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Statistiska centralbyrån

# Environmental taxes and subsidies in the Swedish Environmental Accounts

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3<sup>rd</sup> OECD Workshop on Reforming Environmentally Harmful Subsidies  
Paris, October 5th, 2005

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# Today's presentation

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- The environmental accounts (SEEA)
- Taxes and subsidies today in Swedish SEEA
- Definitions
- Examples of results & analyses
- Limitations and possibilities
- Future work





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# The environmental accounts

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- Data from 1993
- Relationship between environment and economy
- Satellite system to the national accounts
- Provide information for analyzing environmental and economic policies





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# The environmental accounts

NATIONAL- RÄKENSKAPER		Varor och tjänster	Produktionsvärdet (bransch)	Privat kons.	Utländsk försäljning o. import	Kapitalförändring	Utländsk transaktion	Totalt			
Varor och tjänster	1. Jordbruk 2. Skogsbruk 3. Fiske 4. Gruver, mineralbrott 5. Livsmedel, textil m m 6. Massa, papper 17. Hushållens 18. Övriga	895 53 251 -327	8887 70 2 5 349	3132 2947 89 1748 #####	147 152 147 152 68	1199 1142 34 666 9687	25 674 25 674 241	3776 9375 300 -119 #####	796370	574	796370
Produktionsvärdet (branscher)	1. Jordbruk 2. Skogsbruk 3. Fiske 4. Gruver, mineralbrott 5. Livsmedel, textil m m 6. Massa, papper, tryck 18. Övriga	15 15 15	8887 70 2 5 349	147 152 147 152 68	1199 1142 34 666 9687	25 674 25 674 241	3776 9375 300 -119 #####	796370	574	796370	
Produktionsfaktorer	Ägarens löner Kollektiva avgifter Deltäverskott netto	15 15 15	8887 70 2 5 349	147 152 147 152 68	1199 1142 34 666 9687	25 674 25 674 241	3776 9375 300 -119 #####	796370	574	796370	
Privat kons.	Öffentlig sektor (hushåll)	3010 49 127 815	6403 1371 163 1167 8742	5884 547	278 6875	1036 26	#####	796370	421494	473232	
Kapitalförändring	Löpande transakt. (import)	8670 1453 395 #####	8670 1453 395 #####	8670 1453 395 #####	8670 1453 395 #####	8670 1453 395 #####	8670 1453 395 #####	8670 1453 395 #####	8670 1453 395 #####	8670 1453 395 #####	
Utländsk transaktion	Kapitaltransaktioner	#####	#####	#####	#####	#####	#####	#####	#####	#####	
Totalt		#####	#####	#####	#####	#####	#####	#####	#####	#####	

National Accounts

MILJÖSTATISTIK		Varor och tjänster	Produktionsvärdet (bransch)	Privat kons.	Utländsk försäljning o. import	Kapitalförändring	Utländsk transaktion	Totalt			
Varor och tjänster	1. Jordbruk 2. Skogsbruk 3. Fiske 4. Gruver, mineralbrott 5. Livsmedel, textil m m 6. Massa, papper 17. Hushållens 18. Övriga	895 53 251 -327	8887 70 2 5 349	3132 2947 89 1748 #####	147 152 147 152 68	1199 1142 34 666 9687	25 674 25 674 241	3776 9375 300 -119 #####	796370	574	796370
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Utländsk transaktion	Kapitaltransaktioner	#####	#####	#####	#####	#####	#####	#####	#####	#####	
Totalt		#####	#####	#####	#####	#####	#####	#####	#####	#####	

