



# Industrial symbiosis

## Best practices in the European Union

Eionet webinar on Resource efficiency

02.12.13

**Guillaume Massard**

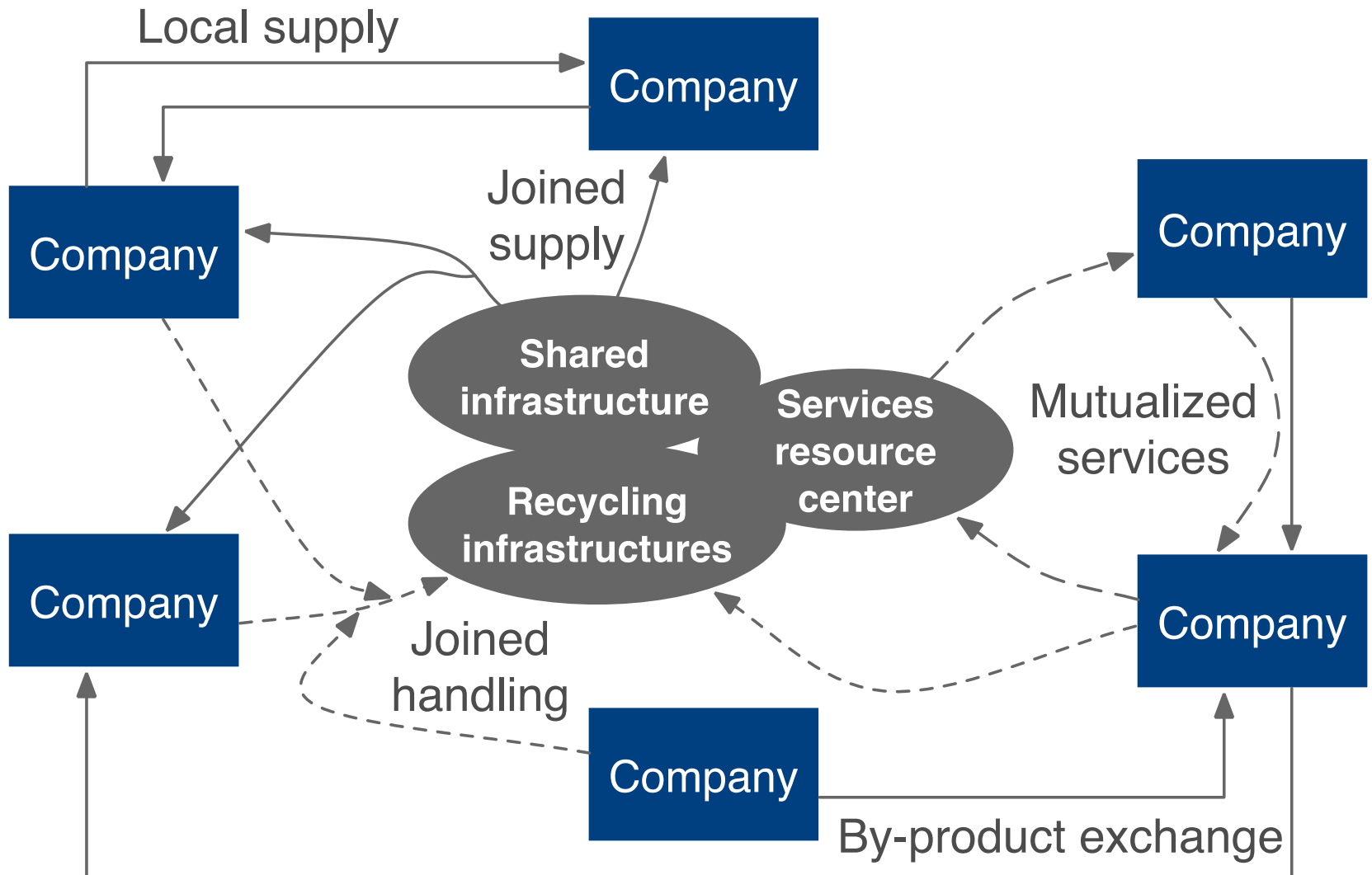
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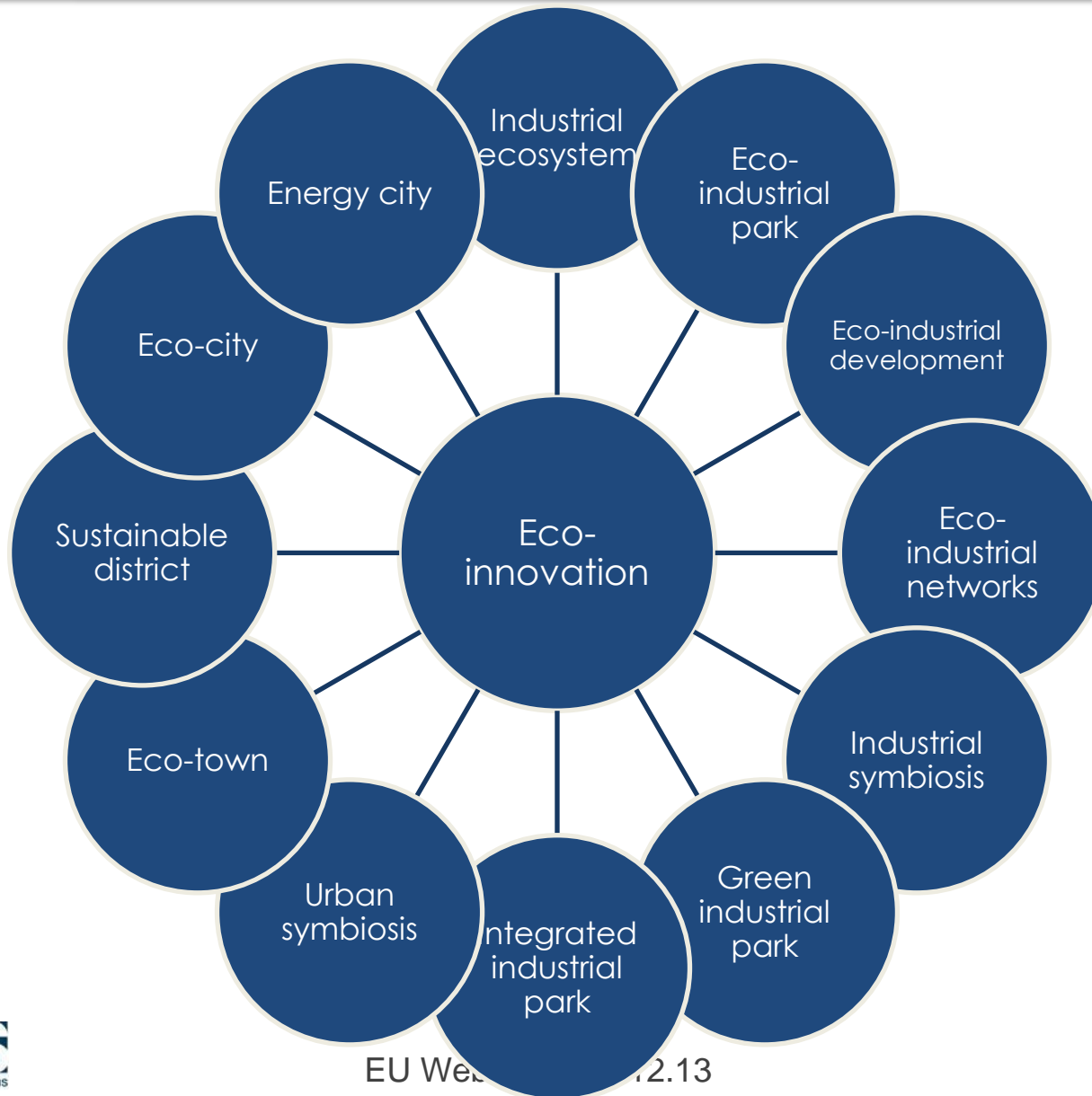
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# What is industrial symbiosis ?



