

# Emission savings calculation for ICT services

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# Our mission

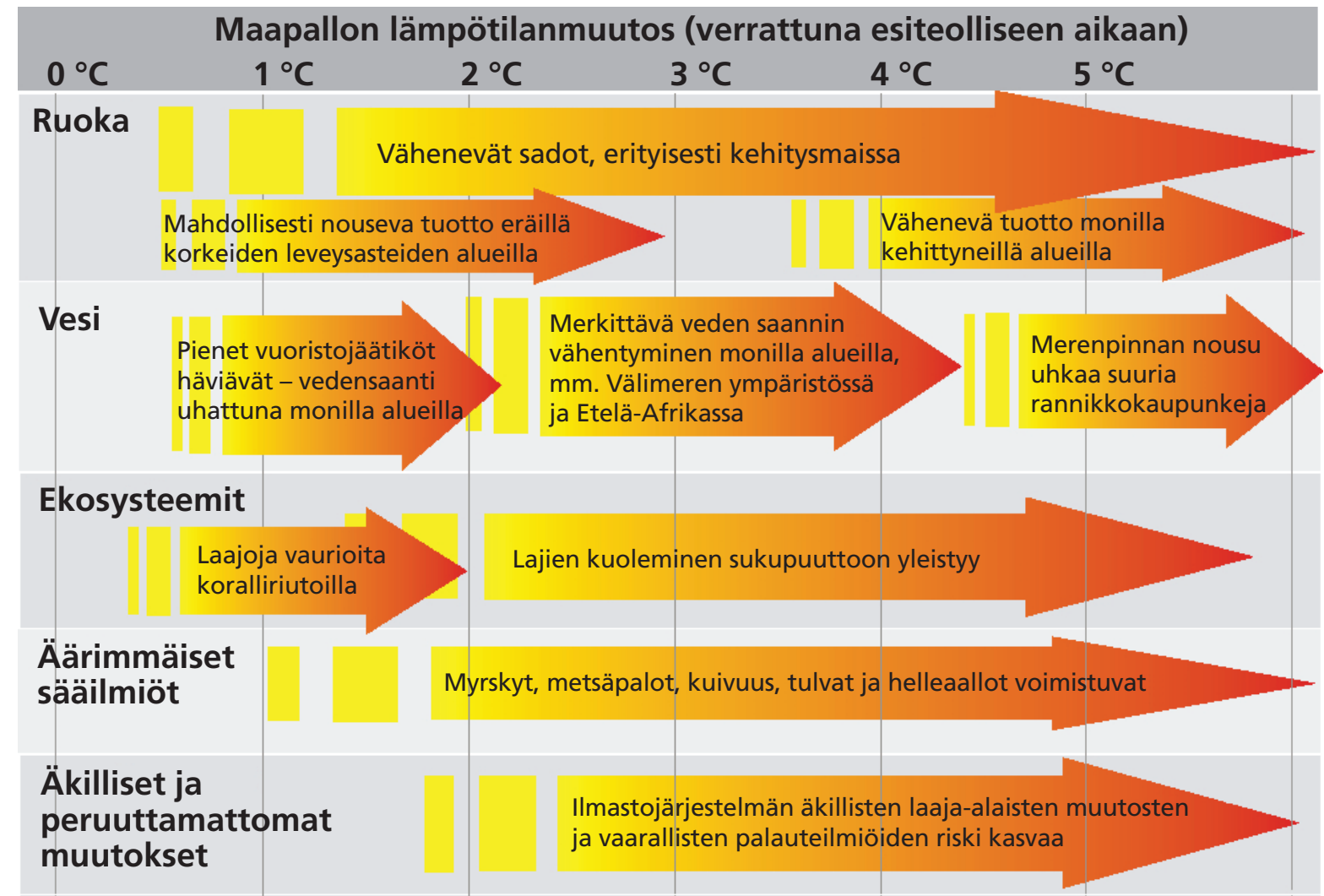
Our mission is to drive ICT and online services by world-class customer intimacy and operational excellence.