Environm. statistics

MILJÖ- RÄKENSKAPER		Varor och tjänster	Produktionsvärdet (bransch)	Produkt. icke varu-arkiv skatter	Privat kons.	Kapitalförändring	Utländsk försäljning o. import	Totalt	CO2	NOx	VOC	NH3
Varor och tjänster	1. Jordbruk 2. Skogsbruk 3. Fiske 4. Gruver, mineralbrott 5. Livsmedel, textil m m 5.1. Miljöväsentlig skogsprodukt 8. Petroleumraffineraderier 18. Övriga myndigheter	895 53 251 -327	8887 70 2 5 349	3132 2947 89 1748 #####	147 152 147 152 68	1199 1142 34 666 9687	25 674 25 674 241	3776 9375 300 -119 #####	796370	574	796370	
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Utländsk transaktion	Kapitaltransaktioner	#####	#####	#####	#####	#####	#####	#####	#####	#####		
Totalt		#####	#####	#####	#####	#####	#####	#####	#####	#####		
CO2		#####	#####	#####	#####	#####	#####	#####	#####	#####		
NOx		#####	#####	#####	#####	#####	#####	#####	#####	#####		
VOC		#####	#####	#####	#####	#####	#####	#####	#####	#####		
NH3		#####	#####	#####	#####	#####	#####	#####	#####	#####		

Environmental Accounts





# Economic instruments today in the environmental accounts

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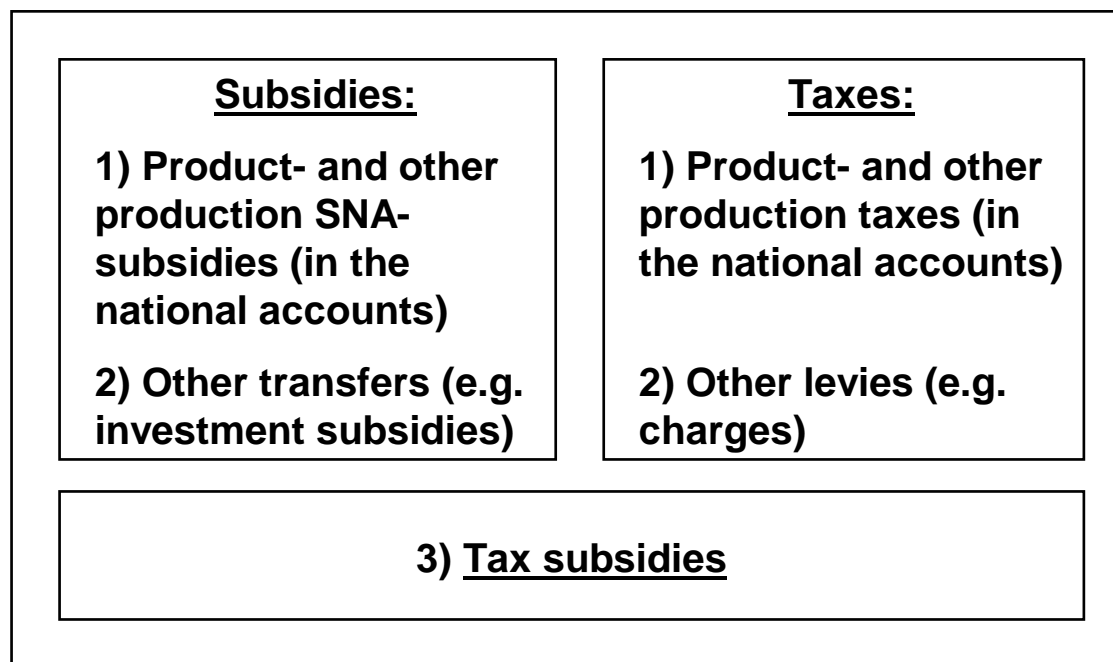
- Environmental taxes (2000)
  - Environmentally motivated subsidies, (2003)
  - Environmental expenditures (yearly survey)
- Present together. Also with emission data, resource use, waste generation, economic data, etc. (per industry)





# Taxes and subsidies in environmental accounts

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# Definitions – base for comparisons

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- Environmental taxes: OECD & Eurostat has common definition. Comparable.
- Environmental subsidies: different definitions, work in progress.



