



THE IMPORTANCE OF SPECTRUM PRICING

New research links high spectrum prices to more expensive, lower quality mobile broadband services

The road to success in four steps:



Set modest reserve prices and annual fees, and rely on the market to set prices



License spectrum as soon as it is needed, and avoid artificial spectrum scarcity



Avoid measures which increase risks for operators

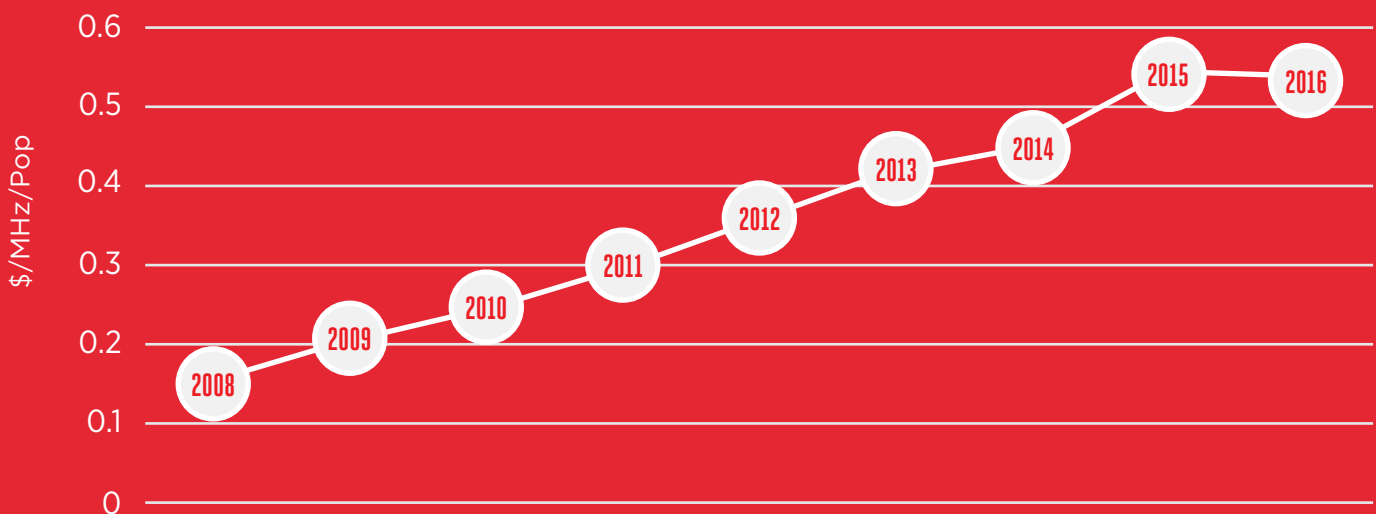


Publish long-term spectrum award plans that prioritise welfare benefits over state revenues.

And make sure to avoid these mistakes:

- Setting reserve prices that are above the true market value
- Limiting spectrum supply or creating uncertainty over future availability
- Inappropriate award rules which expose bidders to undue risk or are anti-competitive

Average spectrum price



The average spectrum price increased by

250%

BETWEEN 2008 AND 2016

Some outliers were

700%

OVER THE AVERAGE

The most expensive auctions since 2008



\$3.91 per MHz/Pop for **900 MHz** in Thailand
\$3.57 per MHz/Pop for **900 MHz** in India
\$3.02 per MHz/Pop for **900 MHz** in Hong Kong
\$2.99 per MHz/Pop for **700 MHz** in Canada
\$2.70 per MHz/Pop for **1700 MHz** in the U.S.



The average reserve prices (the minimum amount operators must pay) increased over

400%

Across a sample of

32 COUNTRIES

15 had costs above the median for their peer group

i.e. higher, medium and lower income countries

The lost economic gains across these countries amounted to

\$445bn

The net economic gain from lower spectrum prices would be

\$253bn

or \$118 per person

*"Governments and regulators **must fully appreciate** their ability to maximise - or thwart - their digital futures through spectrum pricing"*



Brett Tarnutzer
Head of Spectrum, GSMA



325 AWARDS



Across

60 COUNTRIES

From

2000-2016

To explore the link between spectrum prices and consumer outcomes, the GSMA and NERA Economic Consulting analysed 325 awards of spectrum bands across 60 countries from 2000-2016