



Good practices to support deployment of mobile networks

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GSM Association

Plenary Session
25 April 2013 – Sheraton Hotel - Bogota, Colombia

Usage trends – voice and messaging

Figure 5.78 Average monthly outbound mobile call minutes per connection, by subscription type

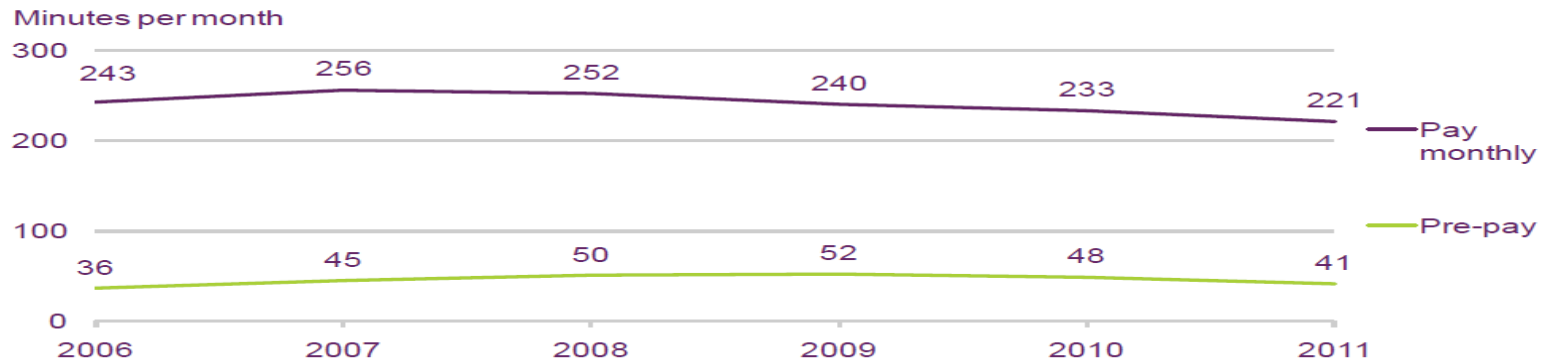
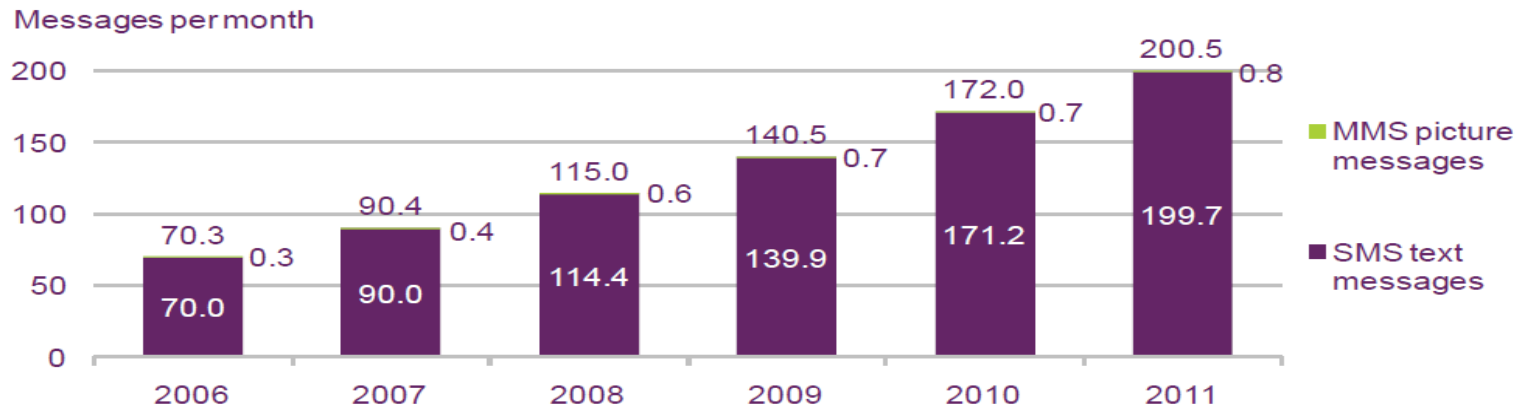