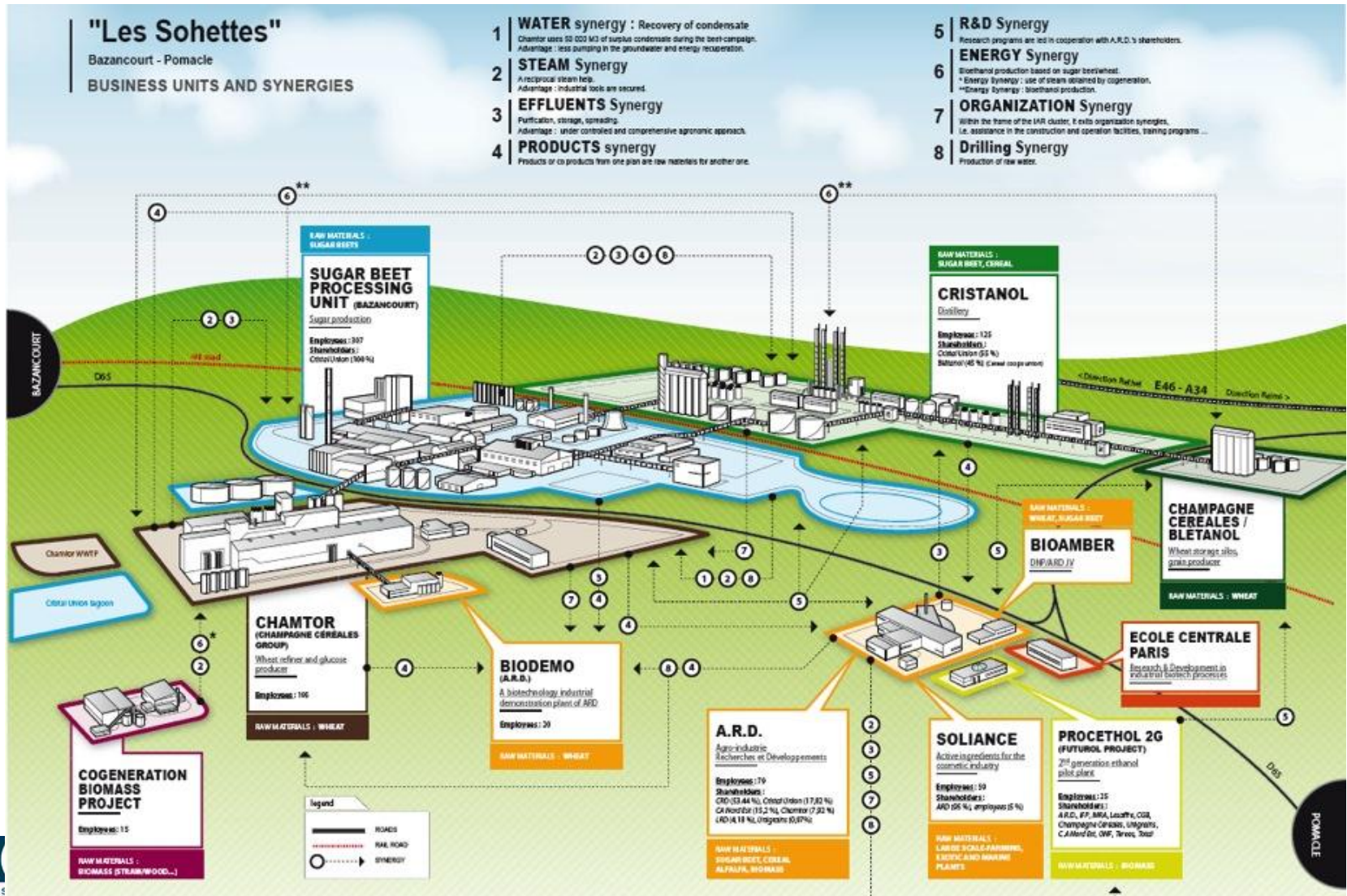
# What is industrial symbiosis ?