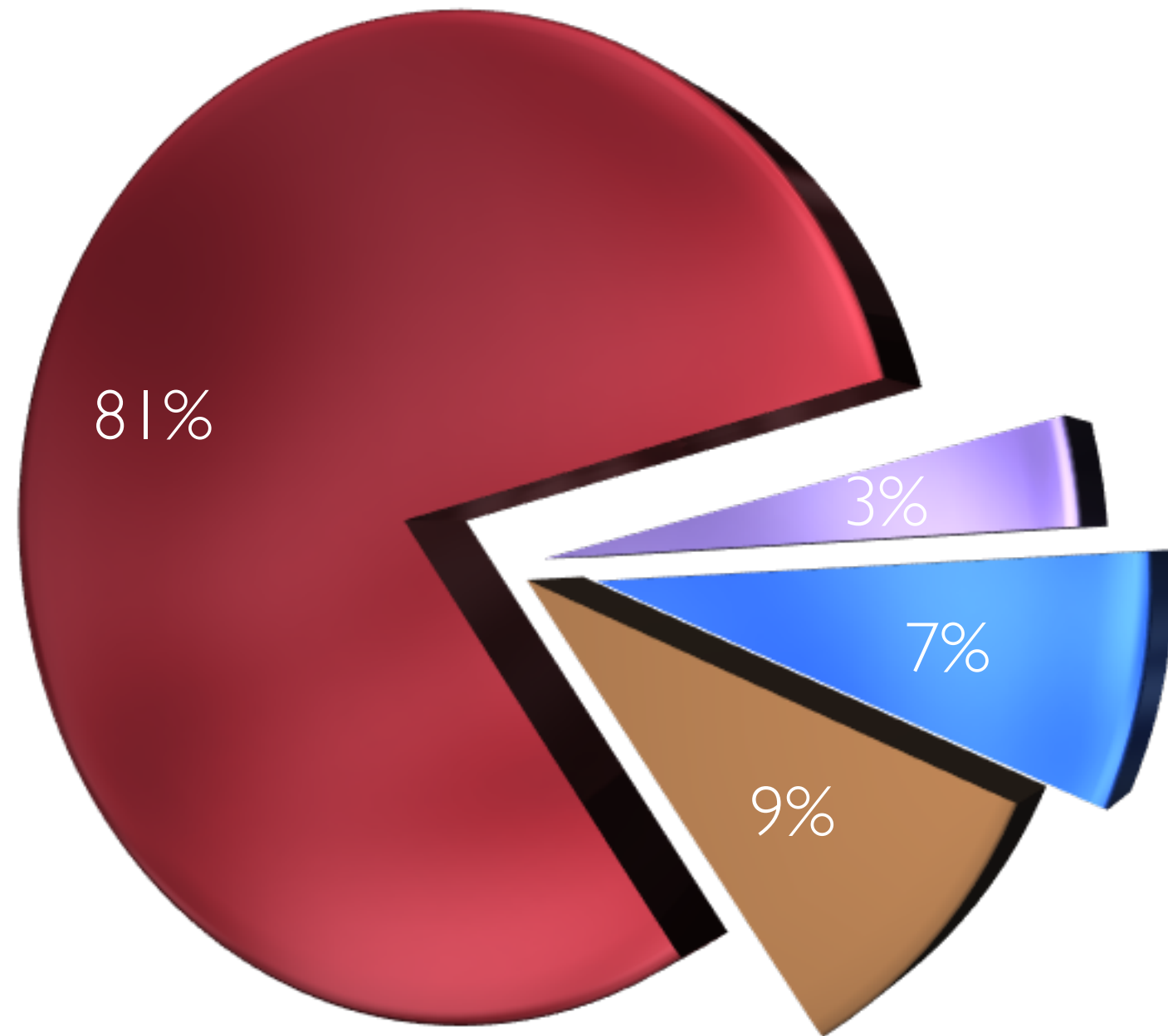
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# Preventing a climate crisis

- We are at a crossroads and about to enter a climate crisis
- EU climate target: CO<sub>2</sub>- emissions -20 % by 2020



