

#SMARTer2030



policy playbook

THIS PLAYBOOK PROVIDES SUPPORT TO POLICYMAKERS TO
REALIZE THE SUSTAINABILITY BENEFITS OF
ICT SOLUTIONS FOR A SMARTer2030

An initiative by:

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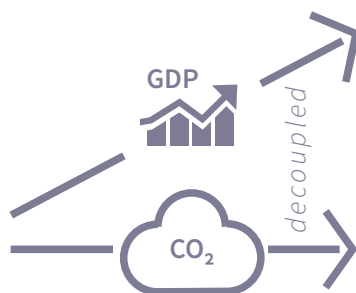
GeSI
GLOBAL e-SUSTAINABILITY
INITIATIVE



KEY MESSAGES FOR POLICY MAKERS

NECESSARY POLICY ACTION TO DRIVE ADOPTION OF SUSTAINABLE ICT SOLUTIONS

ICT has the potential to maintain global CO₂ emissions at 2015 levels, decoupling the past pattern where each 1% of growth in GDP equated to an 0.5% increase in CO₂ emissions, and promote sustainable growth through 2030. To realize the potential of low carbon growth, policy action is essential.



PRIORITIES FOR POLICY MAKERS

Policy interventions are needed in three key areas: Setting ambitious national CO₂ targets, creation of investment incentives in infrastructure deployment and establishing a fair, balanced and consistent regulatory approach to ICT solutions.

POLICY REQUIREMENTS

...vary by sector and should consider the differences between developing, emerging and developed markets. Policies should further consider the diversity of users across lifestyle segments in order to support the transition to mass adoption in society and in order to realize and optimize sustainability benefits for all citizens.

TO FULLY REALIZE ICT'S POTENTIAL POLICY MAKER ACTION IS REQUIRED

POLICY MAKER CALL TO ACTION

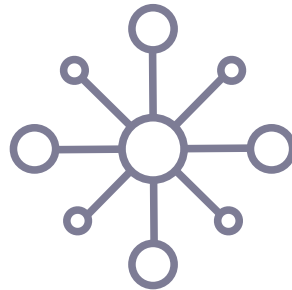
PRIORITIZED ACTION AREAS

AMBITIOUS NATIONAL CO₂ TARGETS



Set ambitious national CO₂ targets and recognize ICT solutions as an effective and necessary tool to decrease carbon emissions while enabling continued economic growth and sustainable living.

INVESTMENT INCENTIVES IN INFRASTRUCTURE DEPLOYMENT



Create investment incentives in infrastructure deployment to connect the unconnected and enable all segments of the population to access ICT solutions via broadband.

FAIR, BALANCED AND CONSISTENT REGULATORY APPROACH



Establish a fair, balanced and consistent regulatory approach to ICT solutions that promotes innovation and investment, encourages cross-industry partnerships, protects intellectual property rights and ensures consumer privacy and security.

STAKEHOLDER VIEWS ON THE THREE PRIORITY AREAS FOR POLICY INTERVENTION **BUSINESS COALITIONS***



SET AMBITIOUS (NATIONAL) CO₂ TARGETS

- Increase the current level of urgency and ambition to stabilize global emissions before the end of this decade and in doing so raise bold business opportunities
- Set an ambitious global climate agreement at the UNFCCC COP21 in Paris on trajectories achieving net zero emissions well before the end of the century and keeping cumulative emissions within a 1000 billion tonnes of carbon
- Make ambitious, measurable, verifiable national commitments (INDCs) under the UNFCCC
- Leverage public funds and private sector finance towards low-carbon assets by introducing carefully designed, robust and predictable carbon pricing as well as to eliminate fossil fuel subsidies



CREATE INCENTIVES TO INVEST IN BROADBAND INFRASTRUCTURE DEPLOYMENT

- Scale-up remote area connectivity, e.g. through technologically neutral and efficient use of public funds
- Make broadband affordable to lower-income households
- Connect schools and libraries to broadband to increase digital literacy to drive adoption of ICT
- Improve education to prepare people for ICT
- Remove excess taxation on devices and access, and consider targeted subsidies for lower-income households
- Promote and enable female participation in ICT in countries where women users are still a small minority
- Make ICT a core driver of your country's development strategy
- Improve the overall and ICT-specific regulatory and policy framework by reducing regulatory burden in order to attract investments



