



Working Group 2

Enabling Energy Efficiency in other Sectors

DRAFT - 15 April 2010

Content



1. ICT4EE Forum

- Background
- ICT4EE Forum Structure

2. Indicative Roadmap 2010-2012

- Indicative Roadmap for WG2
- Independent View from a consultant

3. WG2 Activities

- Content Issues for Consideration
- Operational Issues for Consideration

1. ICT4EE Forum

Background & Structure

The ICT4EE Forum was launched on 23 February 2010 as an industry driven response to the European Commission Recommendation on mobilising Information and Communication Technology to facilitate the transition to an energy-efficient, low-carbon economy published on 9 Oct 2009.

Background - EC Recommendations relating to WG2



HEREBY RECOMMENDS that the Information and Communication Technologies sector:

.....

(4) in close cooperation with the **buildings and construction** sector, identifies ICT solutions that can improve the environmental and energy performance of new and existing buildings, construction and renovation practices, and facilitate a joint roadmap on implementation.

(5) in close cooperation with the **buildings and construction** sector, addresses barriers to the wider use of ICT modelling and simulation tools and applications that enable compliance with building code regulations.

(6) in close cooperation with the **transport and logistics** sector, identifies ICT solutions to improve the their environmental and energy performance and facilitate a joint roadmap on implementation. This will be in coordination with the work carried out under the ITS Action Plan.

(7) in close cooperation with the **transport and logistics** sector, drafts a framework to provide comprehensive, comparable and reliable data on their energy consumption and carbon emissions of freight and transport operations and services.

*NB smart meters/grids recommendations are directed to Member States but the ICT4EE Forum will address these issues in cooperation with the **energy** sector.*

ICT4EE Forum Structure

Steering Committee:

- Decision making body and executive arm of the Forum – will direct all activities of the Forum

Working Groups:

WG1 Measuring the Energy Efficiency of ICT Processes

- Development of methodologies, targets, reporting, auditing and verification frameworks

WG2 Enabling Energy Efficiency in other Sectors

- Enabling energy efficiency in other sectors using technology where there is greatest scope for energy efficiency improvements & emissions reductions: transport & logistics, buildings & construction and energy supply, based on a snapshot of cities as a systematic way of looking at all sectors

WG3 Policy and Technology for the Future

- Policy and technology timelines – from current mitigation to future transformation, including a focus on available technologies v's under-deployment, behavioural change, Innovation drivers, scenario building and future policy frameworks

Stakeholder Plenary:

- To receive input from stakeholders to the Forum's work
- To facilitate information dissemination of the Forum's activities

2. Indicative Roadmap & view from EC Consultants

2- Indicative Roadmap 2010-12

Developed by the MoU signatories, WG representatives to further develop and report back on implementation

2. Enabling energy efficient and low carbon ICT solutions in other sectors: buildings & construction, transport & logistics, energy supply (power production, transmission & distribution) and consumer (household/business) sector – “be the enabler”	<p>Identify how ICT solutions can contribute to the more intelligent and efficient use of energy.</p>	<p>Initiate dialogue with other sectors and ensure their engagement in the Forum. The dialogues will be used to both inform the parties about what role ICT can play, as well as understand the challenges and pain points of other sectors.</p>	<p>Identification of:</p> <ul style="list-style-type: none"> ⌚ Existing and innovative sector-driven opportunities. ⌚ ICT-driven existing & innovative solutions. ⌚ Barriers and drivers to improve penetration of ICT. ⌚ The business model that will sustainably embed energy efficiency and carbon savings in the economy. 	<p>2010</p>
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2.1 Buildings & Construction - identify areas for ICT solutions to be maximised in buildings and construction sectors.	Set up informal networks with sectoral organisations in buildings & construction sectors to respond to energy efficiency issues. Examine the effects of ICT on the operation of buildings including systems for energy supply and changing the behaviour of consumers.	Common position papers and statements on energy efficiency and ICT use in the respective sectors. Developed and scaled up tools and applications to ensure compliance with the EPBD and interoperability in building and energy management systems.	2010 2011
2.2 Transport & Logistics: support the deployment of intelligent transport systems.	Set up informal networks with sectoral organisations in transport and logistics sectors to respond to energy efficiency issues. Drive international standardisation efforts to ensure interoperability.	Developed and scaled up technology applications e.g. for e-Freight logistics and ensure integration and interoperability of data flows.	2010-12
2.22 Roads and Highways		Lower traffic congestion to optimize journey time and reduce CO ₂ emissions. Increased capacity on existing motorways to reduce new roads construction, giving the benefit of lower cost to Government, less negative environmental impact and faster delivery of the upgraded capacity. Road pricing/pay as you drive will reduce congestion and CO ₂ , limit unnecessary journeys and allow “direct” taxation for those that generate CO ₂ ; will help manage policy on less polluting vehicles by having a scale of charges. Promotion of technologies such as infrastructure software used in ITS, inter-vehicle communication systems, electronic toll collection (ETC) systems and utilisation of probe traffic information etc.	2010-12