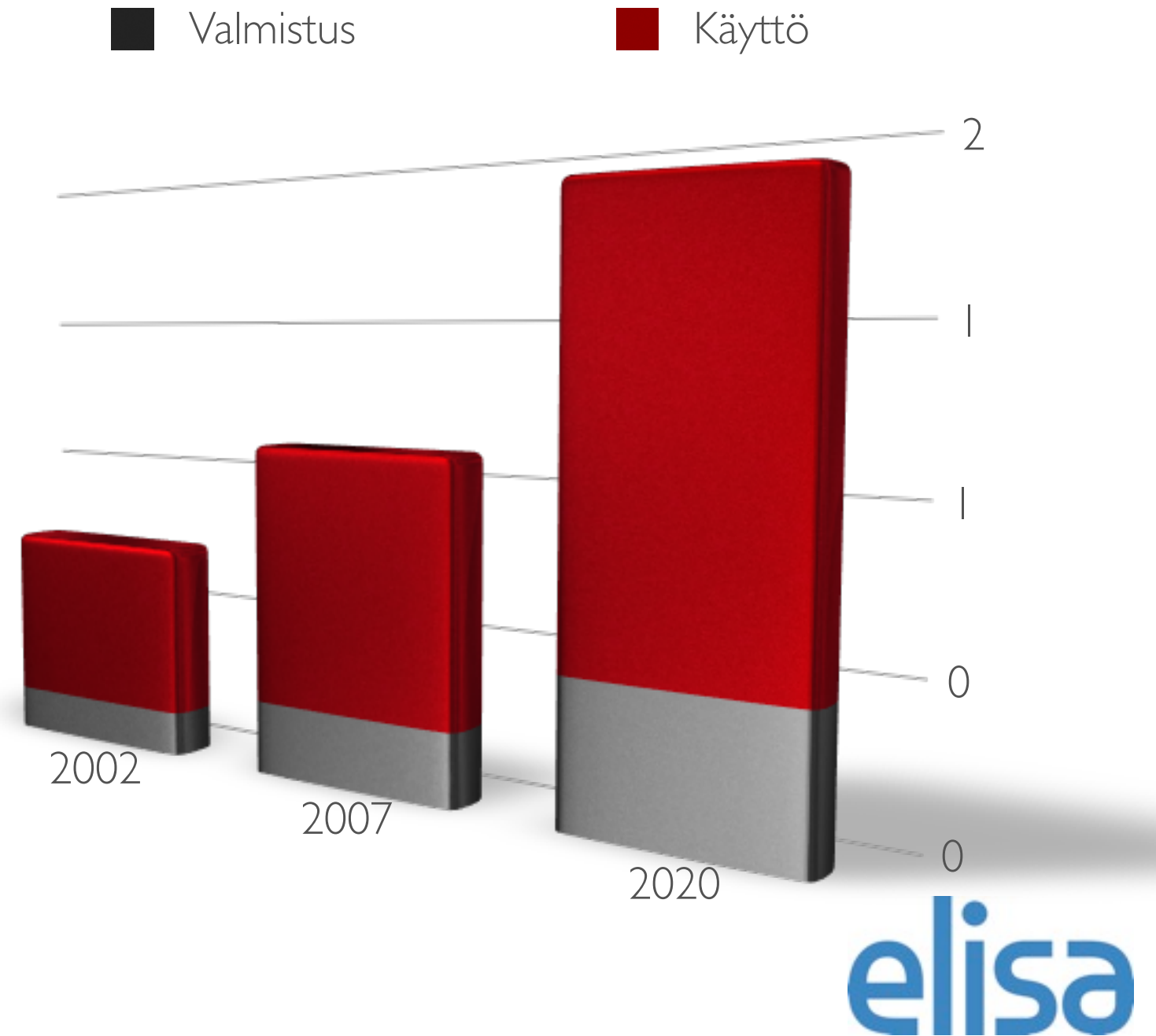
# CO2 Emissions in Finland



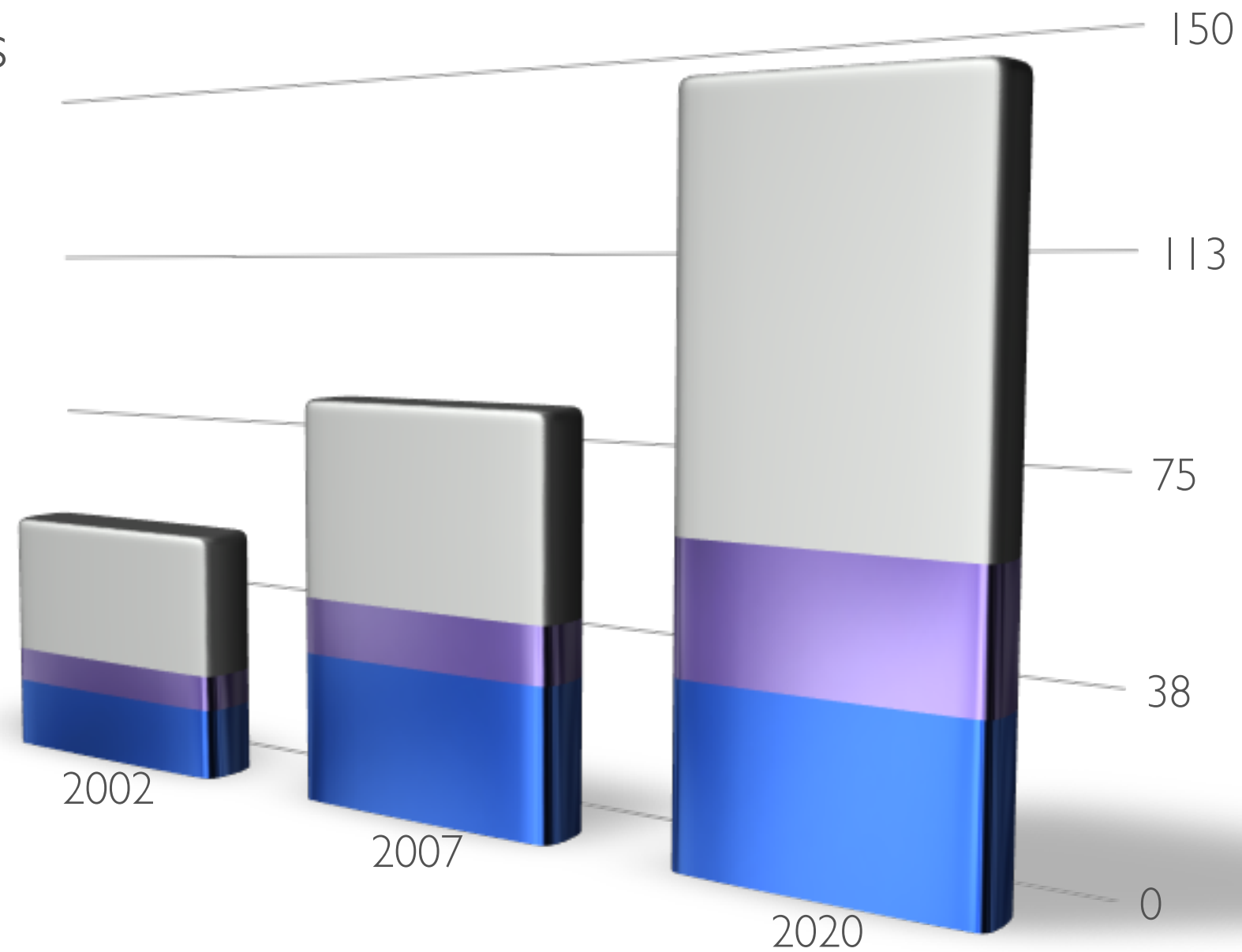
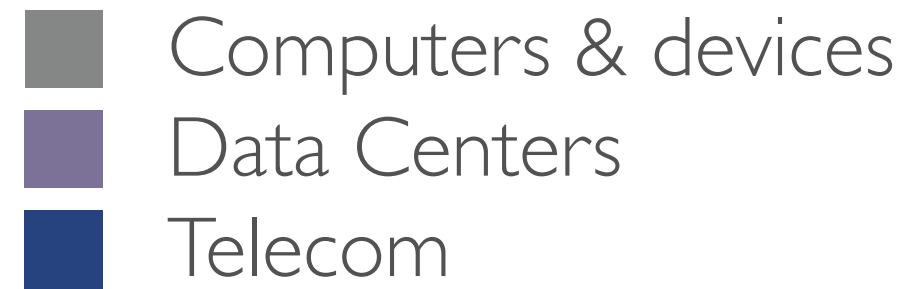
- Energy
- Waste
- Agriculture
- Industrial processes

