



# **Logistics buyers and suppliers: do they have agreement on green logistics?**

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Results from a large-scale survey on the Swedish market

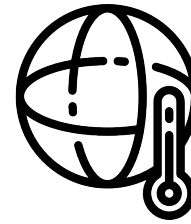
Amer Jazairy

Robin von Haartman

21 October 2019



# Logistics practices



climate change



air pollution



resource depletion



congestion



noise



vibration



**Buyers**

*final call*

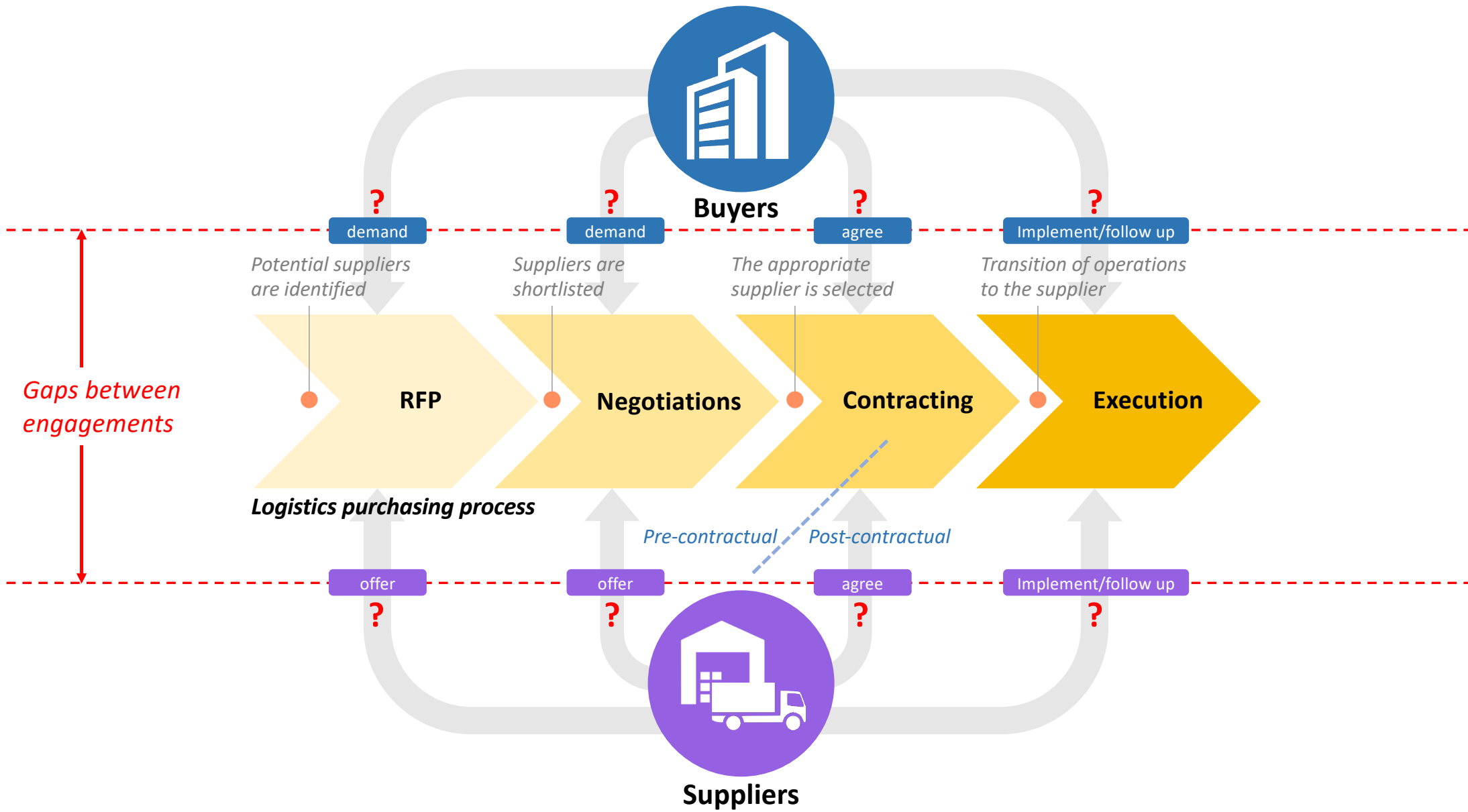
*"Greening" of*

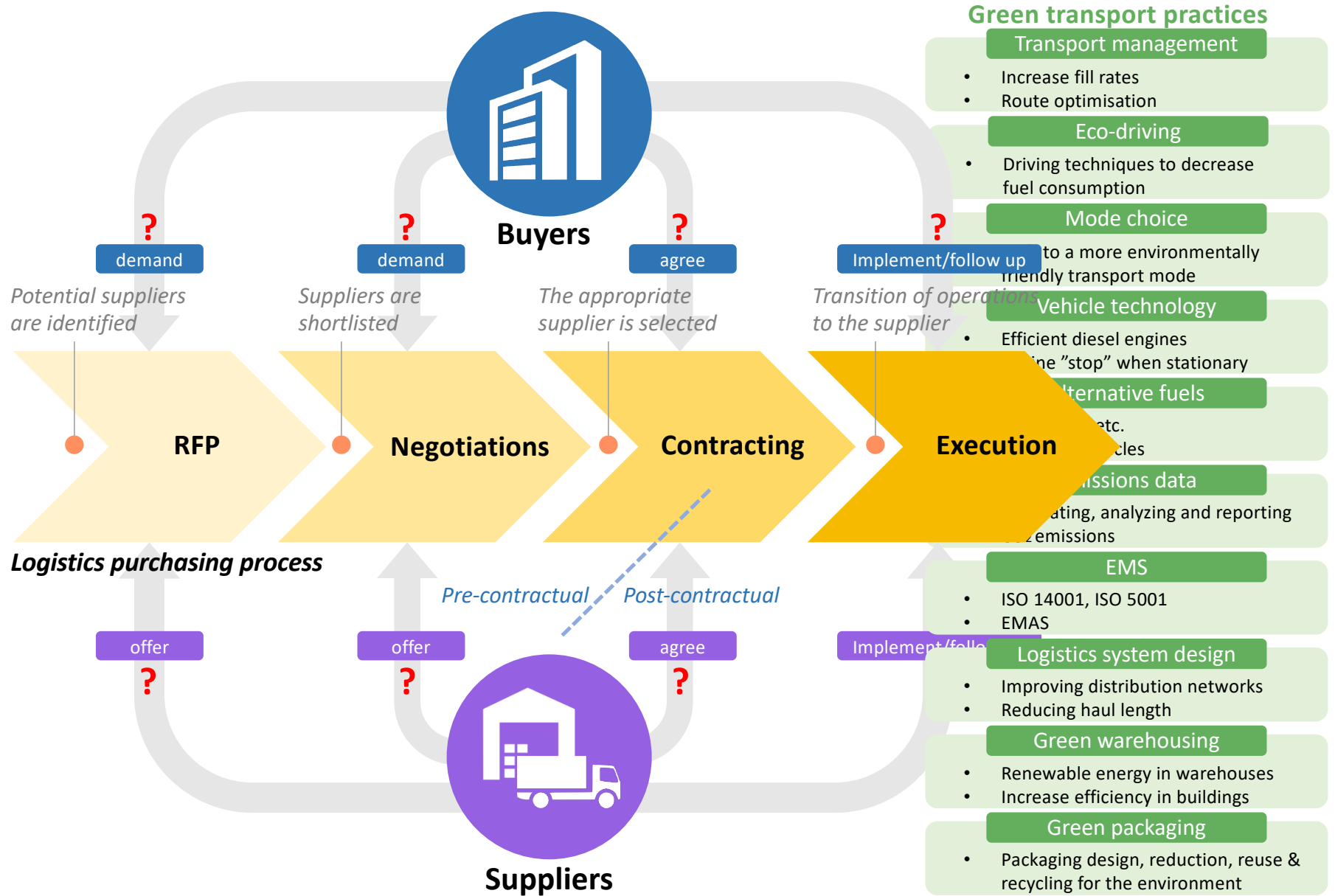


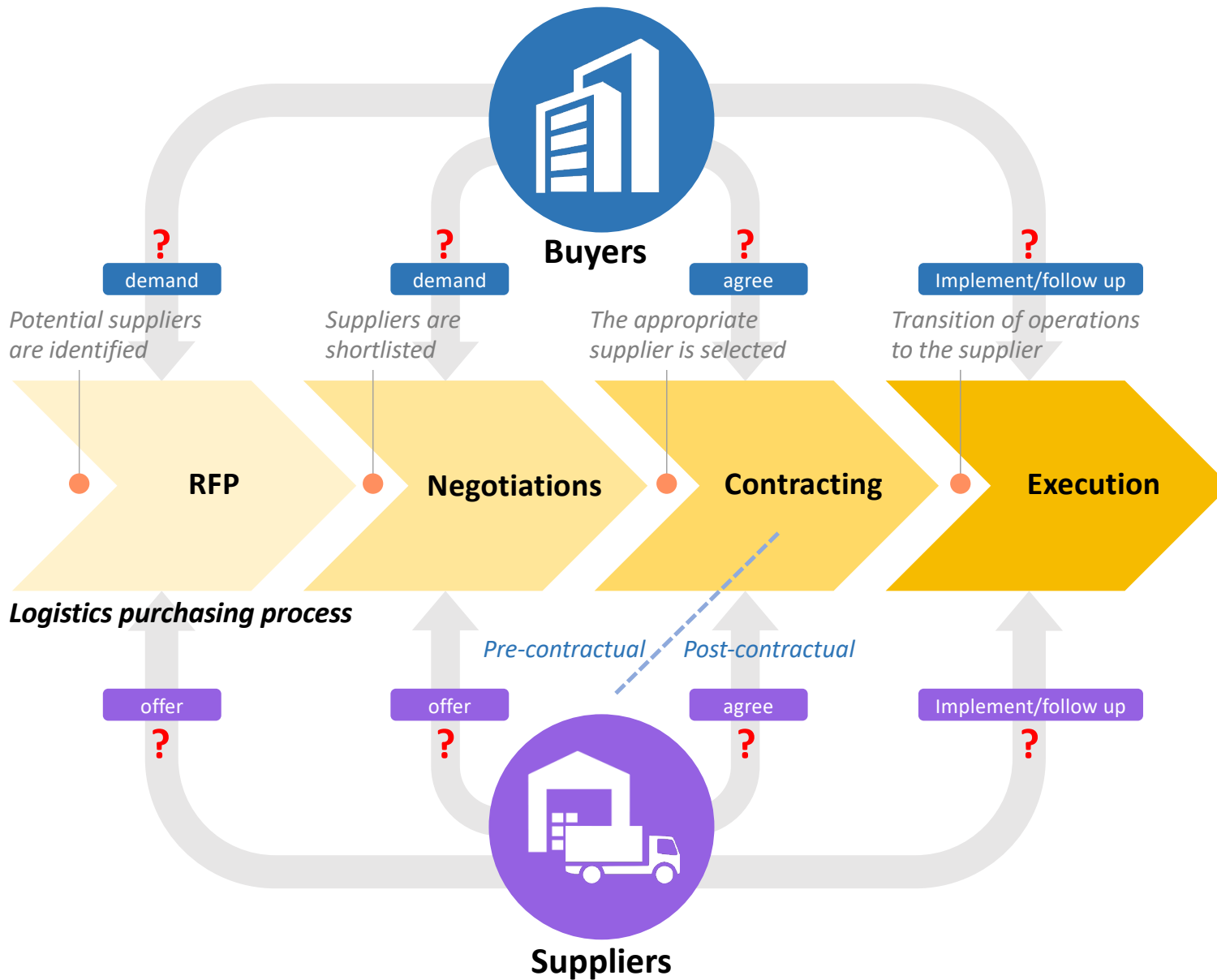
**Suppliers**

*expertise*