Figure 5.79 Average monthly mobile messaging volumes per person

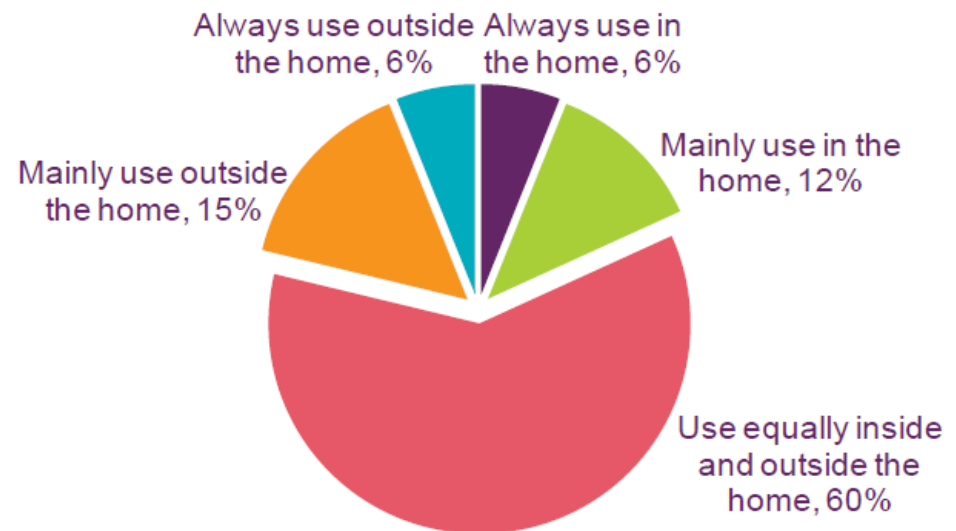


Usage trends – internet and location



Figure 5.83 Location of internet access using a mobile handset

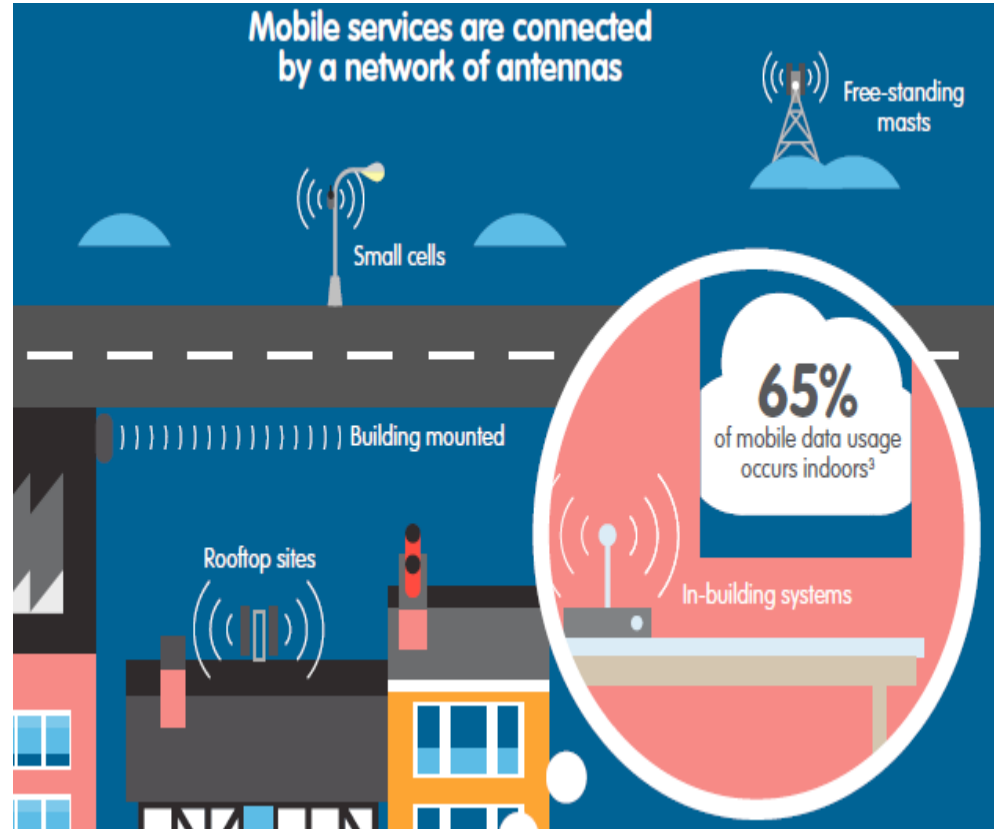
Proportion of mobile data users




Continued evolution of mobile network infrastructure

■ Additional antenna sites:

- More coverage.
- More capacity.
- Higher data rates.



Trends for base station installations



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Press release: Small Cells Outnumber Traditional Mobile Base Stations

By Dimitris Mavrakis October 31, 2012

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Report claims milestone driven by femtocell networks hitting scale and also notes emergence of the Small Cell as a Service model

Informa Telecoms & Media today issued its latest quarterly small-cell market status report which highlights that the global number of small cells now exceeds the total number of traditional mobile base stations. The report shows that between October and November 2012, the number of small cells has surpassed 6 million (6,069,224) with macrocells worldwide totaling 5,925,974. Although the bulk of these numbers (over 80%) are made up of residential femtocells, which will alone overtake the total number of macrocells early next year, they also include enterprise and public-access small cells. There are now 45 small-cell deployments including nine of the top 10 operators by revenue globally.

- 5,925,974 macro sites installed at end of 2012 globally.
- 6,069,224 small cell sites installed at end of 2012 globally.
- Future networks likely to be more heterogeneous mix of sites.

Antenna infrastructure siting issues

- Governments promoting mobile as solution for digital inclusion.
- Both spectrum and antenna sites are needed to address growing traffic.
- Difficulties with local authority approvals due to public concerns about health, visual intrusion, proliferation of masts.
- Few countries have national approach to facilitate deployment of antenna sites.



WHO - Wireless Networks (May 2006)