# Carbon footprint of ICT

- 2% of total CO2 emissions - same as flight traffic
- 3-4% increase 2020

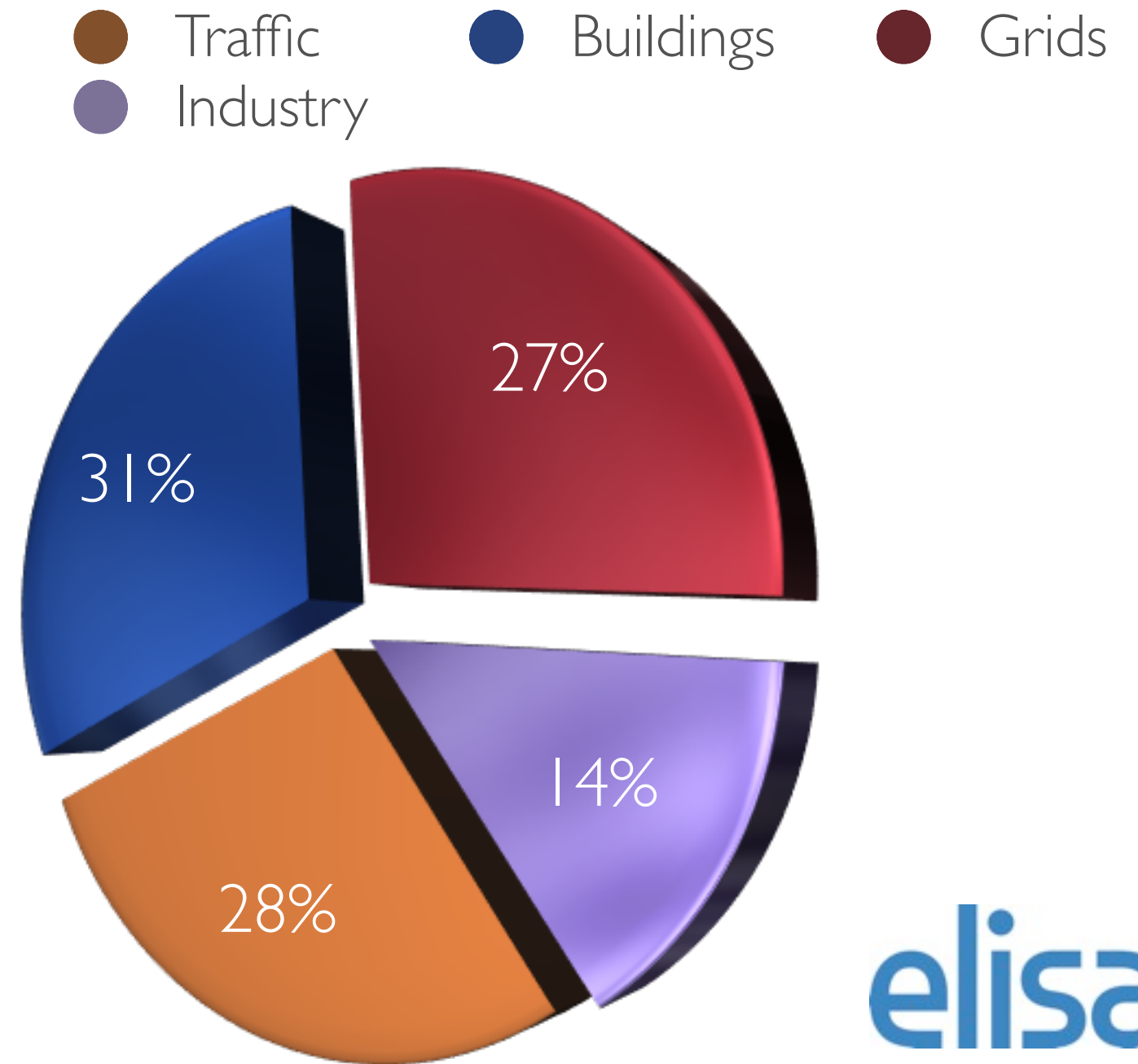


# Carbon footprint by sectors



# ICT creating a low carbon society

- ICT solutions could deliver savings which are 15 % of all greenhouse gas emissions by 2020
- Finnish ministry of transport and communications report assessed ICT's possibilities in Finland also significant



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# Elisa environmental responsibility

- Elisa wants to be involved in the building of the low-carbon society and in the promotion of sustainable development
- It can reach this objective by decreasing both Elisa's own and customers' carbon footprint with the help of Elisa's services.





# Elisa environmental responsibility

- These objectives are reached with continuous measurement and assessment
- Environmental responsibility is part of Elisa's business potential