2.23 Rail and Metro Transport		<p>Development of:</p> <ul style="list-style-type: none"> ⌚ Regular services to avoid waiting times. ⌚ Efficient ways of paying and paying once for several changes of service provider in a given journey. ⌚ Productive and pleasant experience – being able to stay in touch, be entertained or to learn and work as the passenger travels. <p>Increased number, size and scale of projects utilising technologies which allow for transport substitution e.g. teleworking and electronic conferencing technologies.</p> <p>Improved logistics by traffic monitoring etc.</p>
3. Energy supply: support the shift to advanced metering infrastructure and transformational initiatives.	Contribute to, and align with, the Commission's Smart Grids Task Force.	Increased number, size and scale of projects deploying smart metering and smart grids and smart European cities.
4. In all 3 abovementioned sectors: assess the energy savings incurred as a result of ICT applications.	In collaboration with ITU, ISO, IEC and OECD.	<p>Standardised metrics & measurement methodology for the energy savings incurred as a result of ICT application e.g. in buildings, transport, grids, households etc.</p> <p>Quantifiable case studies demonstrating the ICT sector as an enabler of technologies, applications and services that can enhance the efficiency of energy use and reduce emissions in other sectors.</p>

Independent View of Roadmap from EC Consultants



- **Lack of urgency**/bias for action vs. discussion
- Need much clearer **milestones/mechanisms for scope and boundaries**
- Industry's stated intent with regard to its **work with other sectors** is not yet fully reflected in the wording in the Roadmap. This will become clearer as **the deliverables from WG2 are elaborated**.
- Commend the objective of establishing **quantifiable case studies to showcase** the use of ICT in other sectors in the Roadmap and encourage the Forum to have these executed as early as possible.