Media centre

Electromagnetic fields and public health

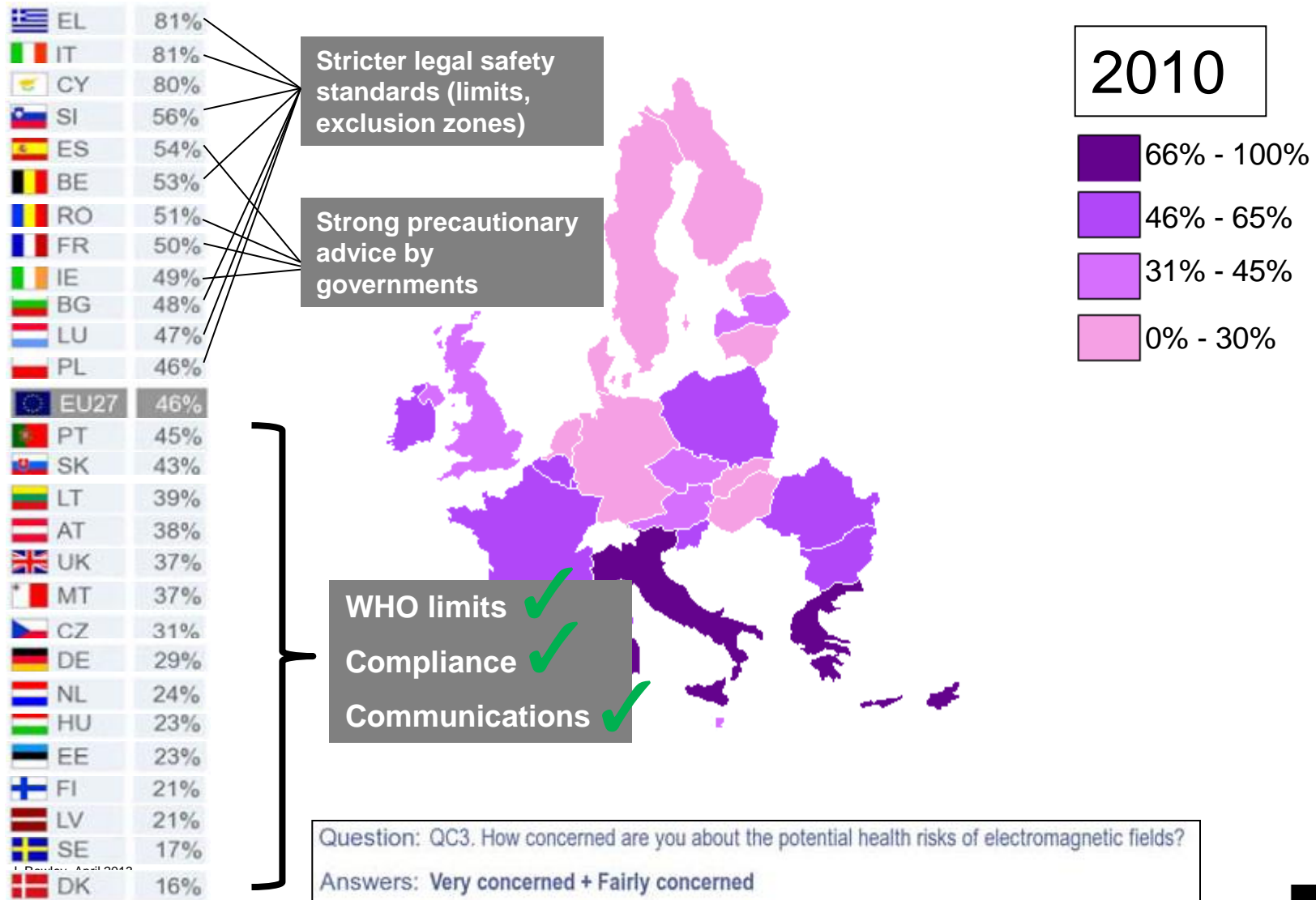
Base stations and wireless technologies

Fact sheet N°304

May 2006

- *'...RF exposures from base stations...lower or comparable to RF exposures from radio or television broadcast transmitters.'*
- *'...no adverse short- or long-term health effects have been shown to occur from the RF signals produced by base stations...'*
- *'Considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects.'*

Precautionary policies linked to more public concern



Data-source: Special Eurobarometer 347, 2010, p. 66;
presentation by GSMA Europe

Planning exclusion zone policies are unworkable

- Arbitrary distances.
- Political response.
- GSMA supported hypothetical analysis based on Melbourne (Australia).
- If 500 m zone applied :
 - across whole urban area would affect >50% of antennas.
 - rises to 90% in dense urban area.



Visual integration with the environment

- Antennas need to be where people make calls.
- Design to be compatible with environment.
 - Colour.
 - Integration.
 - Screening.
 - Public art.
- Some people fear 'camouflage'.



MCF Design and Innovation Programme
Mobile Network Base Station Deployment
Technical Paper



Prepared for the Mobile Carriers Forum and the
Design and Innovation Programme Taskforce
August 2007