**Logistics practices**







**Transport management**

- Increase fill rates
- Route optimisation

**Eco-driving**

- Driving techniques to decrease fuel consumption

**Mode choice**

- Shift to a more environmentally friendly transport mode

**Vehicle technology**

- Efficient diesel engines
- Engine "stop" when stationary

**Alternative fuels**

- HVO, RME, etc.
- Electrical vehicles

**Emissions data**

- Calculating, analyzing and reporting CO<sub>2</sub> emissions

**EMS**

- ISO 14001, ISO 5001
- EMAS

**Logistics system design**

- Improving distribution networks
- Reducing haul length

**Green warehousing**

- Renewable energy in warehouses
- Increase efficiency in buildings

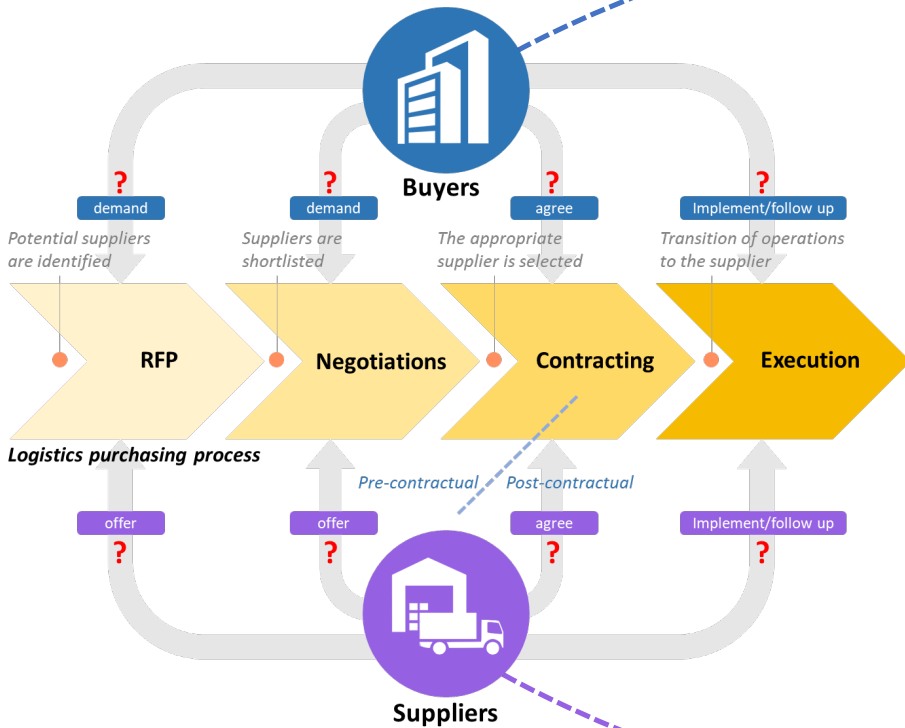
**Green packaging**

- Packaging design, reduction, reuse & recycling for the environment

# Survey Nov 2018 – Feb 2019



x169



x162

- Transport management**
  - Increase fill rates
  - Route optimisation
- Eco-driving**
  - Driving techniques to decrease fuel consumption
- Mode choice**
  - Shift to a more environmentally friendly transport mode
- Vehicle technology**
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- Green warehousing**
  - Renewable energy in warehouses
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- Green packaging**
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Industry	n	%
<b>Manufacturing</b> (incl. automotive, machines, metals, electronics, paper, furniture, ...)	85	50.3
<b>Wholesales</b> (incl. household appliances, medical equipment, building material, ...)	44	26.0
<b>Retail</b> (incl. garments, computers and electronics, cosmetics, ...)	16	9.5
<b>Food production</b> (incl. meat production, seafood, bakeries, ...)	12	7.1
<b>Construction</b> (incl. buildings, roads, ...)	6	3.6
<b>IT &amp; telecommunication</b>	3	1.8
<b>Others</b>	3	1.8