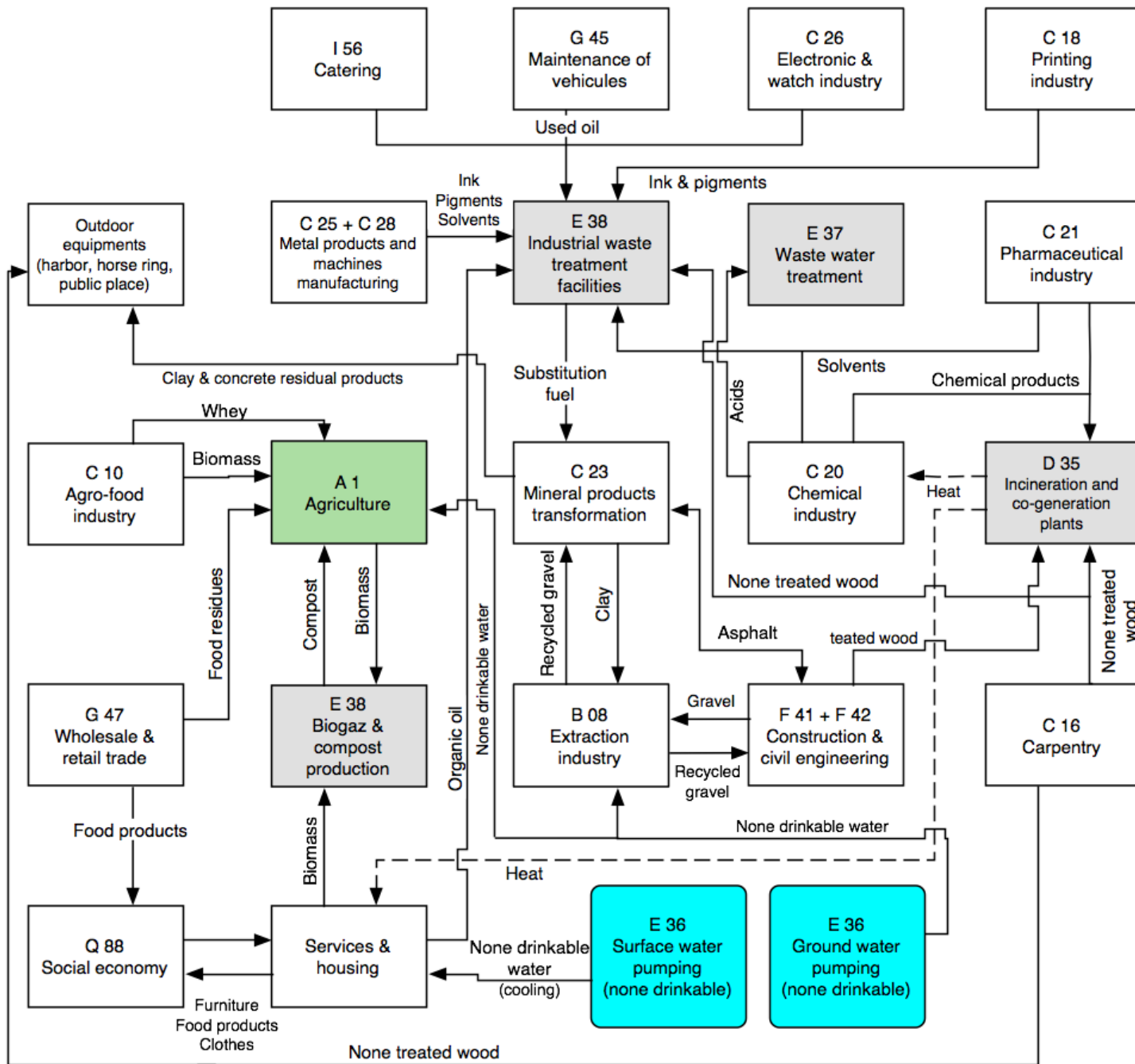
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# Case studies

## Pomacle-Bazancourt







# What is industrial symbiosis ?

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**Industrial symbioses** offer an innovative resource management approach for companies wishing to **reduce their environmental impacts** while **securing their resource supply** and **strengthening their economic competitiveness**