Integration does not mean invisible

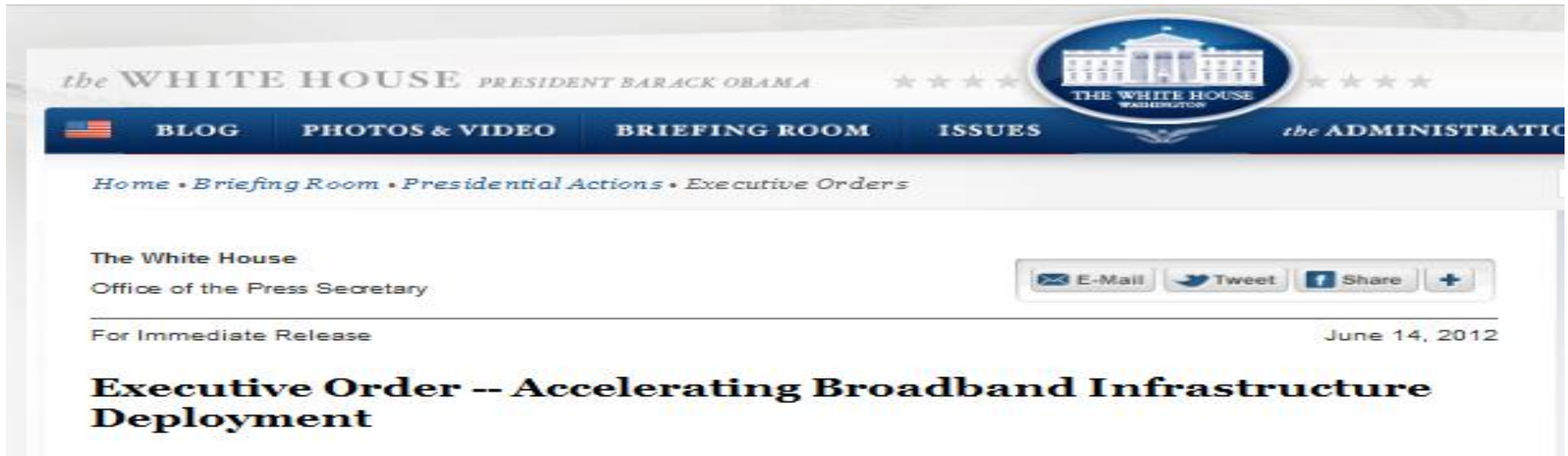


USA – “shot clock” & “colocation by right”

- FCC “shot clock” rule (2009).
 - Reasonable time for communities to process an application.
 - Decision in 90 days for co-location, 150 days for other applications.
 - Waiting for Supreme Court decision on legal challenge.

- Middle Class Tax Relief and Job Creation Act (Feb 2012)
 - section 6409(a) – “colocation by right”.
 - *“a state or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.”*
 - Substantial = 10% or up to about 6 m plus other criteria.

USA – improving access to federal lands



- Creation of federal working group to address broadband deployment access issues for government lands, buildings, and rights-of-way.
- Intent is to give carriers a single approach to leasing federal assets for broadband deployment.
- US government controls nearly 30% of land, thousands of miles of roads, and more than 10,000 buildings

Other countries also promoting deployment

**TeleGeography**
AUTHORITATIVE TELECOM DATA

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Rollout requirements dropped whilst Costa Rica cuts red tape

2 Aug 2012

 Costa Rica

**Mobile Operators Association**

mobile operators association
responsible network development

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Mobile operators welcome publication of National Planning Policy Framework