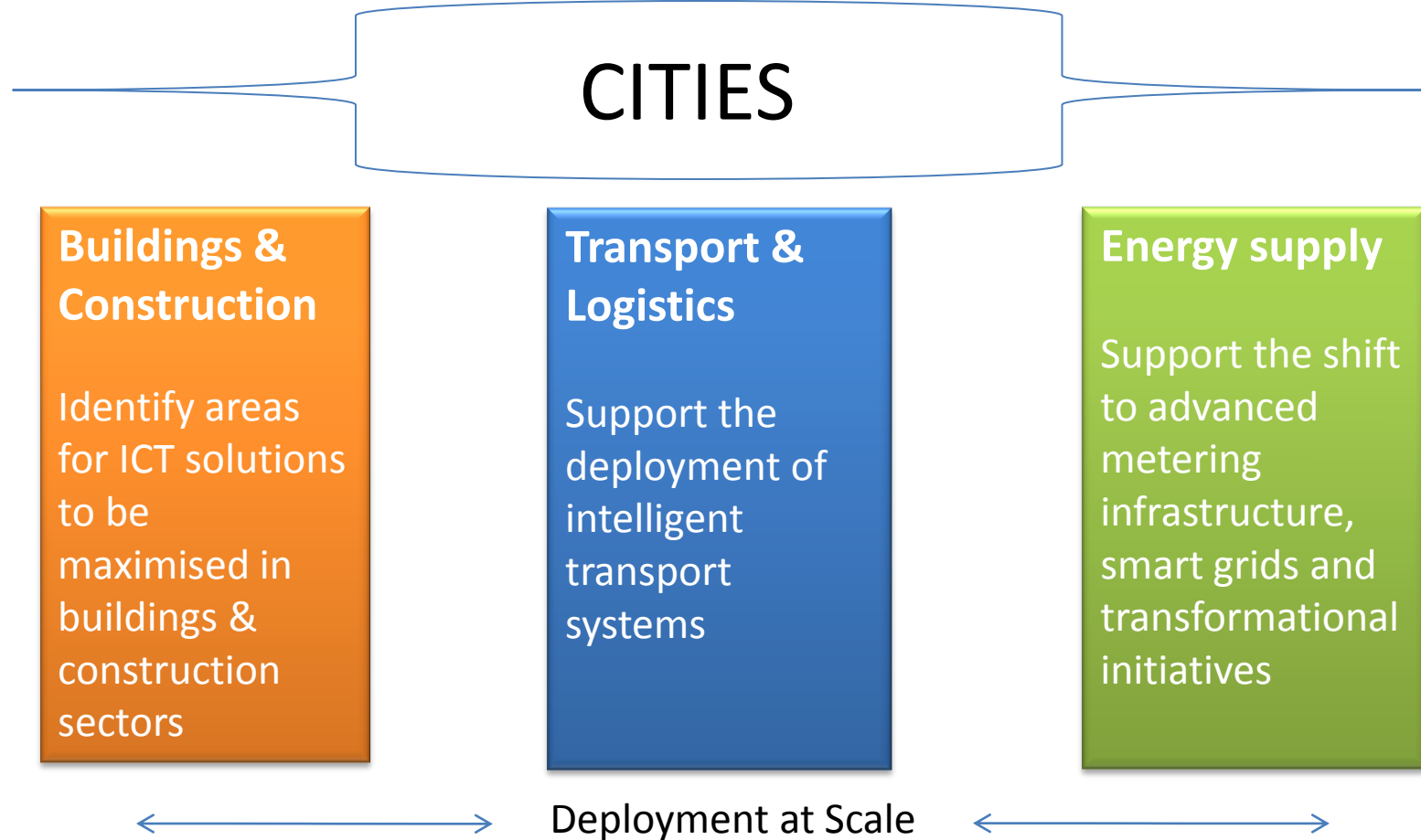
3. WG2 Activities

Content issues for consideration

Working Groups – content issues for consideration

- Agreement on definitions, scope & focus of the working group
- Benchmarking/inventory/gap analysis & linking with existing initiatives
- Identification of market barriers; common market requirements; market based instruments; standards
- Deliverables linked to 3 Roadmap - projects; studies/research; case studies; policy & regulatory recommendations ...
 - opportunities of scale
 - measuring outcomes & impact → quantifiable & verifiable
 - replicability
 - timescales and validation
- Development of joint roadmaps with other sectors
- Partnerships with pioneering cities and regions
- Coherence with other WGs

Working Group 2 - Enabling Energy Efficiency in Other Sectors



Existing & sector driven innovative approaches
Barriers and drivers to improve penetration of ICT
Business models that will sustainably embed energy & carbon savings in the economy

Working Group 2 - Enabling Energy Efficiency in Other Sectors

CITIES

Buildings & Construction

Identify areas for ICT solutions to be maximised in buildings & construction sectors

➤ Common positions and case studies on energy efficiency and ICT use in the respective sectors.

2010

➤ Developed and scaled up tools and applications to ensure compliance with the EPBD and interoperability in building and energy management systems.

