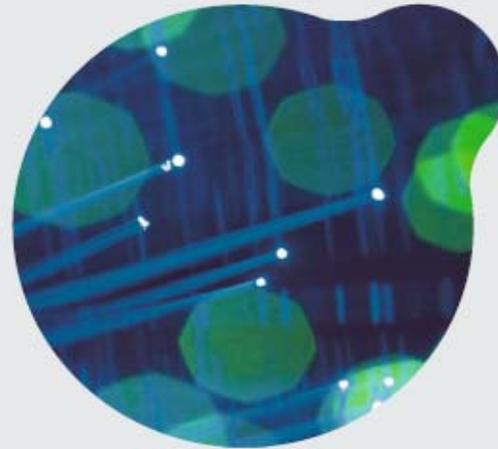


SMART 2020 Addendum Deutschland:  
Die IKT-Industrie als treibende Kraft auf  
dem Weg zu nachhaltigem Klimaschutz



SMART 2020 Germany Addendum.  
The ICT sector as the driving force on the way to sustained  
climate protection.

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# Situation.

- Climate change is happening faster than was predicted just a few years ago.
- Climate change is a threat to business and society.
- Information and communication technology (ICT) can make a significant contribution to reducing CO<sub>2</sub> emissions in nearly all industries.

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# Germany's responsibility as a leading industrialized and technologized nation.



- In August 2007, at a closed meeting, the German federal government of the time adopted the "Integrated Energy and Climate Program" (IEKP), also known as the Meseberg Program.
- Target:  
**To reduce CO<sub>2</sub> emissions by 40 % by 2020.\***

\* Compared to the reference year 1990

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# The ICT industry's value proposition.

## Presentation of the global SMART 2020 study in June 2008.



### Study concept

- S** – Standardization
- M** – Monitoring
- A** – Accountability
- R** – Rethinking
- T** – Transformation

- The Climate Group – which is an NGO – presented the study "SMART 2020: Enabling the low carbon economy in the information age" that was produced on behalf of the Global eSustainability Initiative (GeSI).
- The study investigated the potential contributions that the ICT industry could make to achieving global climate protection goals.
- The study identified five core areas in which ICT can bring about significant reductions in emissions:

<b>Smart motors</b>	<b>Smart logistics</b>	<b>Smart buildings</b>	<b>Smart grid</b>	<b>Dematerialization</b>
(Industrial automation)	(Logistics)	(Building management)	(Electricity sector)	

- Deutsche Telekom announced a German SMART report at the Third National IT Summit at the end of 2008.

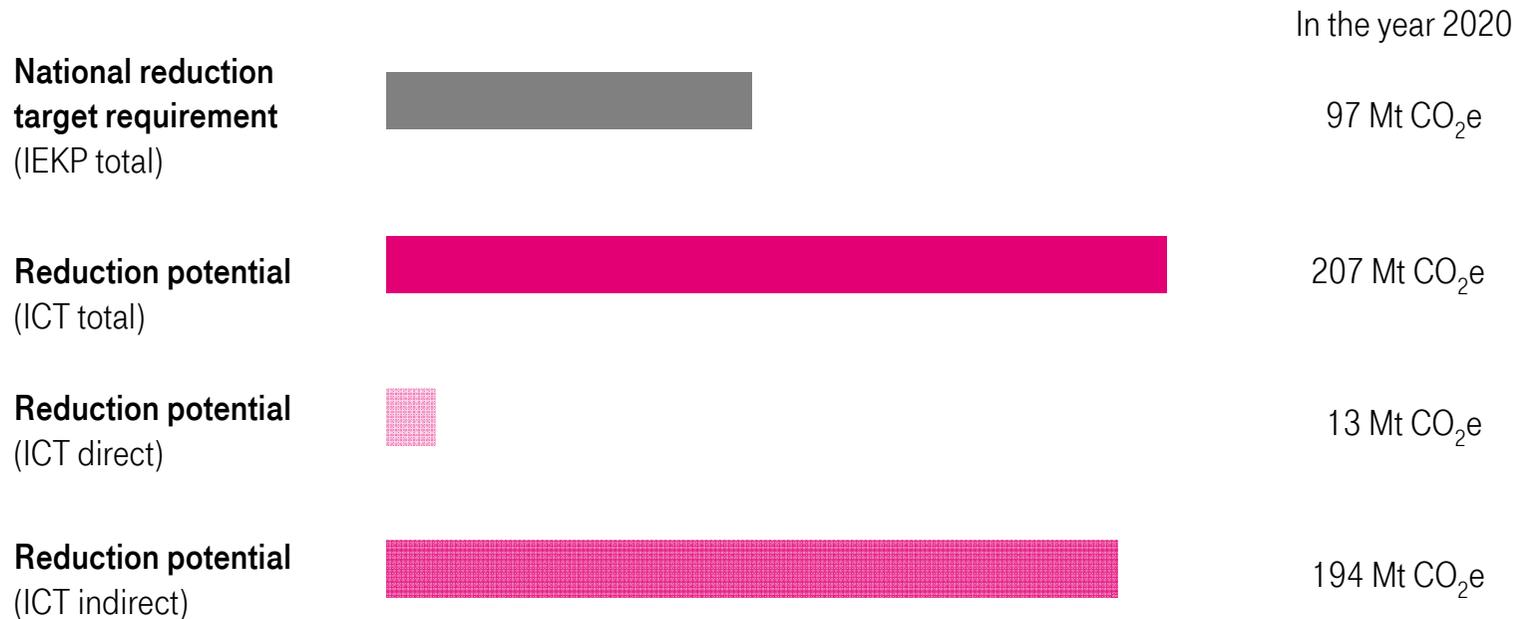
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# SMART 2020 Germany Addendum.