ESTABLISH A FAIR, BALANCED AND CONSISTENT REGULATORY APPROACH TO ICT SOLUTIONS

- Create a regulatory and political framework to enable ICT penetration through cross-industry partnerships
- Address cyber security by making it a priority across sectors
- Set general and sector specific standards on an ethical and technical level to ensure trustworthiness of ICT regarding data security (e.g. to enable e-health)

* Business Coalitions referred to are: We Mean Business, Partners of the Business and Climate Summit, Global e-Sustainability Initiative (GeSI), The World Economic Forum, and others

STAKEHOLDER VIEWS ON THE THREE PRIORITY AREAS FOR POLICY INTERVENTION MULTILATERALS*



SET AMBITIOUS (NATIONAL) CO₂ TARGETS

- Main target: limit global warming to 2°C by 2050
- 2020 targets for developed countries: emission reduction by 25 to 40% compared to 1990 levels; for developing countries: substantial reduction in CO₂ emissions compared to baseline
- 2050 targets for developed countries: emission reduction by 80 to 95% compared to 1990 levels; for developing countries substantial reduction in CO₂ emissions compared to baseline
- CO₂ emissions generated by the telecommunication/ICT sector to be decreased per device by 30% by 2020**



CREATE INCENTIVES TO INVEST IN BROADBAND INFRASTRUCTURE DEPLOYMENT

- Connect schools and libraries to broadband to increase digital literacy to drive adoption and to raise ICT access availability
- Make broadband affordable to lower-income households
- Improve education to prepare people for ICT; in developing countries establish education networks with the developed world
- Focus on developing countries: Build international partnerships to help address the creation and dissemination of ICT in public sectors
- Initiate cross-sector R&D projects on ICT
- Less prescriptive regulation to stimulate ICT innovation



ESTABLISH A FAIR, BALANCED AND CONSISTENT REGULATORY APPROACH TO ICT SOLUTIONS

- Support process of setting technical standards regarding interoperability in countries where necessary
- Develop an intellectual property regime to encourage the commercialization of R&D results

* Multilaterals referred to are: Broadband Commission, Intergovernmental Panel on Climate Change (IPCC), International Telecommunication Union (ITU), UN System Task Team, and others

** Baseline data still pending and to be published by ITU in 2015 as part of its Connect 2020 Agenda

POLICY EXAMPLES ON SETTING TARGETS BY MARKET MATURITY

PRIORITY AREA 1



EXAMPLES OF NATIONAL CO₂ TARGETS

DEVELOPED

- EU** targets for 2020 include a 20% reduction in EU GHG from 1990 levels and 40% by 2030; raising the share of EU energy consumption produced from renewable resources to 20%; a 20% improvement in the EU's energy efficiency; EU targets for the building sector for 2050 include 90% reduction of CO₂ emissions from 1990 levels and zero energy buildings from 2021
- US** targets for 2025: a 26-28% reduction in US GHG from 2005 levels; further reduction of GHG emissions by 80% until 2050
- Australia** targets for 2020: a 5% reduction in GHG emissions from 2000 levels

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- China** targets for 2030: Curb CO₂ emissions until 2030, reduce them thereafter; raising the share of China's energy consumption produced from renewable resources up to 20%;
- Brazil** targets for 2020: 38% reduction in GHG compared to 2010 levels; 80% Amazon deforestation reduction in 2020
- Russia** targets for 2020: 25% reduction in GHG emissions compared to 1990 levels
- India** targets for 2025: Reduction in GDP emissions intensity by 25% until 2025
- Mexico** targets for 2020: Reduction of GHG emissions by 30% compared to business-as-usual

DEVELOPING

- South Africa:** Reduction of GHG emissions by 34% until 2020 compared to business-as-usual
- Vietnam:** Reduction of GHG emissions in the agriculture and forestry sector by 20% until 2020 compared to business-as-usual
- Costa Rica:** Achieve CO₂-neutrality by 2021
- Peru** targets for 2021: Zero net emissions in Land Use, Land-Use Change and Forestry (LULUCF) sector (sector accounts for 47% of national GHG emissions); raising the share of energy consumption produced from renewable resources up to 40%
- Ghana:** Raising the share of energy consumption produced from renewable resources up to 10%