# Our achievements



# Our achievements

## 2001

multi-space offices



Our achievements

2008

virtual meetings



# Our achievements

## 2010

building zero emission data center



# Our achievements

## 2011

First in the world  
ICT service emission reduction report



# Emission reduction measures H1/2011

Report



# Implementation and reliability

- The Greenhouse Gas Protocol, GHG
- Gaia Consulting Oy
- PriceWaterhouseCoopers



WORLD  
RESOURCES  
INSTITUTE



World Business Council for  
Sustainable Development



*gaia*



**pwc**

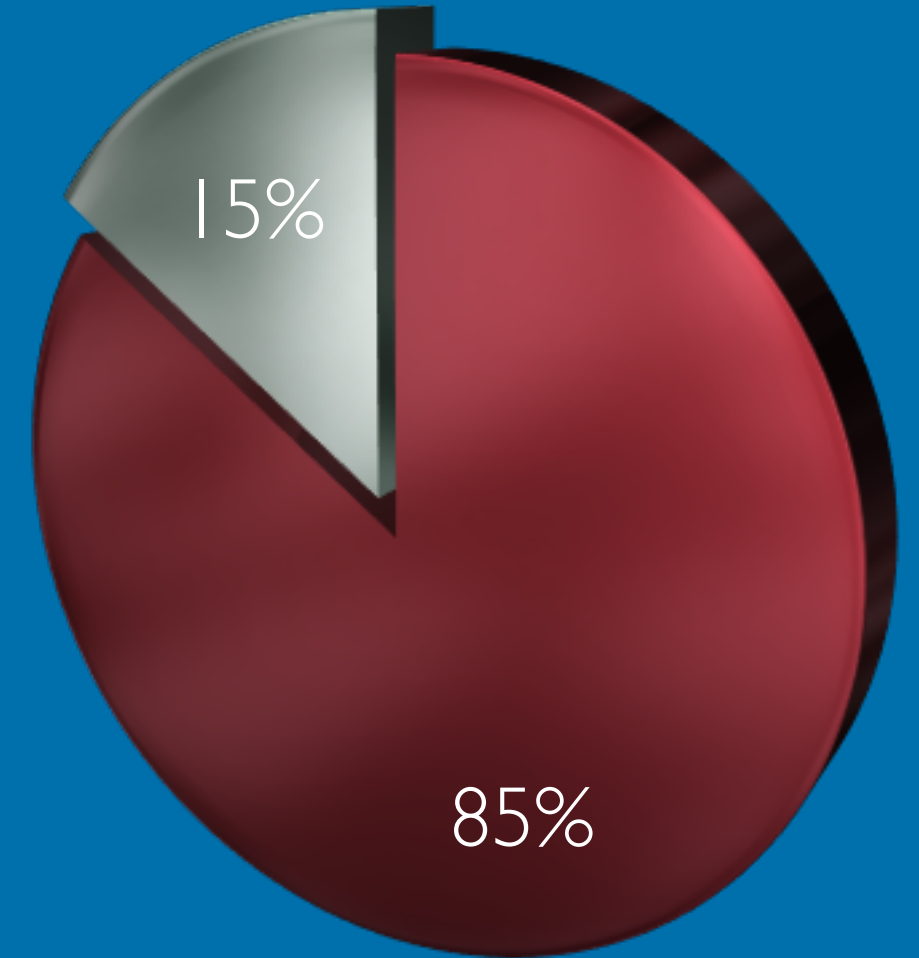
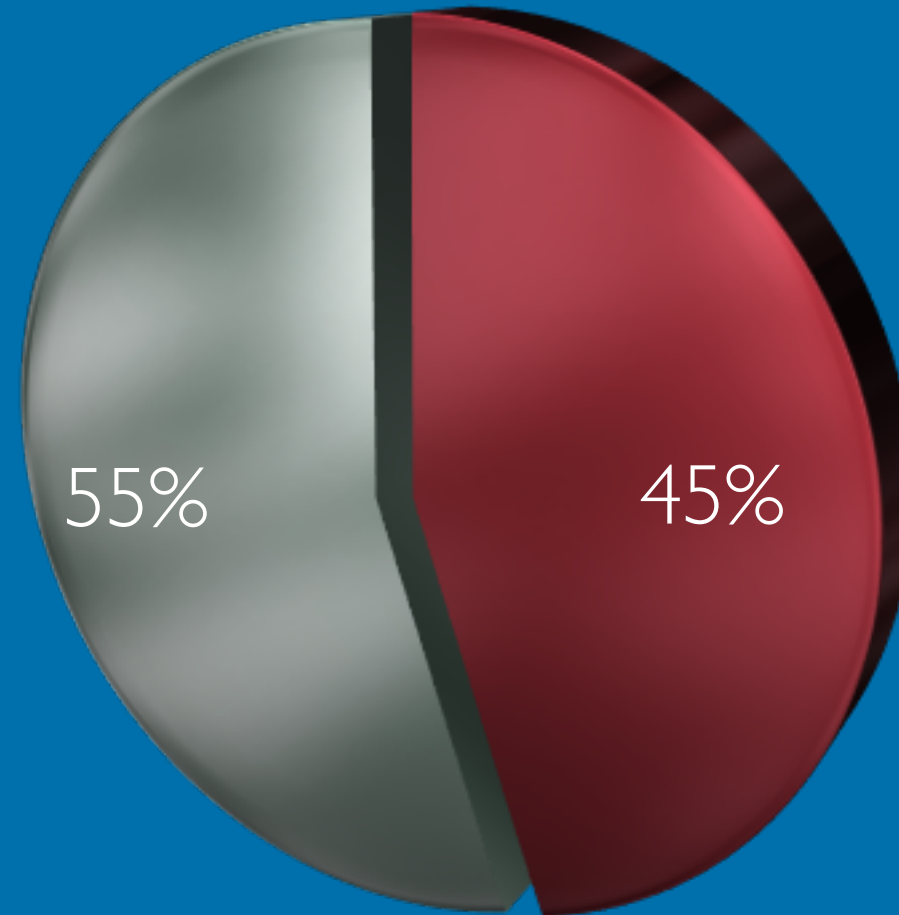
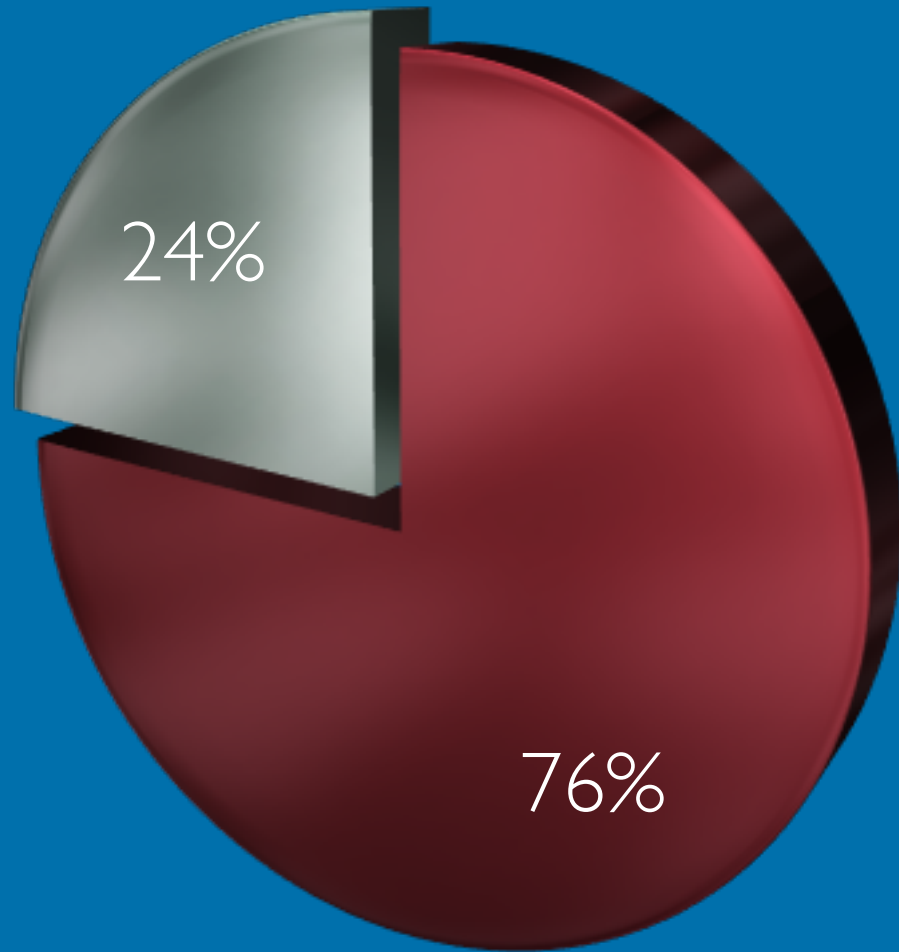
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- H1/2011 vs. H2/2009
- Emission reductions per subscription