2011

Deployment at Scale

Existing & sector driven innovative approaches
Barriers and drivers to improve penetration of ICT
Business models that will sustainably embed energy & carbon savings in the economy

Working Group 2 - Enabling Energy Efficiency in Other Sectors

CITIES

Transport & Logistics

Support the deployment of intelligent transport systems

➤ Developed & scaled technology applications for intelligent transport systems and e-Freight logistics to ensure integration and interoperability of data flows

2010-2012

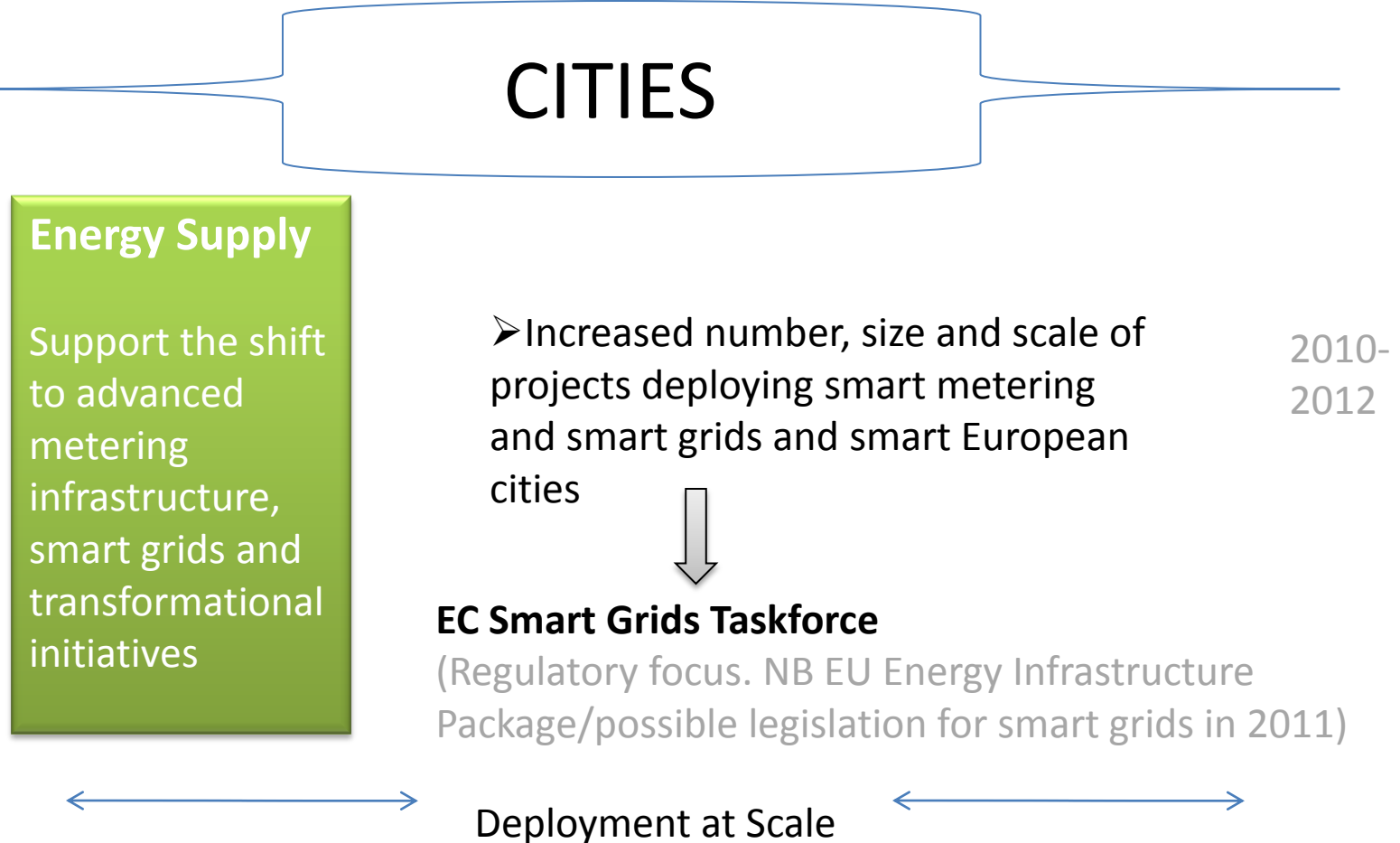
➤ Increased number, size and scale of projects utilising technologies which allow for transport substitution e.g. teleworking and electronic conferencing technologies (see dematerialisation slide).