POLICY OPTIONS TO CREATE INCENTIVES BY MARKET MATURITY

PRIORITY AREA 2



CREATE INCENTIVES TO INVEST IN BROADBAND INFRASTRUCTURE DEPLOYMENT

DEVELOPED

- Scale-up remote area connectivity, e.g. through technologically neutral and efficient use of public funds
- Improve overall and ICT-specific regulatory and policy frameworks
- Make ICT a core driver of the development strategy
- Consider taxation incentives or targeted subsidies for lower-income households to overcome affordability barriers
- Connect public service infrastructure to broadband (e.g. schools, libraries, health institutions) to increase digital literacy in order to drive adoption and to raise ICT access

EMERGING

- Improve overall and ICT-specific regulatory and policy frameworks
- Scale-up remote area connectivity, e.g. through universal service funds (USF)
- Make ICT a core driver of the development strategy
- Connect public service infrastructure to broadband (e.g. schools, libraries, health institutions) to increase digital literacy in order to drive adoption and to make ICT available to all
- Remove excess taxation on devices and access, and consider targeted subsidies for lower-income households
- Improve education on primary, secondary and tertiary education level to prepare people for ICT
- Promote and enable female participation in ICT in countries where women users are still a small minority

DEVELOPING

- Improve overall and ICT-specific regulatory and policy frameworks
- Use multilateral funds to support domestic ICT innovators
- Make ICT a core driver of the development strategy
- Connect public service infrastructure to broadband (e.g. schools, libraries, health institutions) to increase digital literacy in order to drive adoption and to raise ICT access
- Remove excess taxation on devices and access, and consider targeted subsidies for lower-income households
- Improve education to prepare people for ICT
- Promote and enable female participation in ICT in countries where women users are still a small minority
- Build international partnerships to help address the creation and dissemination of ICT in public sectors

POLICY OPTIONS FOR REGULATORY APPROACHES BY MARKET MATURITY

PRIORITY AREA 3



ESTABLISH A FAIR, BALANCED AND CONSISTENT REGULATORY APPROACH TO ICT SOLUTIONS

DEVELOPED

- Provide market and technology information to consumers and business actors to raise awareness and ensure trustworthiness, e.g. by product certifications or education on benefits
- Set general and sector specific standards on ethical and technical level to ensure trustworthiness in data security (e.g. to enable e-health)
- Address cyber security by making it a priority across sectors
- Create a regulatory and political framework to enable ICT penetration; e.g. in regard to intellectual property rights

EMERGING







- Address cyber security by making it a priority across sectors
- Develop an intellectual property regime to encourage the commercialization of R&D results
- Create a regulatory and political framework to enable ICT penetration, e.g. by addressing intellectual property rights protection

DEVELOPING

- Support setting technical standards regarding interoperability where necessary
- Set general and sector specific standards on ethical and technical level to ensure trustworthiness in data security (e.g. to enable e-health)

POLICY OPTIONS BY SECTOR

ALL POLICY PRIORITY AREAS

	 <p>SET (NATIONAL) CO₂ TARGETS</p>	 <p>CREATE INCENTIVES TO INVEST IN BROADBAND INFRASTRUCTURE DEPLOYMENT</p>	 <p>ADOPT A FAIR, BALANCED AND CONSISTENT REGULATORY APPROACH</p>
 <p>ENERGY</p>	<ul style="list-style-type: none"> energy sector-specific reduction targets in order to support renewable energies and hence set needs for advanced energy management systems 	<ul style="list-style-type: none"> Support renewables (e.g. by national strategies) and hence generate demand for advancing energy management systems Integrate virtual power plants into the grid Consider off-grid renewables and storage (e.g. in remote areas) 	<ul style="list-style-type: none"> e.g. address cyber security as a priority challenge to secure energy systems from cyber attacks
 <p>MOBILITY</p>	<ul style="list-style-type: none"> fuel efficiency standards for automobiles to favor ICT traffic control 	<ul style="list-style-type: none"> Renovate transport infrastructure and, e.g., set regulatory framework to enable e-mobility Integrate smart mobility options into education (e.g. refer to real time traffic information in broadcasting) 	<ul style="list-style-type: none"> e.g. balance consumer privacy and business interests on consumer behavioural data to foster sustainable market growth
 <p>HOUSING</p>	<ul style="list-style-type: none"> energy efficiency standards for buildings to seize smart building technology 	<ul style="list-style-type: none"> Increase R&D of methods to integrate buildings and building equipment into the local energy infrastructure, including on-site generation Apply solutions to public buildings by public procurement Initiate cross-sector collaborations to secure interoperability 	<ul style="list-style-type: none"> e.g. balance consumer privacy and business interests on consumer behavioral data to foster sustainable market growth

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