- H1/2011 vs. H2/2009
- Emission reductions per package data volume

- Emission reductions H1/2011 compared to Elisa carbon footprint H2/2009



# Results H1/2011



Virtual meeting

Cloud services

Electronic invoicing

Data centers

Mobile work

3878



450



103



1096



1387



Results H1/2011

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Electronic  
invoicing

Cloud  
services

Datacenters

Mobile  
work

- Customers' emission savings from travel substitution
- Webex and Live Meeting
- Sample volumes (30,000) of the virtual meetings
- By default, 30% of the virtual meetings replace the physical meeting
- 3,9 is average number of participants
- Traveling behaviors modeling from Elisa's meeting behavior

Virtual  
meeting

-3 878 tCO2

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Electronic  
invoicing

Virtual  
meeting

Datacenters

Mobile  
work

- Replacement of traditional server capacity
- The number of virtual servers calculated
- Energy consumption of physical servers estimated
- Energy efficiency even 94%

Cloud  
services

-450 tCO<sub>2</sub>

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Cloud  
services

Virtual  
meeting

Datacenters

Mobile  
work

- Emission reductions enabled by electronic invoicing, compared with invoicing produced traditionally
- The emissions of processing and delivering a paper invoice were calculated using emissions factors reported by Itella (postal service provider)
- Included emissions from disposal and recycling as well as archiving (6 years) for corporate customers

**Electronic  
invoicing**

**-103 tCO<sub>2</sub>**

**elisa**

Cloud  
services

Virtual  
meeting

Datacenters

Electronic  
invoicing

- Reduction of Elisa´s business travel by using virtual meetings
- Energy savings of real estate by using multi-space office solutions
- Elisa´s office space per worker was compared with the average Finnish office workers workspace
- Teleworking: average Elisa employee teleworks 3.4 days in a month.