2010-2012

Deployment at Scale

Existing & sector driven innovative approaches
Barriers and drivers to improve penetration of ICT.
Business models that will sustainably embed energy & carbon savings in the economy

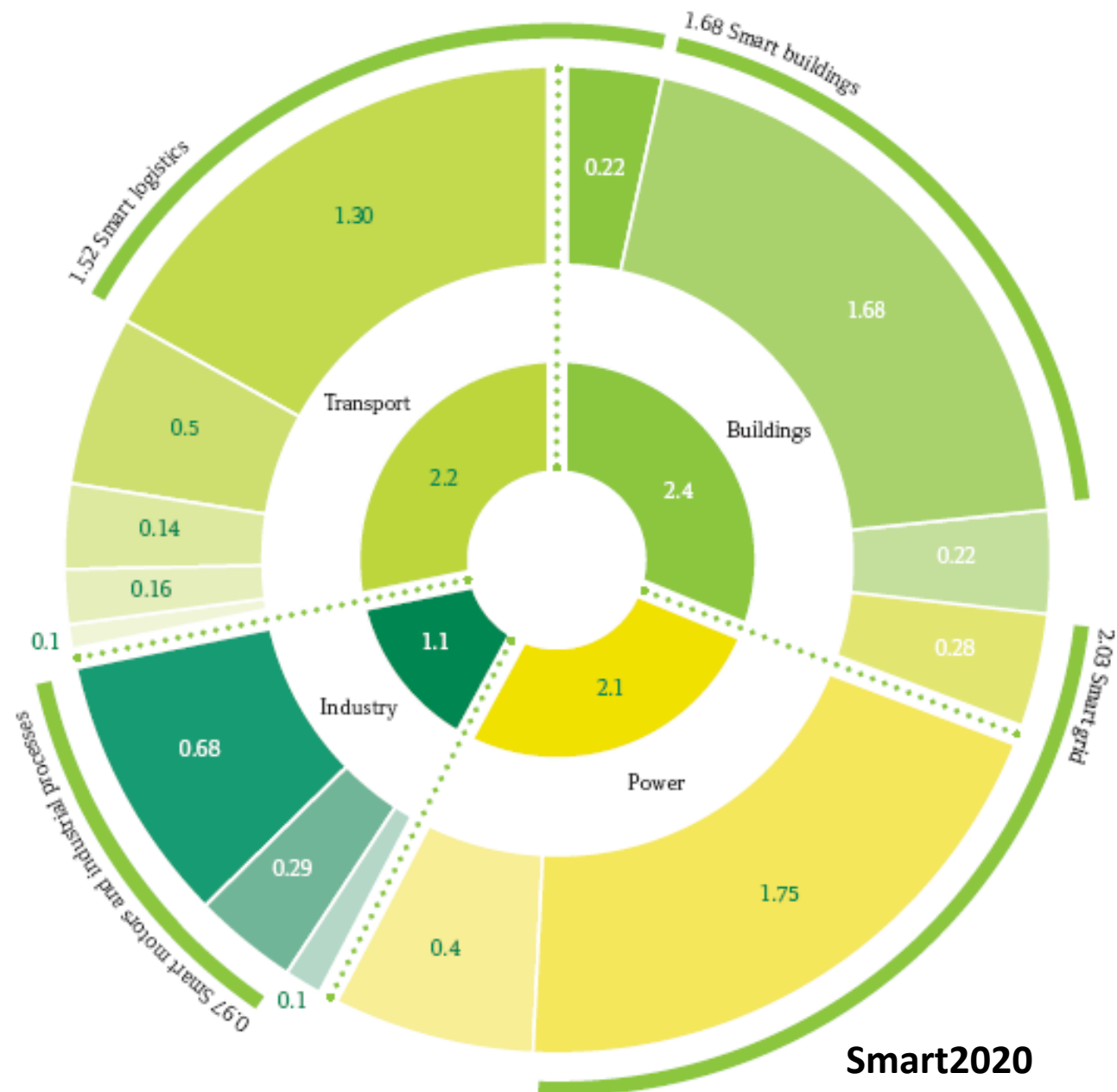
Working Group 2 - Enabling Energy Efficiency in Other Sectors