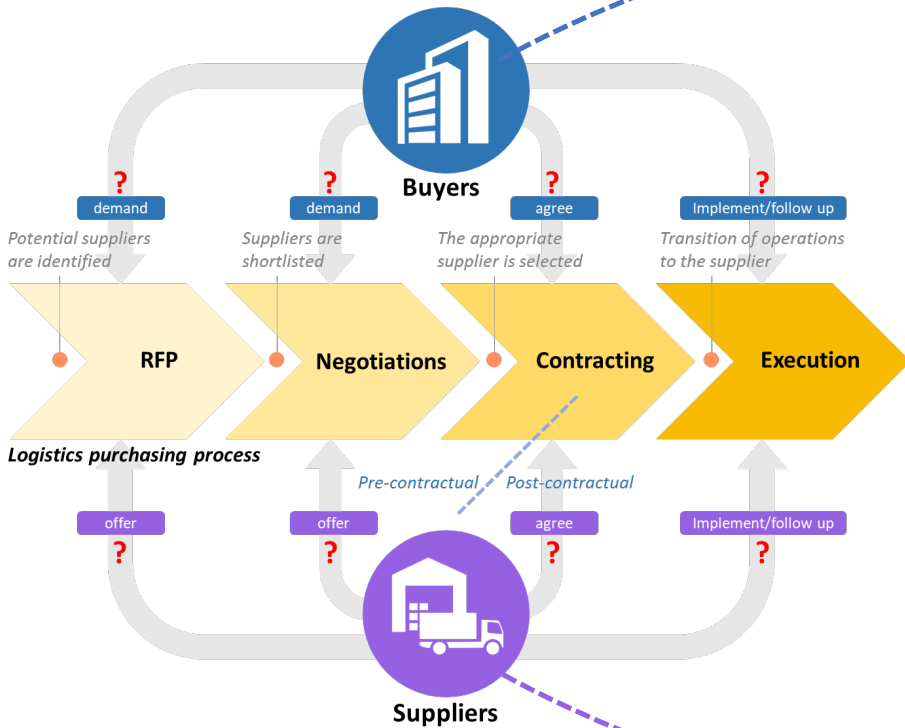
Job position	n	%
Top management	9	5.3
Logistics/supply chain manager	113	66.9
Transportation manager	8	4.7
Purchasing manager	26	15.4
Environmental manager	5	3.0
Sales manager	2	1.2
Others	6	3.6

Job position	n	%
Top management	64	39.5
Logistics/supply chain manager	26	16.0
Transportation manager	8	4.9
Purchasing manager	3	1.9
Environmental manager	36	22.2
Sales manager	10	6.2
Others	15	9.3

# Survey



x169



x162

questions

questions

- Transport management**
  - Increase fill rates
  - Route optimisation
- Eco-driving**
  - Driving techniques to decrease fuel consumption
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- Alternative fuels**
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- EMS**
  - ISO 14001, ISO 5001
  - EMAS
- Logistics system design**
  - Improving distribution networks
  - Reducing haul length
- Green warehousing**
  - Renewable energy in warehouses
  - Increase efficiency in buildings
- Green packaging**
  - Packaging design, reduction, reuse & recycling for the environment

To what extent do you demand/agree on/implement & follow up **alternative fuels (e.g. HVO, electrical vehicles)** with your transport suppliers in each of the following logistics purchasing phases?