Different aspects:

- Subsidy: narrow definitions in the SNA, not including for example investment subsidies
- Environmental subsidy: motive
- Environmental harmful subsidy: not yet a practicable definition (for our purposes, all sectors)

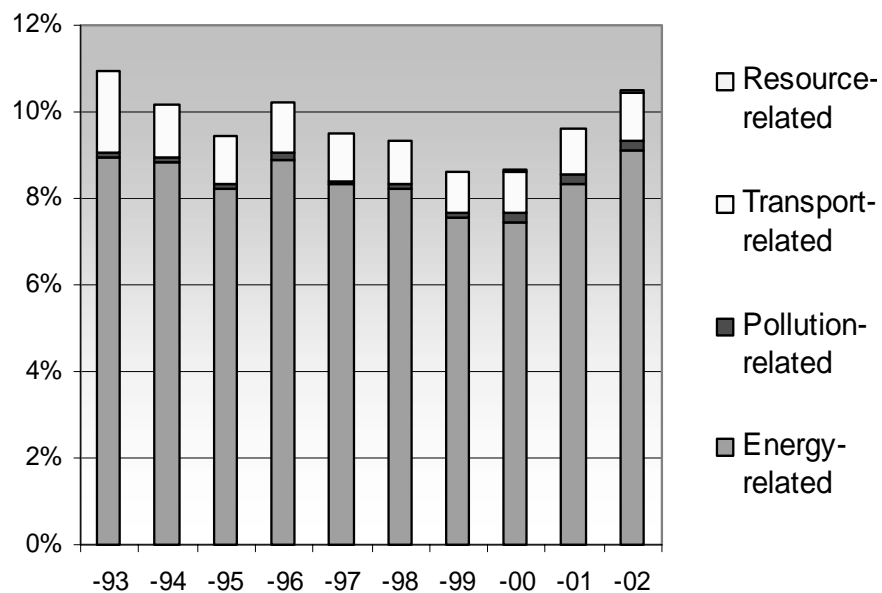




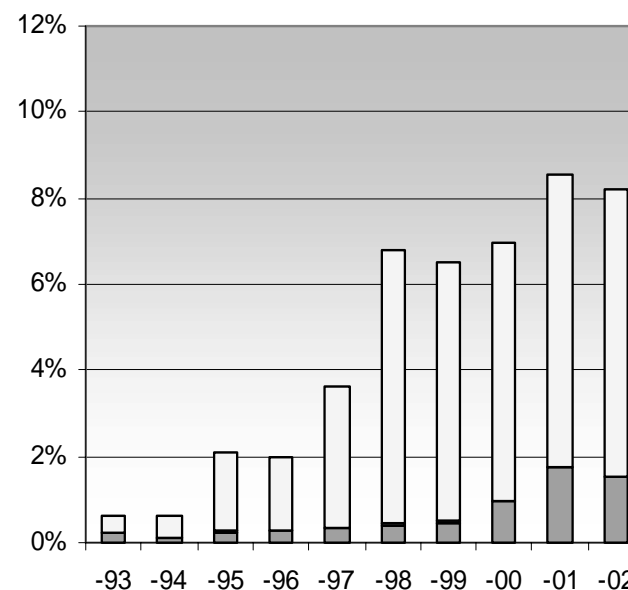
# Environmental taxes and subsidies – percent of total