Existing & sector driven innovative approaches
Barriers and drivers to improve penetration of ICT
Business models that will sustainably embed energy & carbon savings in the economy

THE ENABLING EFFECT

IN 2020, ICT could enable reductions of 7.8 Gt CO₂e



DEMATERIALISATION

The substitution of high carbon products and activities with low carbon

alternatives:

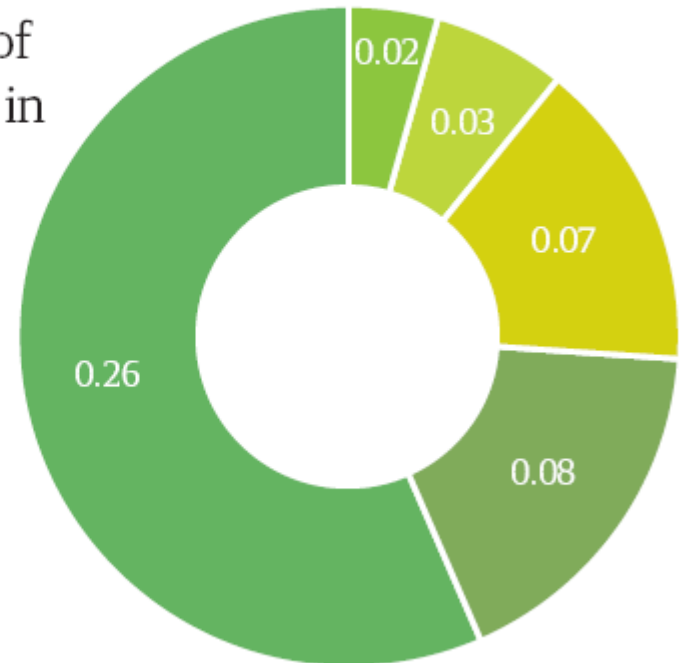
- > Replacing face-to-face meetings with tele- and videoconferencing
- > Remote working
- > Paper with email/online billing
- > CDs with online music

Total abatement potential of dematerialisation in 2020:
460 Mt CO₂e

GtCO₂e

Total of 0.46 out of BAU 51.9 GtCO₂e in 2020

- Online media
- E-commerce
- E-paper
- Videoconferencing
- Telecommuting



Source: Expert interviews, Jan – March 2008

SMART MOTORS (addition to Roadmap?)

MOTOR SYSTEMS – devices that convert electricity into mechanical power.
Central to global industrial activity.

- > Industrial activity was responsible for 23% total emissions in 2002 (9.2 Gt CO₂e), industrial motor systems responsible for 65% of this.
- > By 2020 motor systems responsible for 7% global emissions.

SMART MOTORS

- > Control/adjust power usage output, through variable speed drives (VSD) and intelligent motor controllers (IMC).
- > Monitor energy use and utilise data for energy and cost savings.
- > Simulation software improve plant and manufacturing process design.
- > Wireless networks enable inter-machine and system communication.