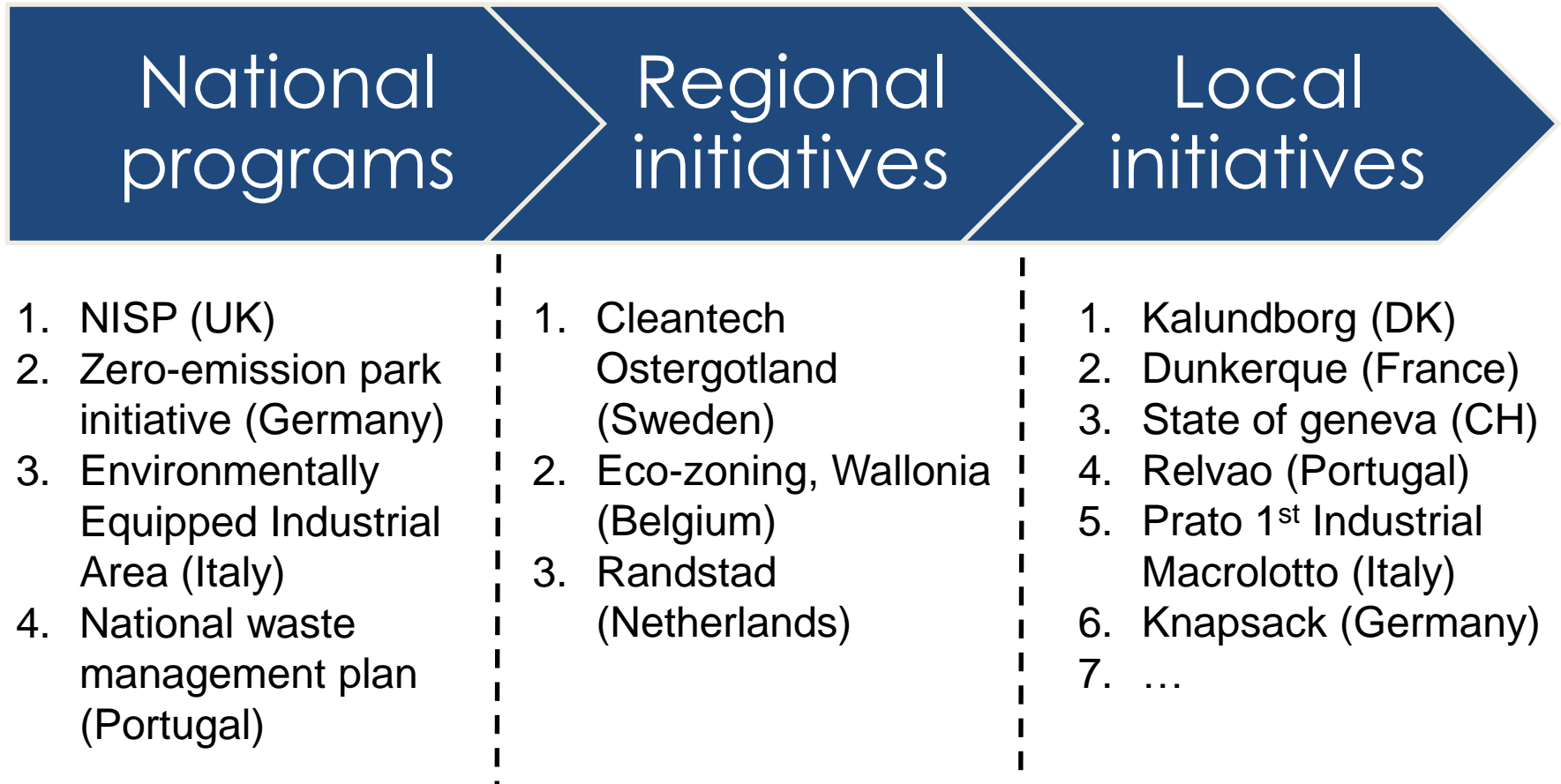
# Who are the actors involve in industrial symbiosis ?

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# Who are the actors involve in industrial symbiosis ?

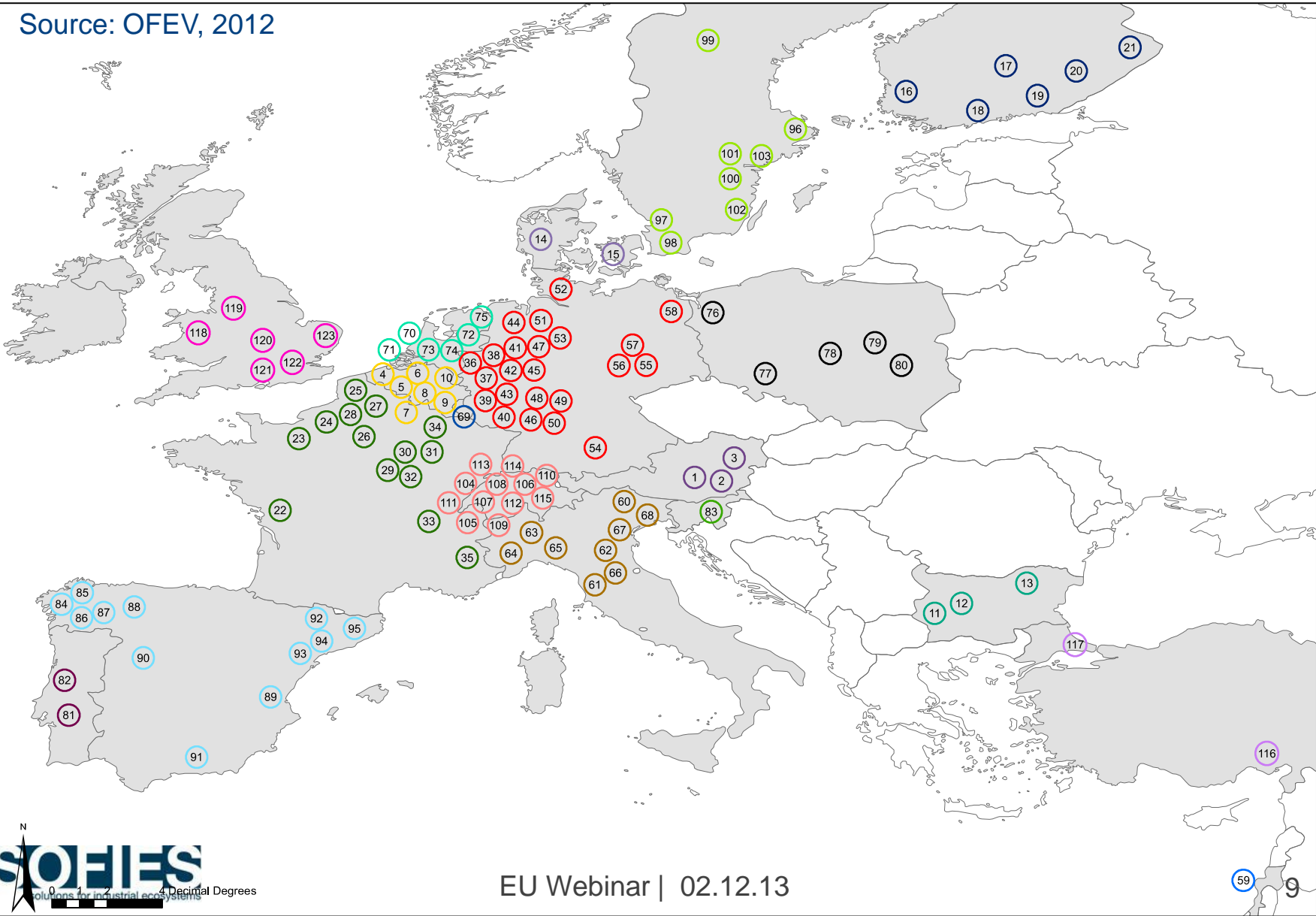
## Diversity of support mechanisms for industrial symbiosis and eco-industrial park in Europe