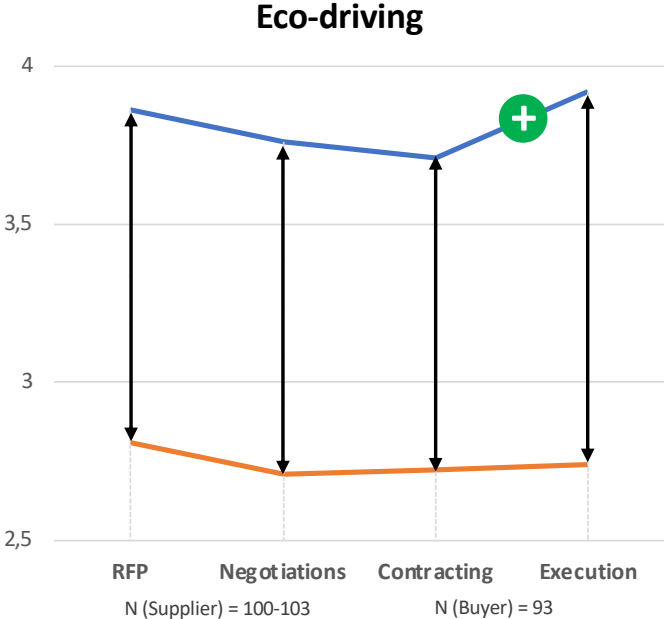
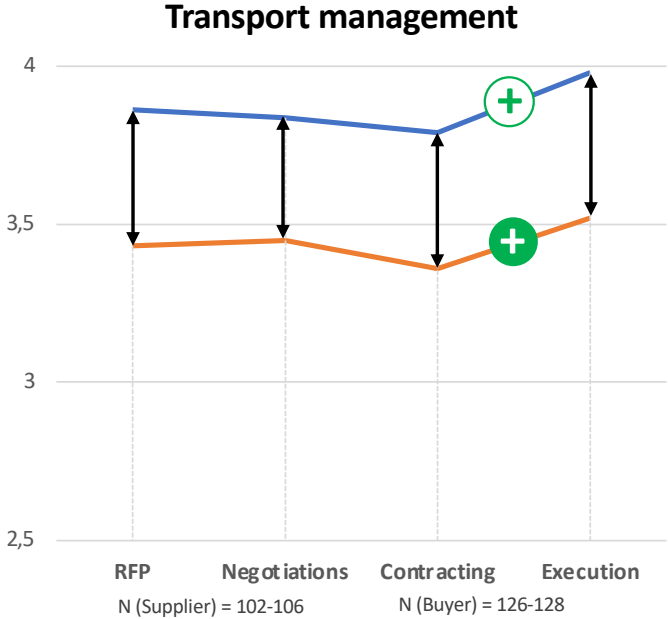
	very low				very high
<b>RFP</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Negotiations</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Contracting</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Execution</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	We don't demand this			<input type="checkbox"/>	

To what extent do you offer/agree on/implement & follow up **alternative fuels (e.g. HVO, electrical vehicles)** with your transport buyers in each of the following logistics purchasing phases?