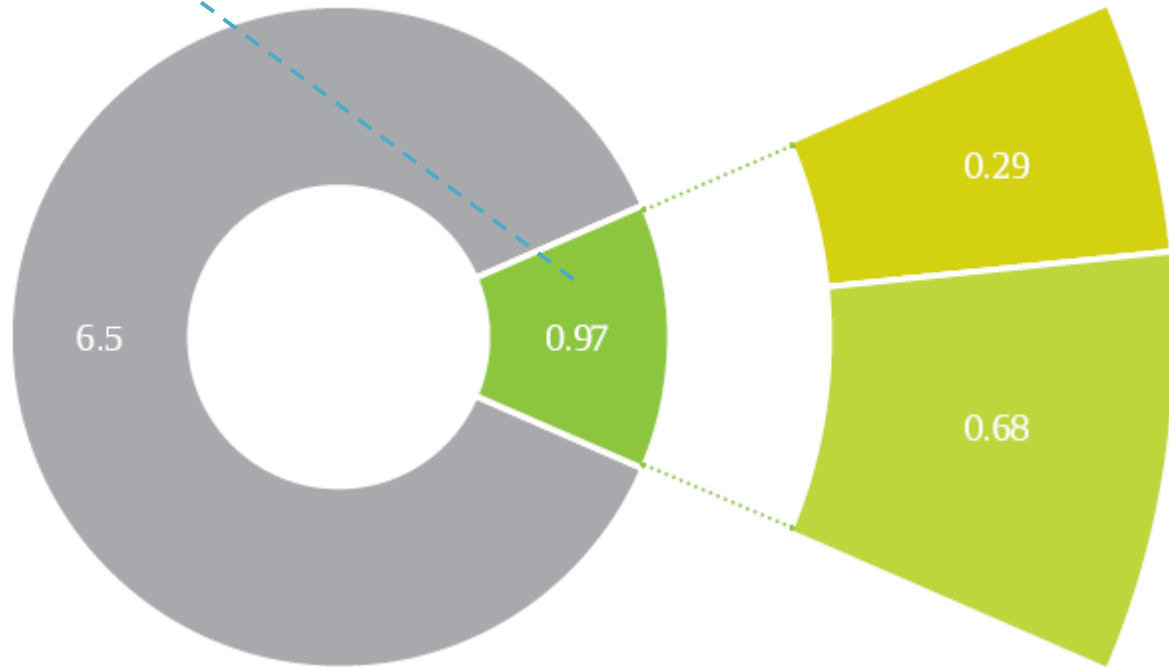
SMART MOTORS

Total abatement potential of
SMART motors in 2020:
970 Mt CO₂e

GtCO₂e

Total emissions BAU
in 2020 = 51.9 GtCO₂e

- Total emissions from power used by industrial systems
- Total ICT smart motor system abatements
- ICT-driven automation in key industrial processes
- Optimisation of variable speed motor systems