# International survey on eco-innovation in industrial parks

Source: OFEV, 2012



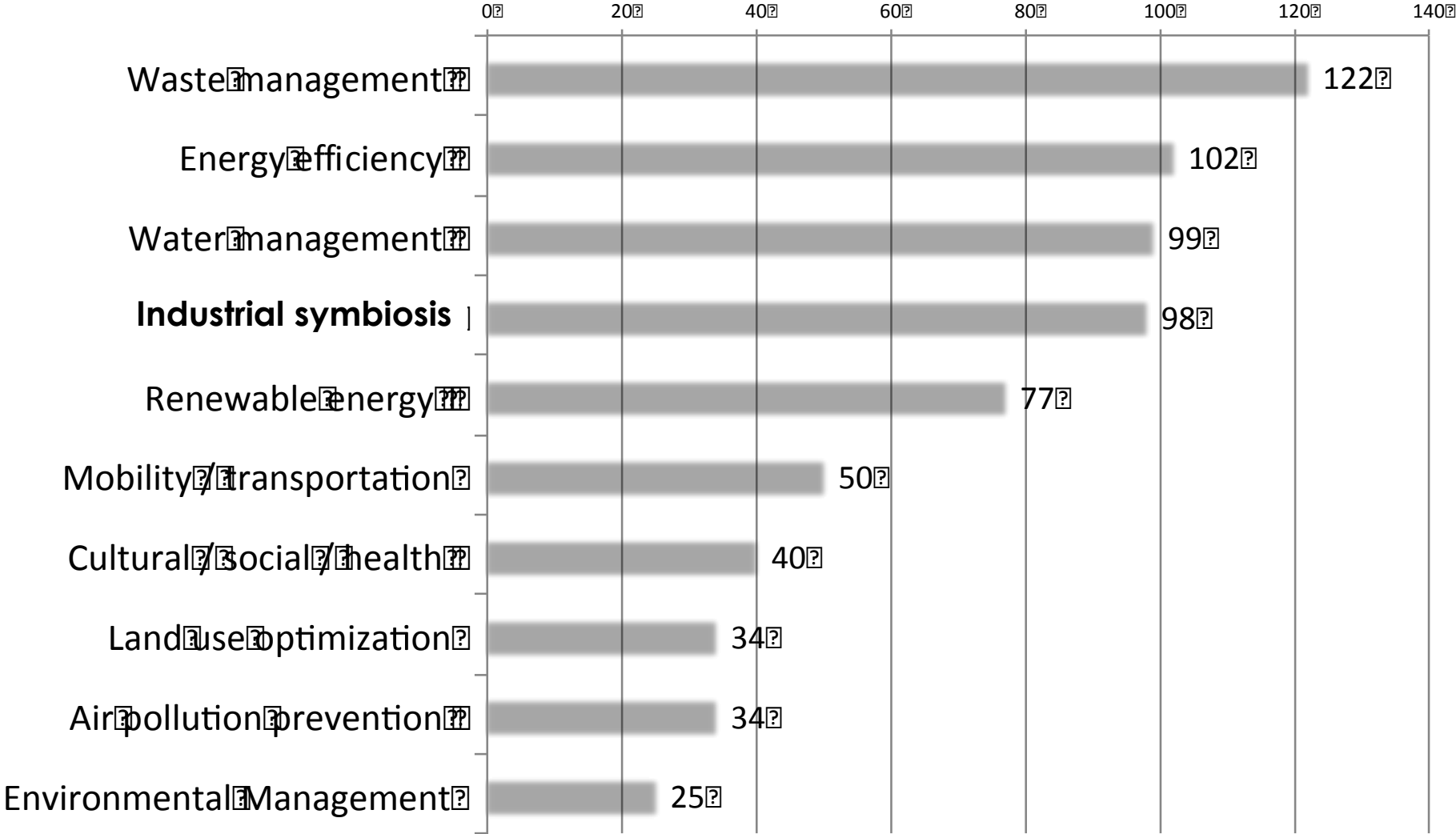
# International survey on eco-innovation in industrial parks

Source: OFEV & Sofies, 2012

	Identified	Non-detailed	Detailed as case study				
			total	industrial	combined	urban	
European countries	Austria	4	1	3	2	0	1
	Belgium	10	3	7	6	1	0
	Bulgaria	2	1	1	1	0	0
	Denmark	5	2	3	0	2	1
	Finland	9	4	5	5	0	0
	France	19	5	14	13	0	1
	Germany	40	15	25	24	1	0
	Ireland	2	2	0	0	0	0
	Italy	18	9	9	7	2	0
	Luxembourg	1	0	1	0	1	0
	Netherlands	16	9	7	7	0	0
	Poland	6	1	5	4	1	0
	Portugal	7	5	2	1	1	0
	Slovenia	1	0	1	1	0	0
	Spain	15	3	12	9	3	0
	Sweden	11	4	7	1	5	1
	Switzerland	22	14	8	7	1	0
	United Kingdom	14	9	5	4	1	0
Non-European countries	Australia	8	4	4	4	0	0
	China	20	7	13	7	6	0
	India	12	6	6	6	0	0
	Israel	2	1	1	1	0	0
	Japan	28	20	8	8	0	0
	South Korea	7	0	7	6	0	1
	Turkey	3	1	2	2	0	0
	United Arab Emirates	2	0	2	0	0	2
	United States of America	17	8	9	6	3	0
<b>TOTAL</b>	<b>301</b>	<b>134</b>	<b>167</b>	<b>132</b>	<b>28</b>	<b>7</b>	
					<b>167</b>		