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### Environmental taxes



### Environmentally motivated SNA-subsidies

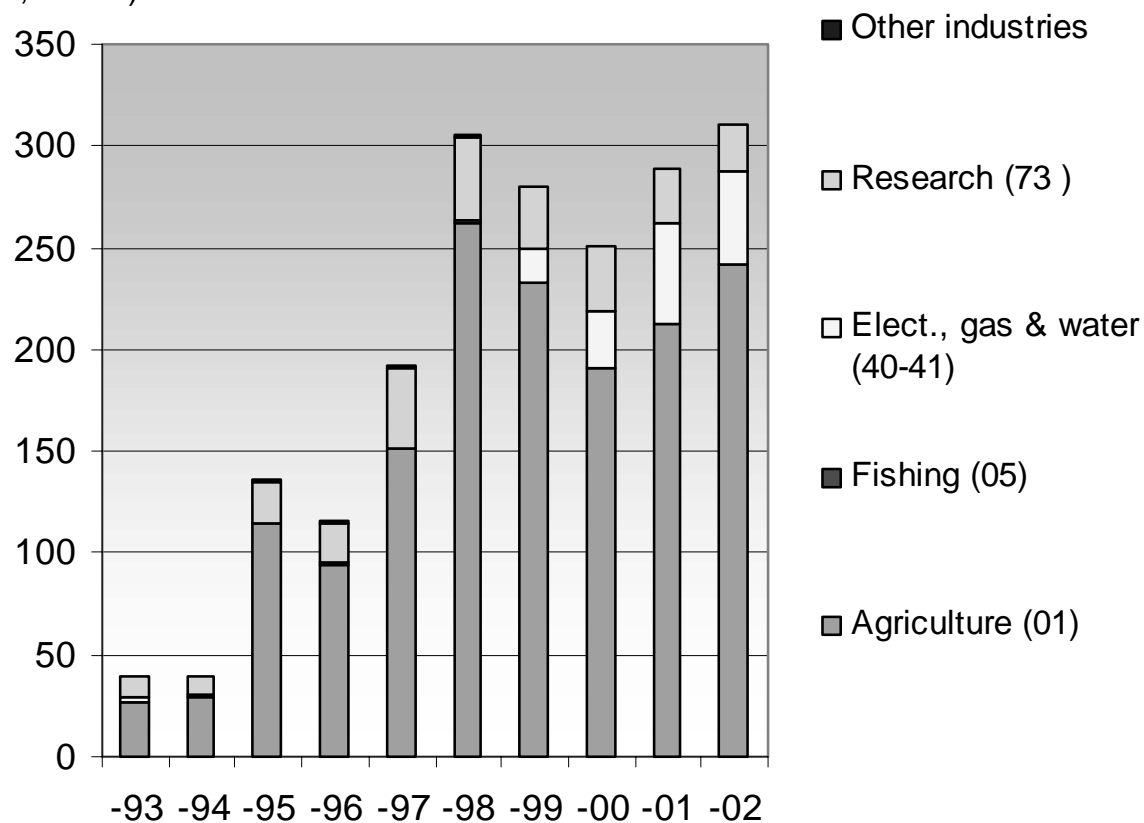






# Environmentally motivated SNA-subsidies by industry

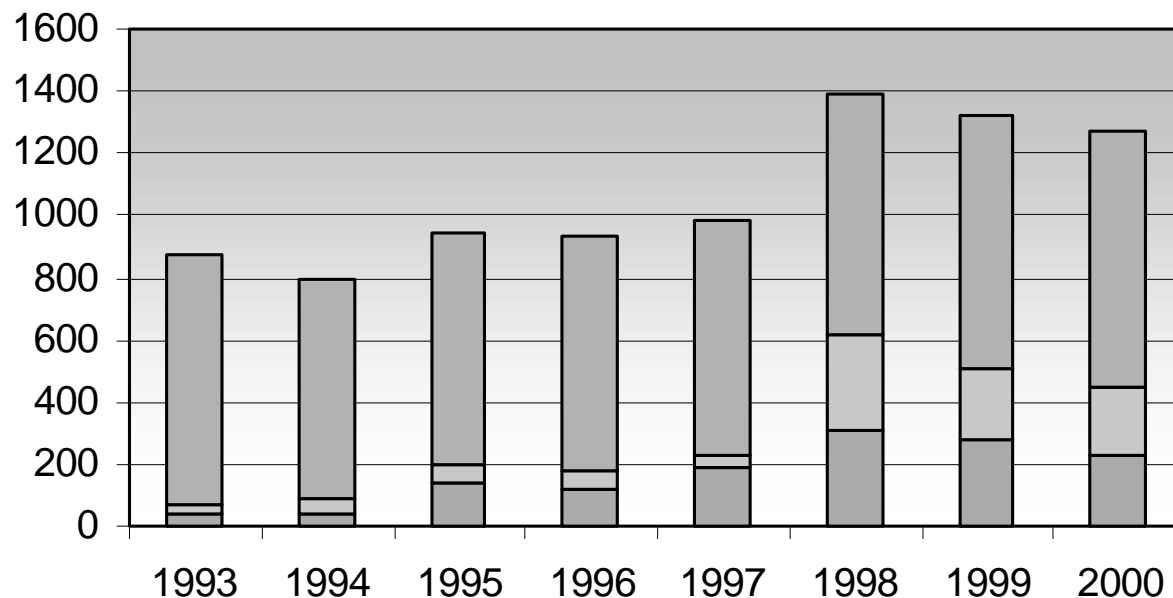
Million EUR  
(1 EUR = 9,4 SEK)