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27 March 2012

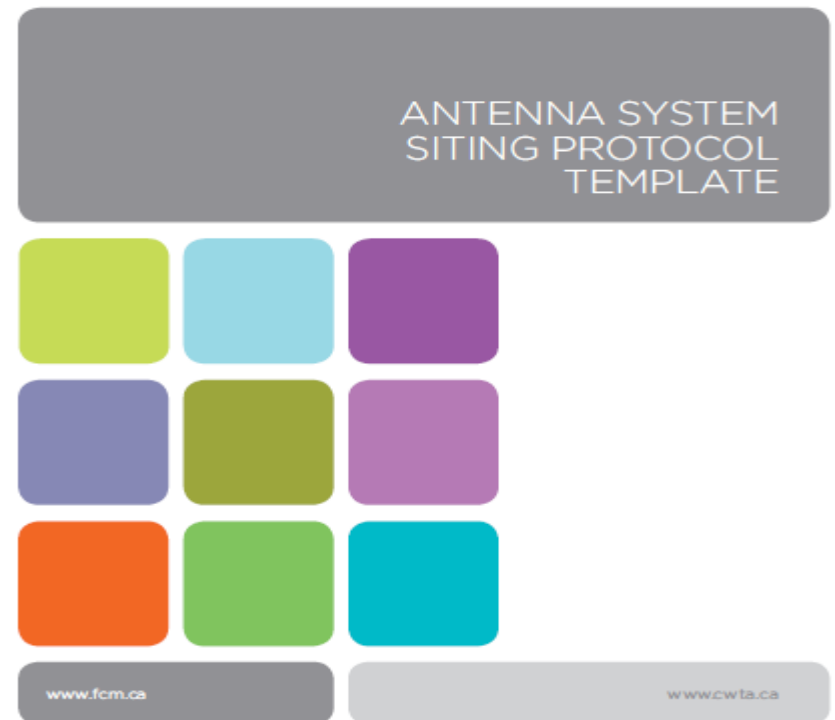
Canada – antenna siting protocol template

- Joint action of FCM and CWTA.
- Template to develop local protocols consistent with Industry Canada rules.
- Objectives:
 - Encourage co-location.
 - Encourage integration.
 - Consultation requirements.
 - Exclusions.
 - Resolve disputes at early stage.

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DES
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cwta
Association canadienne
des télécommunications sans fil
Canada Wireless
Telecommunications Association
acts



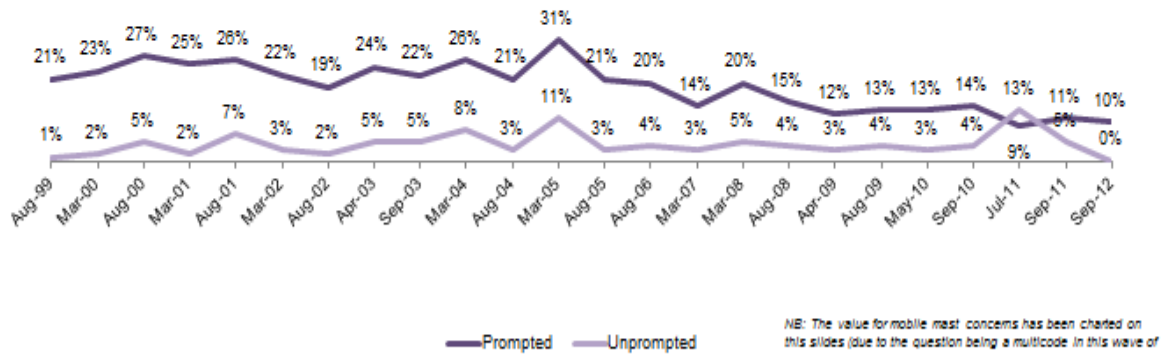
National planning policy for networks

- Consistent policy protects public and supports rollout.
 - Clear criteria for site assessment with health concerns addressed by national limits based on WHO recommendations.
 - Support municipalities through policy that specifies:
 - Information, consultation and visual integration requirements.
 - Mandatory decision period for site applications.
 - Simplified procedures for small antennas, low power sites and modifications.
 - Non-political decision making.
- Allow site sharing where technically and commercially feasible.
- Grant access to government buildings and land for antennas.

Good policy reduces concern

The proportion of respondents mentioning handsets/ masts as a concern is gradually decreasing

Percentage mentioning handsets/ masts as a concern



Summary

- Adopt evidence based RF policy harmonised with international recommendations.
- Adopt a national policy for deployment of mobile network infrastructure that address health, environment and social dimensions.
- Communicate using trusted agencies and avoid policies that increase concern.

Thank You

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Resources

July 2012 – GSMA Health & Environment Newsletter

July 31, 2012

