



Endeavour Energy IT Benchmarking

Final Report - Endeavour Energy

27 November 2017

Data Last Updated:
27/11/17



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Private and confidential

November 2017

Mr Andrew Battenay
Endeavour Energy
51 Huntingwood Drive
Huntingwood NSW 2148

Dear Andrew,

Endeavour Energy IT Benchmarking

Please find enclosed the Endeavour Energy ICT Benchmarking report in accordance with the agreed engagement letter between our organisations.

This report for is based on applying the data provided by Endeavour Energy in November 2017 to the benchmarking results from our KPMG 2016 Utilities IT Benchmarking Survey, which was completed in January 2017.

Endeavour Energy's results are compared to group averages for each of the benchmark metrics with accompanying comments on the survey data and the number of participants within the group as appropriate.

Should you have any question or wish to provide feedback on this engagement, please do not hesitate to contact me.

Yours sincerely,

Josephine Meneses
Partner

Important Notice

The services provided in connection with this engagement comprise an advisory engagement, which is not subject to assurance or other standards issued by the Australian Auditing and Assurance Standards Board and, consequently no opinions or conclusions intended to convey assurance have been expressed.

No warranty of completeness, accuracy or reliability is given in relation to the statements and representations made by, and the information and documentation provided by you and the survey participants consulted as part of the process.

KPMG have indicated within this report the sources of the information provided. We have not sought to independently verify those sources unless otherwise noted within the report.

KPMG is under no obligation in any circumstance to update this report, in either oral or written form, for events occurring after the report has been issued in final form.

The findings in this report have been formed on the above basis.

Third Party Reliance

This report is solely for the purpose set out in the Scope Section and for your information, and is not to be used for any other purpose or distributed to any other party that is outside the agreed mechanisms in the engagement letter for services dated 29 October 2017.

This report has been prepared at your request in accordance with the terms of KPMG's engagement contract dated 29 October 2017. Other than our responsibility to you, neither KPMG nor any member or employee of KPMG undertakes responsibility arising in any way from reliance placed by a third party on this report. Any reliance placed is that party's sole responsibility.

This document contains redacted extracts, as selected by Endeavour Energy, from KPMG's report detailing our findings during the course of the work undertaken for Endeavour Energy under the terms of the engagement letter dated 29 October 2017. The contents of this document do not represent our conclusive findings, which will only be contained in our final detailed report that was delivered subject to the agreed written terms of KPMG's engagement.

This report is provided solely for the benefit of the parties identified in the engagement letter and is not to be copied, quoted or referred to in whole or in part without KPMG's prior written consent. KPMG accepts no responsibility to anyone other than the parties identified in the engagement letter for the information contained in this report and any reliance placed is that party's sole responsibility.



Glossary

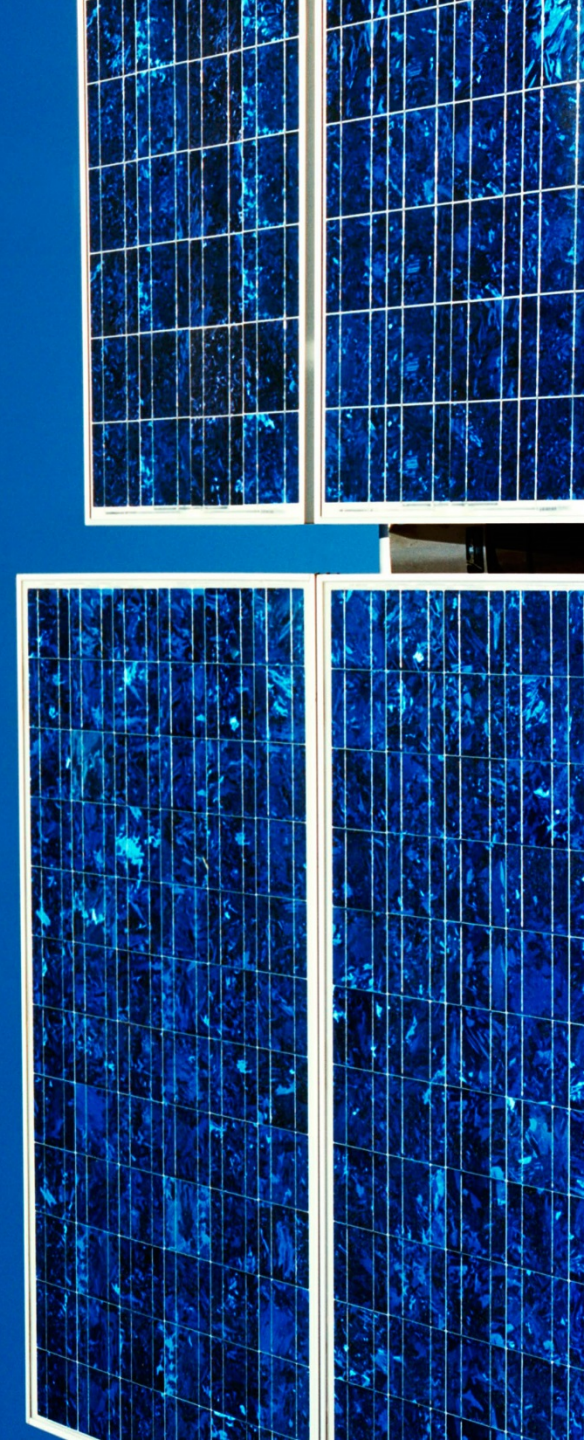
ACT	Australian Capital Territory	NEM	National Electricity Market
AEMC	Australian Energy Market Commission	NER	National Electricity Rules
AEMO	Australian Energy Market Operator	NMI	National Metering Identifier
AER	Australian Energy Regulator	NSW	New South Wales
Capex	Capital Expenditure	NT	Northern Territory
CIO	Chief Information Officer	Opex	Operating Expenditure
CIS	Customer Information System	OT	Operational Technology (e.g. SCADA)
CPI	Consumer Price Index	PTRM	Post Tax Revenue Model
CRM	Customer Relationship Management	PV	Photovoltaic
Dep	Depreciation	QLD	Queensland
DNSP	Distribution Network Provider	RFM	Roll Forward Model
EAPI	Energy Architecture Performance Index	RINS	Regulatory Information Notices
ERP	Enterprise Resource Planning	SA	South Australia
FTE	Full Time Equivalent	SCADA	Supervisory Control and Data Acquisition
FY	Financial Year	TNSP	Transmission Network Provider
ICT	Information & Communications Technology	Totex	Total Expenditure (Opex + Capex)
IT	Information Technology	VIC	Victoria
MFD	Multi-Function Display	WA	Western Australia
MTFP	Multilateral Total Factor Productivity	WACC	Weighted Average Cost of Capital
MW	Megawatt	WEF	World Economic Forum