Smart2020

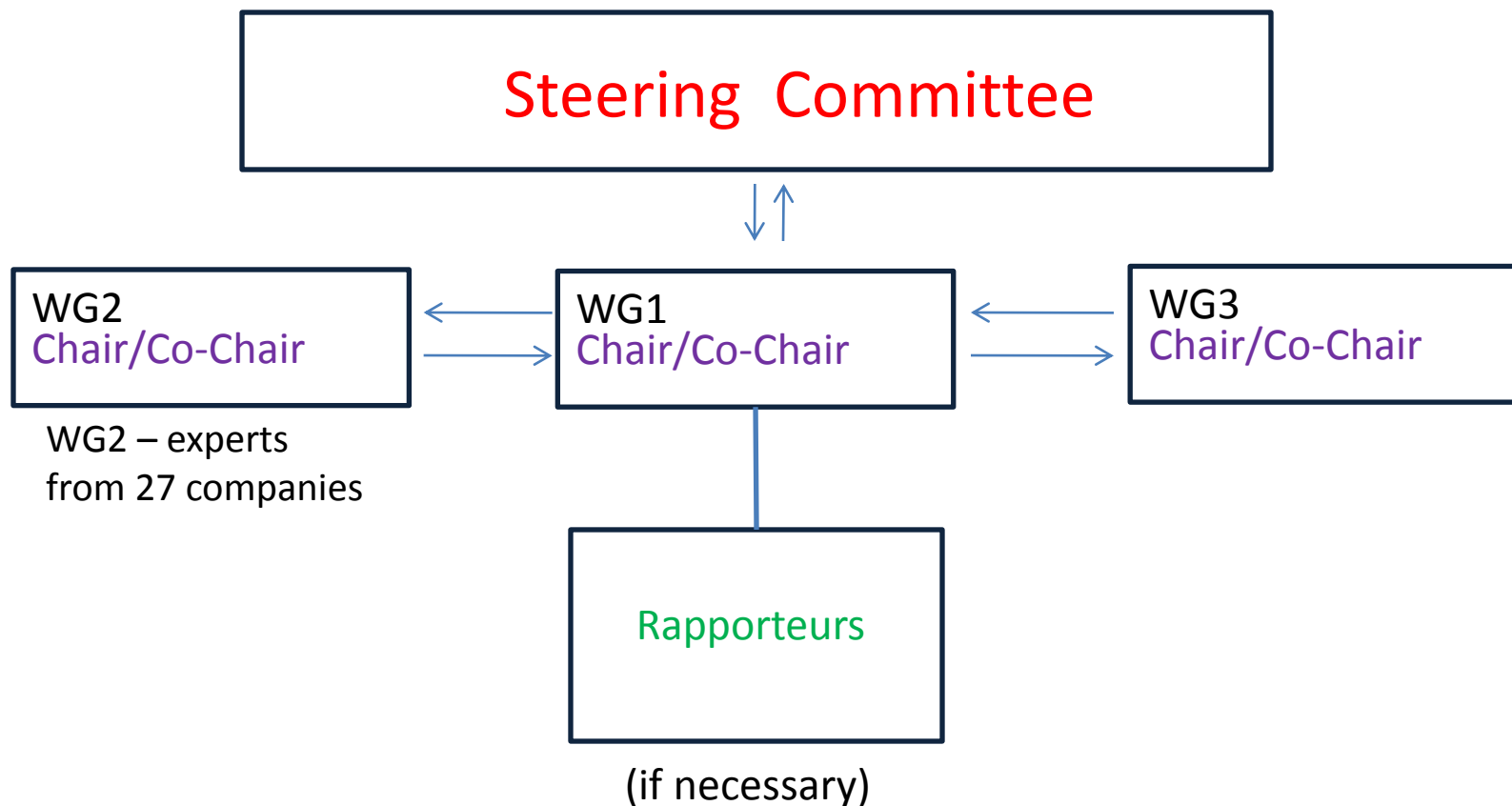
3. WG2 Activities

Operational issues for consideration

Working Groups – operational issues for consideration

- Election of Chairs, Vice-Chairs & rapporteurs
- Composition of WGs - representativeness of ICT sector; involvement of other sectors
- Distribution of Tasks
- Setting up of taskforces/sub-groups
- Prioritisation, focus and timely deliverables
- Regular reporting to Steering Committee and annual report to EC and Stakeholder Plenary
- Timescales & meeting dates
- Use of technology & project management tools
- Confidentiality & competition issues

Operational Structure



Chair to decide on need for secretariat support

Role & Tenure of Chair/Co-Chair



Role:

- Lead & direct the WG
- Organize & facilitate Issue Groups in WG if necessary
- Coordinate with other WG activities
- Annual report to the Steering Committee

Tenure:

- The term of this chairmanship will be 12-18 months
N.B. Extension is possible, otherwise there will be an election process for a new chair.

Chair/co-Chair Nomination Procedure

- Chair/co-Chair candidates to express their interest + provide short bio by 22 April 18:00 CET to:
tony.graziano@digitaleurope.org
Katrina.destree@gesi.org
- Vote for a Chair & Vice Chair to be held in the first WG. One vote per company rule. Voting will also be open by email.
- The result will be informed to members by 7 May.

Role & Tenure of Rapporteurs



Role:

- Rapporteurs can be assigned if detailed work for some specific areas is necessary
- Each rapporteur is to write SMART deliverables according to the mission assigned from WG

Tenure:

- The term of rapporteurs will be 12-18 months renewable

N.B. Rapporteurs are strongly encouraged to coordinate with other WGs

BACK-UP

THE ENABLING EFFECT

IN 2020, ICT could enable reductions of 7.8 Gt CO₂e