Mobile  
work

-1 387 tCO<sub>2</sub>

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Cloud  
services

Virtual  
meeting

Mobile  
work

Electronic  
invoicing

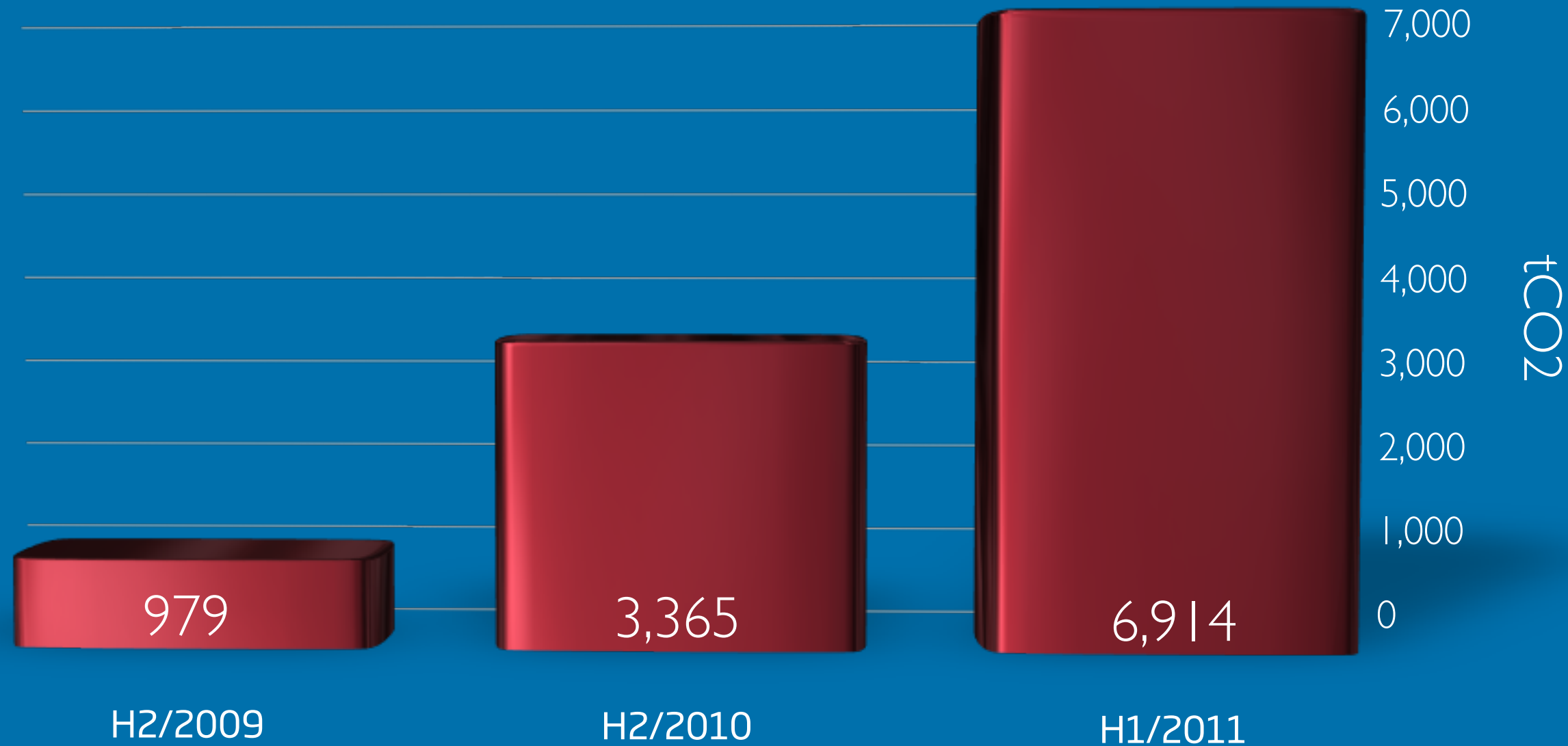
# Datacenters

- The transition to virtual servers
- The development of energy efficiency in data centers equipment facilities (ERF)

-1 096 tCO<sub>2</sub>

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# Calculated emission reductions achieved with Elisa's services.



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Save the environment - communicate online