Results

Financial Statements - R6

Team	Credit ratings	Interest Rate (%)	Rank	Company valuation	Cumulative Net Income	Total sales	Gross Margin (%)	Net Margin (%)	ROE (%)	ROA (%)	D/E (%)	Mktg/S (%)	Round Net Income	Round Productivity	Round Sales per Team	CO2e (kg)	CO2e per Unit Sold (kg/unit)	CO2e per Sales (kg/€)
A	AAA+	6.000	1	268,476,706.40	13,173,835.32	23,846,058.00	78.128	55.245	38.549	38.549	0.000	0.368	2,653,617.41	80.597	4,248,880.20	5,547,985.50	1.90	0.23
T	AAA+	6.000	2	230,897,293.80	11,264,864.69	19,841,590.21	78.833	56.774	34.914	29.894	16.791	0.283	2,676,910.23	79.346	4,302,619.51	1,791,545.56	0.72	0.09
K	AAA+	6.000	3	163,711,301.20	8,030,565.06	16,850,129.10	78.478	47.659	27.662	26.624	3.902	0.489	2,158,136.79	82.692	4,216,267.15	2,144,557.38	0.89	0.13
O	AAA+	6.000	4	136,494,690.60	6,694,734.53	16,064,669.34	66.517	41.674	24.173	24.107	0.275	0.021	1,716,943.01	87.083	3,373,687.20	2,683,804.00	0.99	0.17
E	AAA+	6.000	5	97,785,090.60	3,771,754.53	14,457,731.80	73.546	26.088	15.226	13.109	16.147	0.008	885,673.13	97.818	2,327,341.00	3,970,510.47	1.81	0.27
Q	AAA+	6.000	6	87,137,418.40	4,221,870.92	11,922,311.93	72.250	35.412	16.739	13.781	21.467	0.000	585,186.07	71.224	1,629,949.60	3,479,224.36	1.70	0.29
N	A+	7.750	7	81,735,082.04	4,146,936.07	12,007,260.45	77.315	34.537	16.491	11.716	40.756	0.025	(613,887.80)	0.000	0.00	1,548,921.90	0.88	0.13
J	AA+	6.500	8	68,597,979.16	3,157,141.38	11,371,366.48	68.729	27.764	13.069	9.652	35.407	0.025	827,459.42	83.667	2,262,505.00	2,167,542.50	1.01	0.19
F	A-	8.250	9	61,703,769.96	3,509,355.91	10,755,864.23	72.245	32.627	14.318	10.540	35.852	0.090	830,726.69	80.834	1,980,388.54	2,262,519.73	0.81	0.21
H	AA+	6.500	10	57,344,414.70	3,082,262.29	8,579,597.23	76.607	35.925	12.799	9.498	34.750	0.001	1,266,069.53	60.833	2,352,696.95	1,506,617.50	1.21	0.18
C	AA	7.000	11	18,223,412.91	1,002,287.71	6,328,150.41	68.272	15.839	4.555	3.341	36.360	0.076	(554,367.14)	0.000	0.00	1,088,485.50	0.97	0.17
B	AA-	7.250	12	17,011,939.38	676,921.59	6,546,208.60	74.153	10.341	3.123	2.584	20.859	0.550	(614,259.64)	0.000	0.00	1,467,662.33	1.39	0.22
U	A	8.000	13	13,039,248.83	(997,645.07)	9,751,124.54	63.828	(10.231)	(4.988)	(3.732)	33.630	0.000	150,053.22	62.958	1,487,274.00	2,434,598.30	1.18	0.25
G	AA-	7.250	14	10,702,817.42	347,033.48	6,936,760.00	64.332	5.003	1.626	1.183	37.476	0.972	(567,845.73)	0.000	0.00	1,921,289.50	1.22	0.28
I	A-	8.250	15	(40,018,637.71)	(2,451,141.56)	1,712,160.00	63.847	(143.161)	(13.215)	(9.233)	43.129	0.000	(629,472.85)	0.000	0.00	695,520.00	1.81	0.41
V	BBB+	8.750	16	(40,653,909.49)	(2,591,686.73)	1,569,930.00	60.799	(165.083)	(14.079)	(9.553)	47.384	0.016	(653,067.55)	25.000	219,450.00	827,870.00	2.27	0.53
R	A-	8.250	17	(46,140,797.55)	(2,826,123.85)	856,080.00	64.335	(330.124)	(15.550)	(10.797)	44.019	0.000	(568,015.93)	0.000	0.00	253,420.00	1.32	0.30
S	A-	8.250	18	(46,142,034.78)	(2,826,199.63)	856,080.00	64.335	(330.133)	(15.551)	(10.798)	44.019	0.000	(568,015.93)	0.000	0.00	253,420.00	1.32	0.30
L	A-	8.250	19	(46,144,568.98)	(2,826,354.85)	856,080.00	64.335	(330.151)	(15.552)	(10.798)	44.020	0.000	(568,015.93)	0.000	0.00	253,420.00	1.32	0.30
P	A-	8.250	20	(46,148,378.12)	(2,826,588.16)	856,080.00	64.335	(330.178)	(15.553)	(10.799)	44.020	0.000	(568,015.93)	0.000	0.00	253,420.00	1.32	0.30
D	A-	8.250	21	(46,149,603.92)	(2,826,663.24)	856,080.00	64.335	(330.187)	(15.554)	(10.800)	44.021	0.000	(568,015.93)	0.000	0.00	253,420.00	1.32	0.30
M	A-	8.250	22	(46,155,953.63)	(2,827,052.16)	856,080.00	64.335	(330.232)	(15.556)	(10.801)	44.021	0.000	(568,015.93)	0.000	0.00	253,420.00	1.32	0.30

Thank you!

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