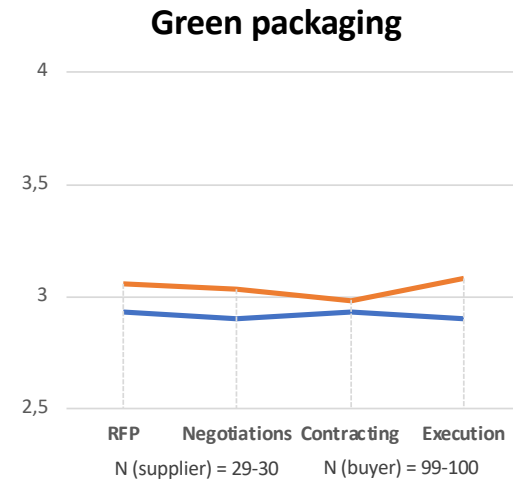
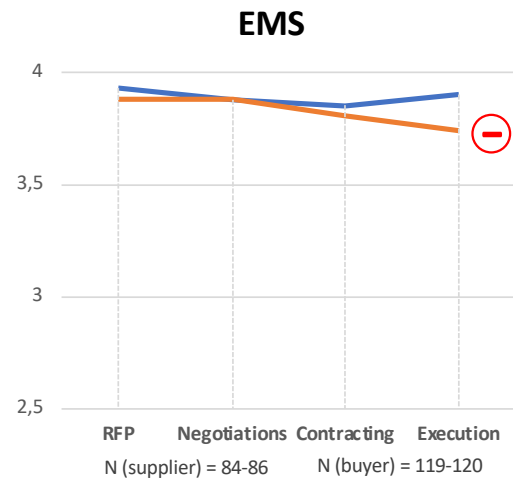
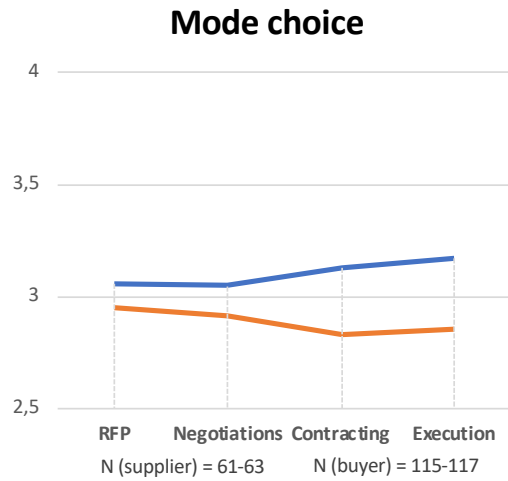
	very low				very high
<b>RFP</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Negotiations</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Contracting</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Execution</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	We don't offer this			<input type="checkbox"/>	



# Pattern 1: Steady & wide gap



# Pattern 2: Steady & narrow gap



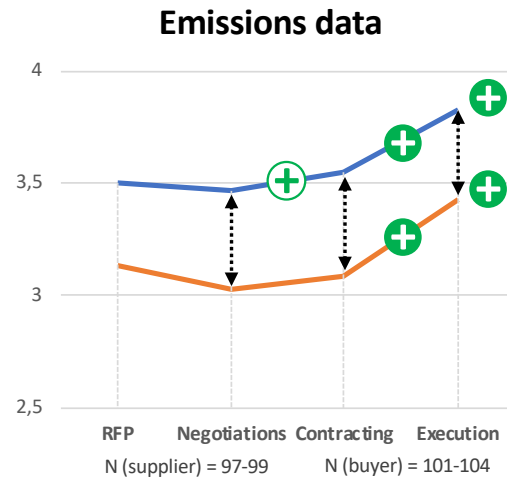
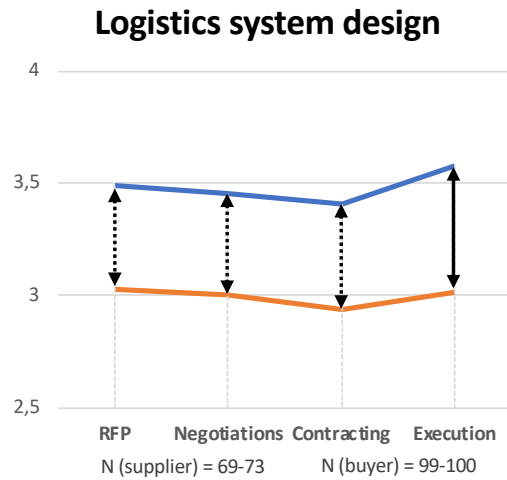
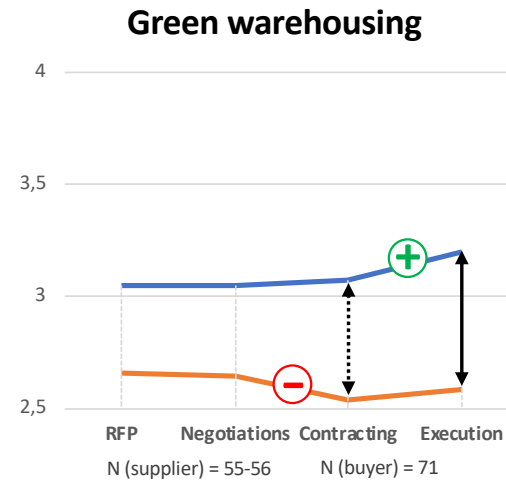
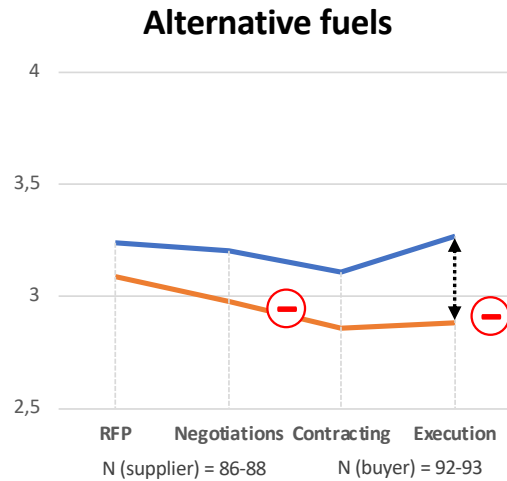
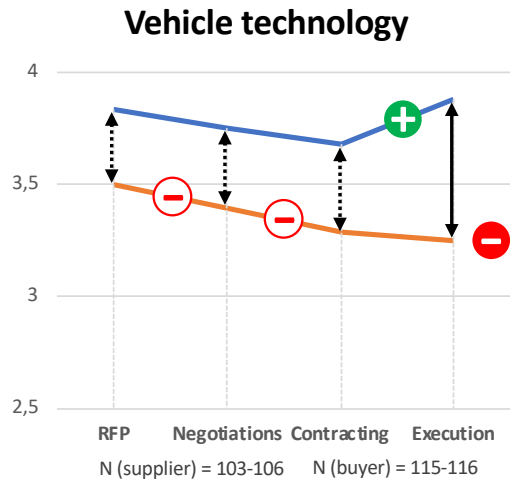
Buyers  
Suppliers