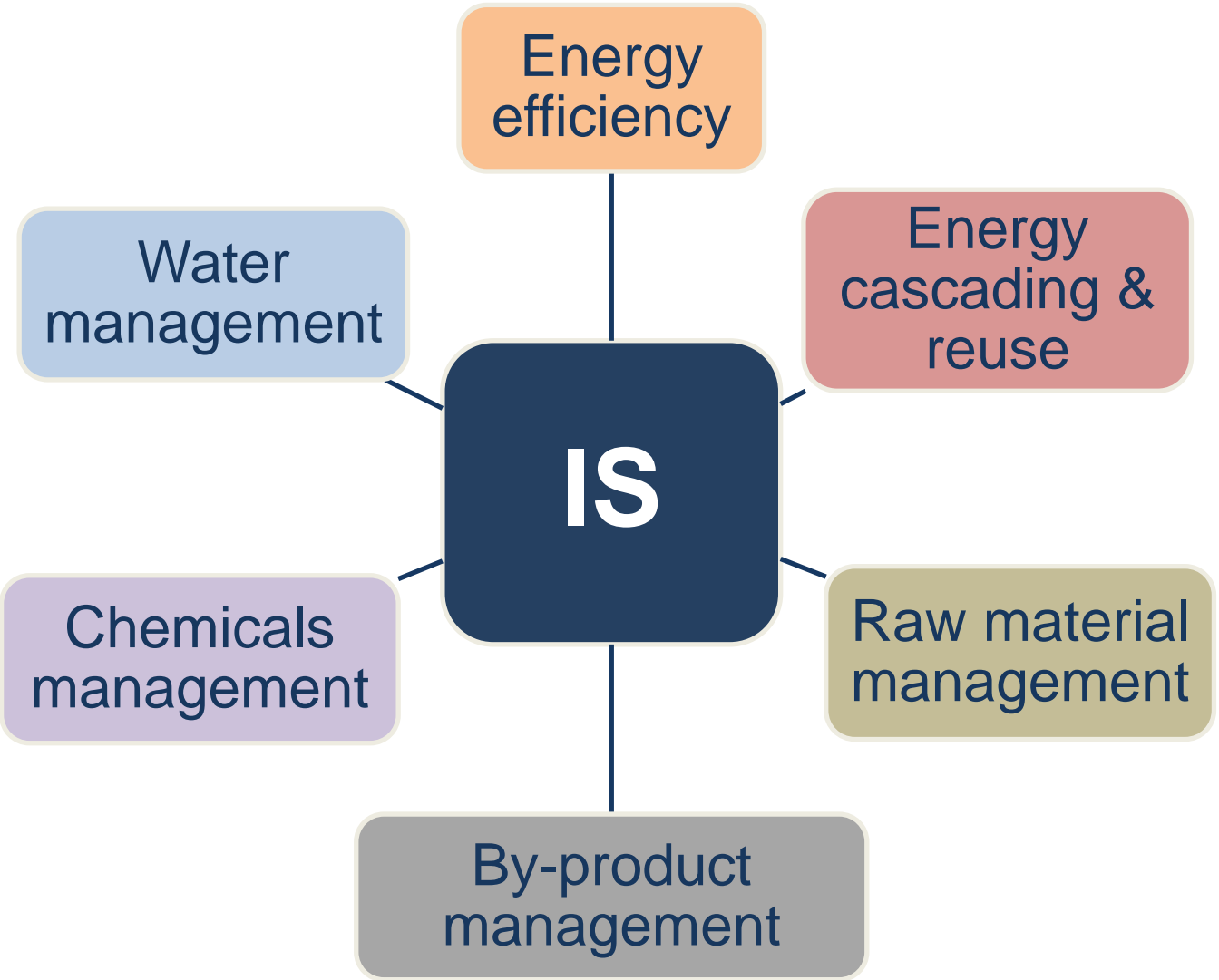
# International survey on eco-innovation in industrial parks

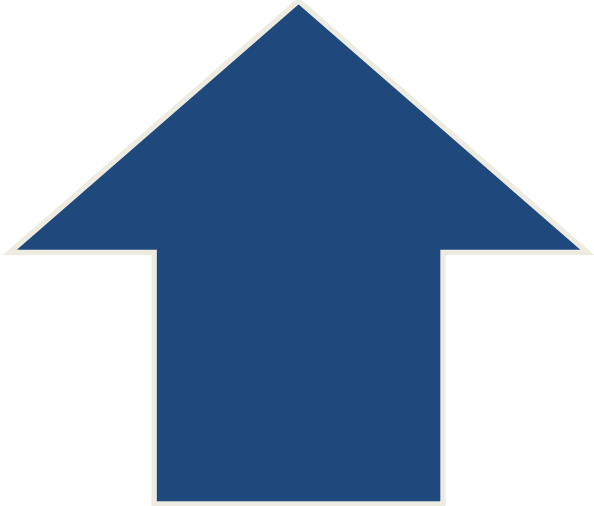
Source: OFEV & Sofies, 2012



# Industrial symbiosis: business opportunities

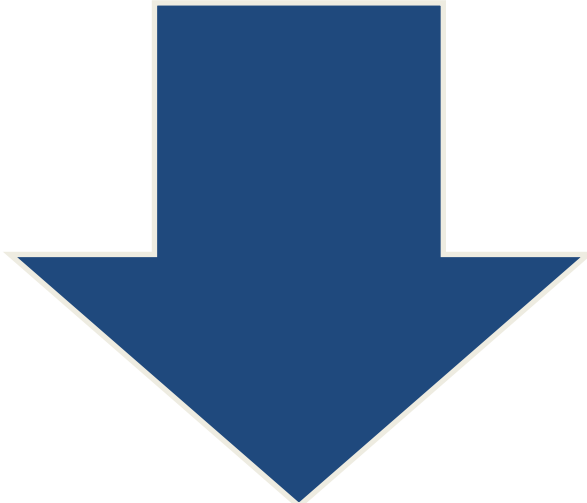
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## **Juvenile recycling system**