# ”Positive” environmental subsidies - effect with different definitions

Million EUR



- Environmental subsidies for public transportation and railways
- Environmentally motivated investment subsidies
- Environmentally motivated SNA-subsidies, from the national accounts

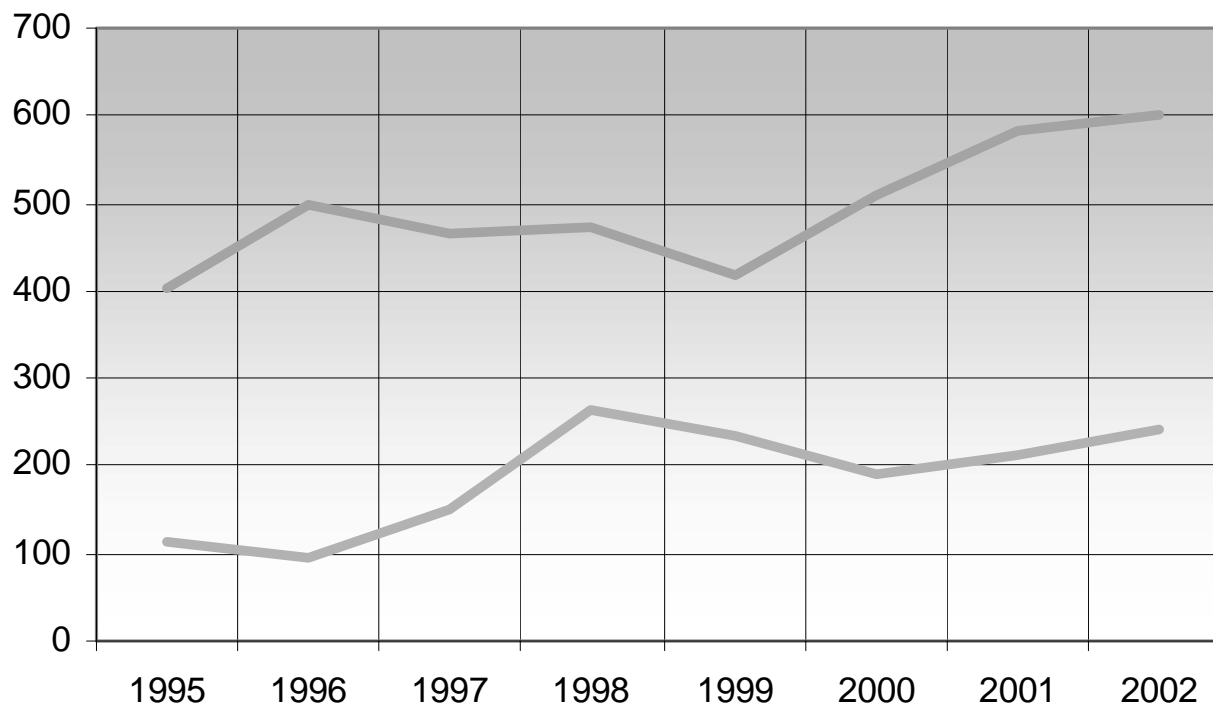




# Comparison – the agricultural and fishing industry (01, 05)

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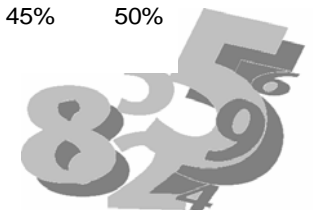
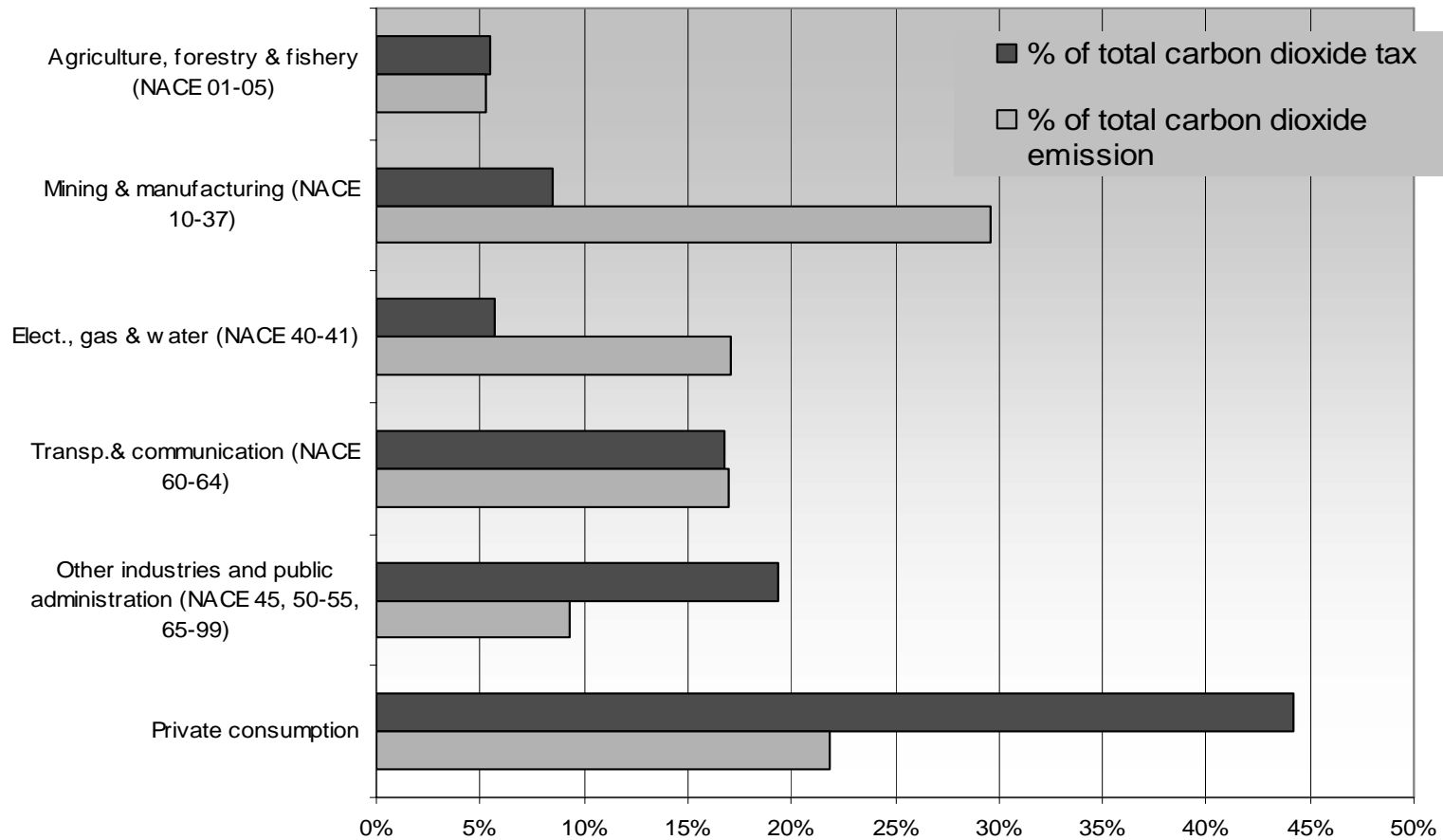
Million EUR



— Environmentally motivated subsidies  
— Environmentally harmful subsidies



# CO2 tax and CO2 emissions by industry (2002)





# Limitations and possibilities

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## - Possibilities in the SEEA:

- *Identify, measure and estimate* environmental effect of economic policy tools
- General picture of economic policy tools
- Possible tool to follow progress in reform of subsidies?
- **Internationally comparable!**

## - Limitations today:

No harmonised definition

Narrow definition

- investigate NA more (transfers)
- add more supports





# Future work & hopes

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- Find possibilities in SEEA to estimate the efficiency of subsidies:
  - Resource accounts/study industries one-by-one?
- OECD/EEA database – large potential! (also by industries/sectors?)
- Definitions – harmonized in order to compare:
  - Subsidy, motivated, harmful, potentially harmful, potential positive environmental effect.....