## Study design and core results.

- The study shows that the ICT industry can potentially make a considerable contribution towards achieving the national climate goals based on the Meseberg Program:



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# SMART 2020 Germany Addendum.

## Considerable contribution by the ICT industry as an enabler.

- This results in business concepts that are assessable for each of the five sectors that were identified (assessment according to CO<sub>2</sub> reduction potential and economic attractiveness).

<b>Smart logistics</b>		85.4 Mt CO <sub>2</sub> e	(e.g., intelligent traffic management, extensive introduction of urban congestion charges)
<b>Smart buildings</b>		41.7 Mt CO <sub>2</sub> e	(e.g., climate control systems in buildings)
<b>Smart motors</b>		26.4 Mt CO <sub>2</sub> e	(e.g., optimization of business processes, variable frequency drives in industry)
<b>Smart grid</b>		23.4 Mt CO <sub>2</sub> e	(e.g., load and capacity management for electricity suppliers)
<b>Dematerialization</b>		16.3 Mt CO <sub>2</sub> e	(e.g., downloading music and videos instead of CD production, virtual conferences)

**Conclusion: The smart use of ICT solutions could reduce CO<sub>2</sub> emissions in Germany by up to 25 percent by the year 2020 – this is equivalent to 207 metric megatons (Mt).**

**The business value of these concepts is estimated at up to EUR 84 billion by the year 2020.**

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# Gap between theory and practice – challenge: basic conditions.

- The identified indirect reduction potential of ICT, at 194 Mt CO<sub>2</sub>e by 2020, is a theoretical maximum potential. The realistic potential of purely market-driven implementation of the business concepts that were analyzed amounts to 64 Mt CO<sub>2</sub>e by 2020:

**Gap of 130 Mt CO<sub>2</sub>e** (approximately 5.5 times the annual emissions of the German ICT industry\*)

- The study describes four barriers (social, economic, legal, and technical) to the analyzed business concepts that apply to varying degrees for each of the five SMART sectors. Examples: information gaps, lack of technical standards, data protection concerns, change in attitude among the population.
- At the same time, politicians and the private sector together can pursue four paths to achieve the IEKP (Integrated Energy and Climate Programme,) climate protection goals:

Information campaigns to educate the population about individual contributions.

Public financial support for attractive business concepts.\*\*

Special levies/taxes as a motivation for implementing the business concepts.

Legal requirements to enforce environmentally conscious behavior.

\* Reference year: 2007 \*\* Greater attractiveness for end customers, e.g., as a result of uniform technical standards or advance financing models

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