- Divert waste from landfill through the development of eco-industries or direct waste reuse
- Waste to energy

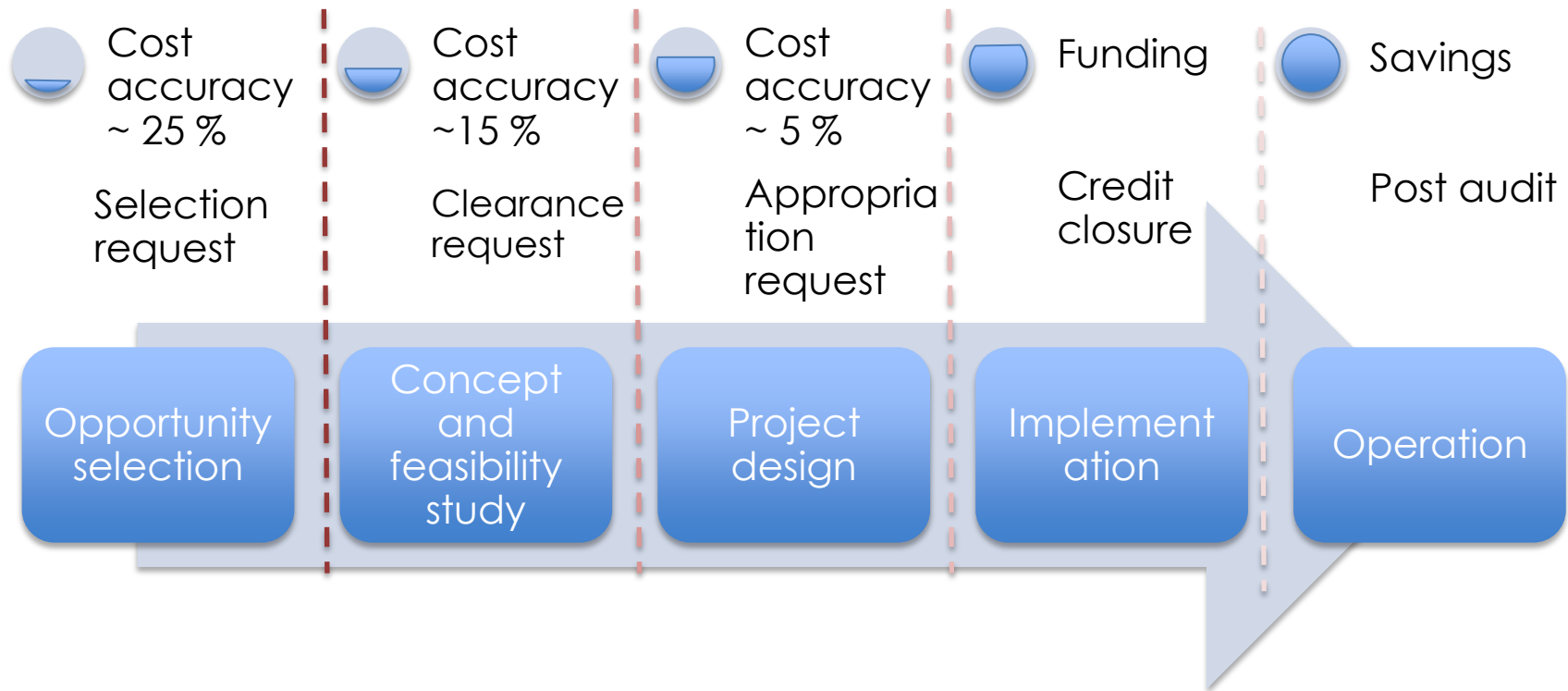


## **Mature recycling system**

- Energy networks
- Shared services
- Eco-industrial development
- Clustering reinforcement

# Industrial symbiosis: business opportunities

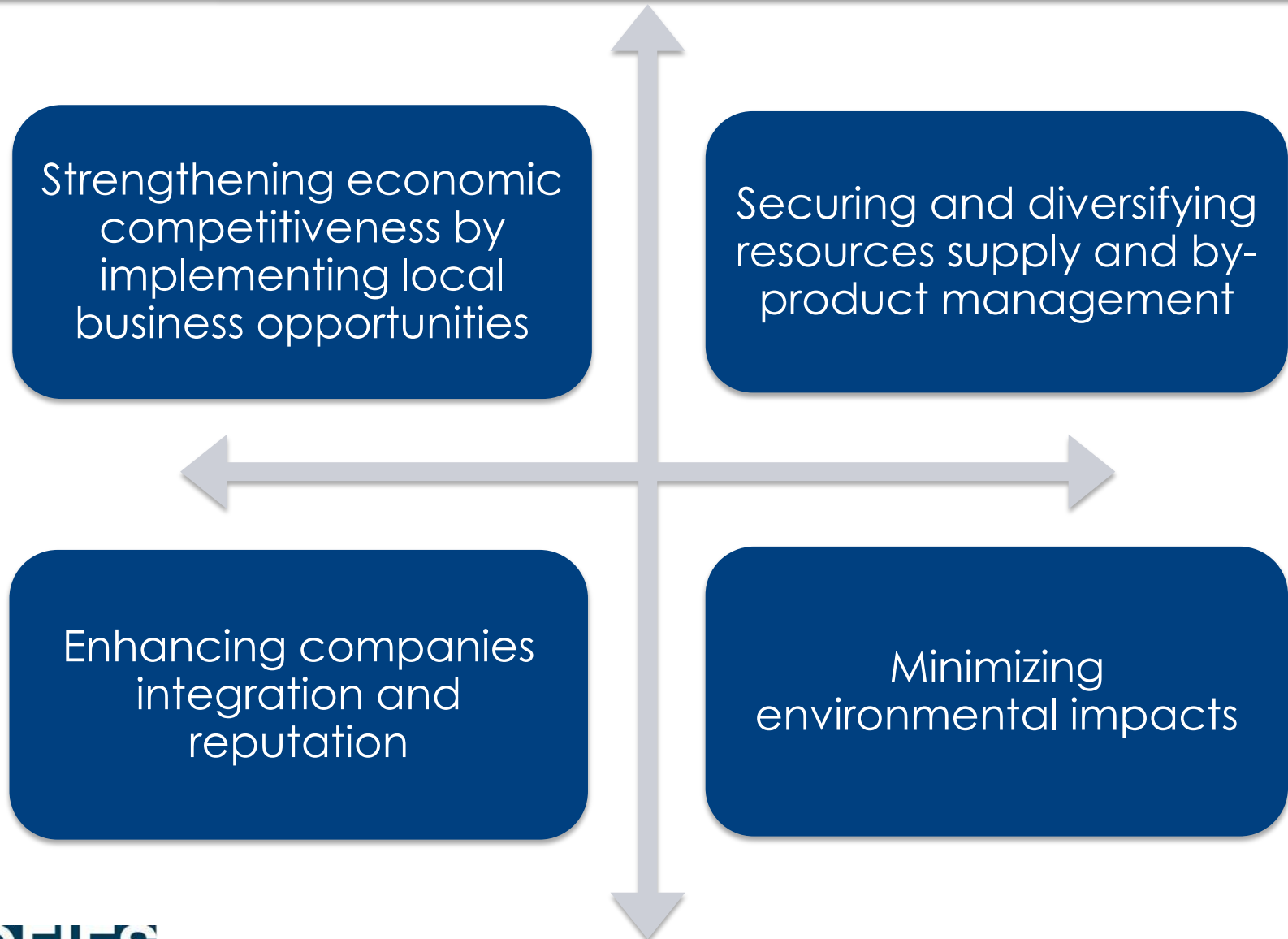
Capital expenditure should be made with a view to creating value and expanding business.