⊕ S. significant increase  
 $p < 0.01$   
⊖ S. significant decrease  
 $p < 0.01$

⊕ Significant increase  
 $p < 0.05$   
⊖ Significant decrease  
 $p < 0.05$

↕ S. significant difference  
 $p < 0.01$   
⋮ Significant difference  
 $p < 0.05$

# Pattern 3: Emergent gap



Buyers  
Suppliers

⊕ S. significant increase  
 $p < 0.01$   
⊖ S. significant decrease  
 $p < 0.01$

⊕ Significant increase  
 $p < 0.05$   
⊖ Significant decrease  
 $p < 0.05$

↕ S. significant difference  
 $p < 0.01$   
⋮ Significant difference  
 $p < 0.05$

## Prioritization of practices



### Buyers

1. EMS (e.g. ISO 14001)

2. Transport management

3. Emissions data

4. Vehicle technology

5. Choice of partners

6. Green packaging

7. Logistics system design

8. Alternative fuels

9. Emissions data

10. Mode choice

11. Eco-driving



### Suppliers

1. Transport management

2. Eco-driving

3. EMS (e.g. ISO 14001)

4. Vehicle technology

5. Emissions data

6. Logistics system design

7. Choice of partners

8. Alternative fuels

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# Prioritization of practices



## Buyers

- 1. EMS (e.g. ISO 14001)
- 2. Transport management
- 3. Emissions data
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- 5. Choice of partners
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- 7. Logistics system design
- 8. Alternative fuels
- 9. Emissions data
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## Suppliers

- 1. Transport management
- 2. Eco-driving
- 3. EMS (e.g. ISO 14001)
- 4. Vehicle technology
- 5. Emissions data
- 6. Logistics system design
- 7. Choice of partners
- 8. Alternative fuels
- 9. Green warehouses
- 10. Mode choice
- 11. Green packaging



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**Thank you**

Questions?



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