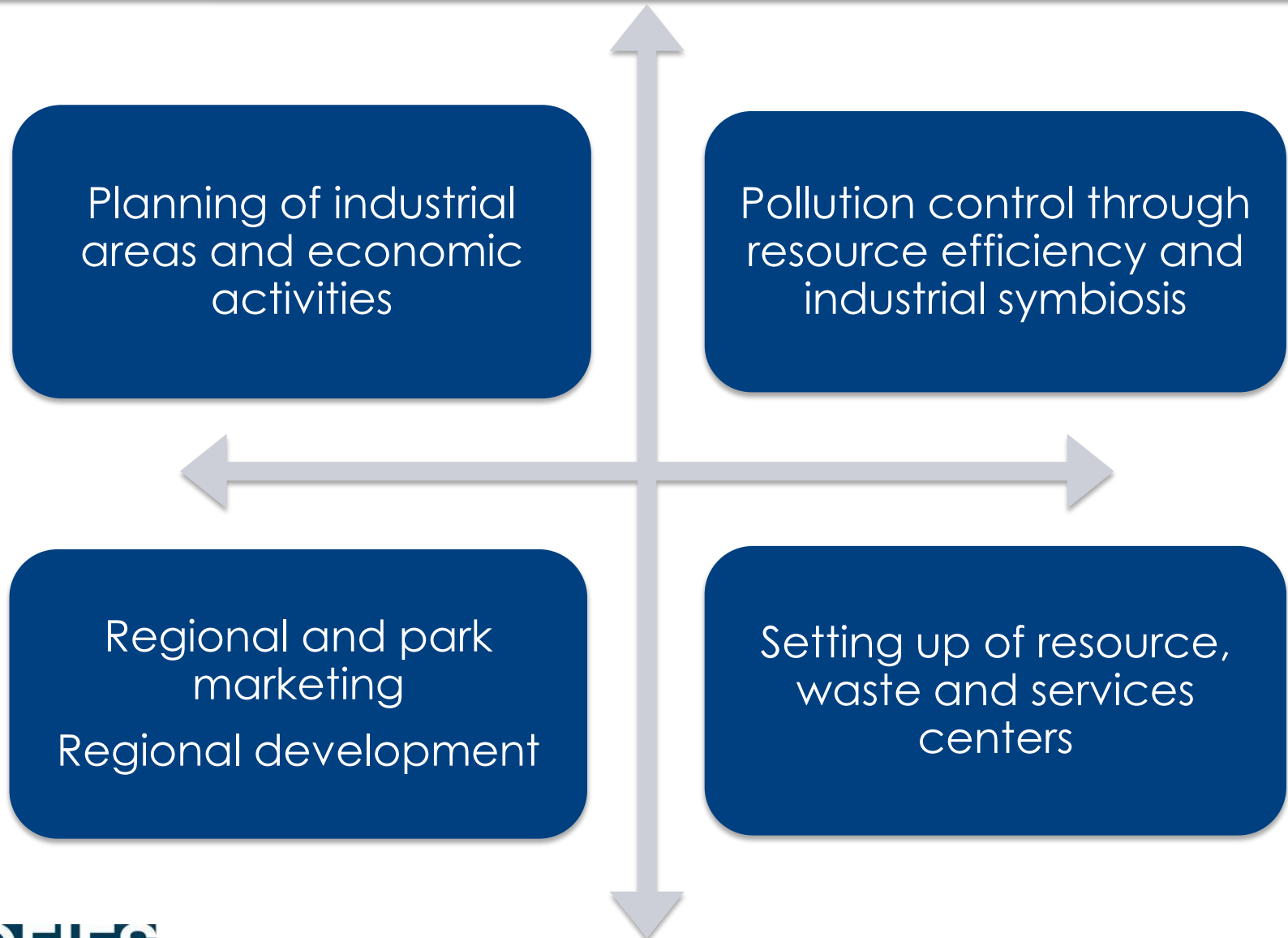
# Industrial symbiosis: business opportunities

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# Industrial symbiosis: opportunities for regions

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# What is Sofies ?

30 consultants active in 21 countries



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WORLD  
BANK



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# Thank you for your attention !

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