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Executive summary

Endeavour Energy IT Benchmarking



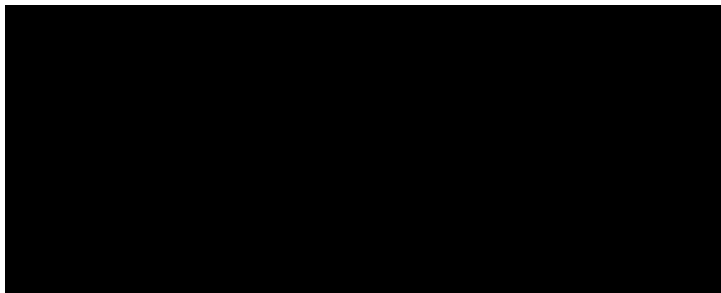
Executive Summary - Overview

Introduction

This report compares Endeavour Energy's ICT expenditures to a selection of benchmarks based on KPMG's Utilities IT Benchmarking Survey completed in January 2017. The following Executive Summary reflect the findings from that survey.

Participants

This survey comprises the following group of nine electricity distribution and transmission providers:



Scope

This benchmarking survey follow the same structure as our normal IT Benchmarking Survey, splitting the results between Corporate ICT and Regulatory ICT benchmarks.

The Corporate ICT benchmarks compare the participants' ICT investments and operations at enterprise level.

The Regulatory Technology benchmarks (transmission and distribution) compare the participants' ICT investments for their regulated electricity network businesses.

State of the Industry

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Industry trends and key events impacting the participants' include:

- Increased reliance on renewable energy sources,
- Installed solar PV capacity forecast to rise to 21% by 2024/25,
- Maximum demand has remained flat at a level below historic peaks from 2008/09,
- Power of Choice roll out continues with competition in metering being introduced,
- Recent AER decisions have resulted in significant decreases in requested revenues and subsequent appeals and court action,
- NSW asset leasing completed for TransGrid and Ausgrid and process commenced for Endeavour Energy,
- NT to come under AER jurisdiction, WA will be the only state to remain under state based regulatory jurisdiction,
- Freak weather in SA causes statewide black out,
- Renewable's impact on network stability questioned and options for greater inter-connectedness sought, and
- Closure of uneconomic coal fired power stations.

World Economic Forum report ranks Australia 56th in energy market performance and highlights 3 specific areas impacting energy markets:

- Transition to renewable energy sources,
- Digital disruption, and
- Rebalancing of energy supply & demand.

Executive Summary – Benchmark Results

Corporate ICT Benchmarks

Strategic issues

Key ICT management issues identified by the participants included:

- Business and Technology optimization,
- IT Security,
- IT Operating Model, and
- IT Strategy, Transformation & Regulatory Management.

Participants provided forecasts on their ICT investment trends in key systems and technologies. The core technology areas most likely to see *increased investments* include:

- Asset management,
- Geographical information management,
- Procurement management, and
- Cloud platforms.

Participants have indicated investments in the following technologies will either *decrease* or are *unlikely to change*:

- Office productivity,
- Mainframe,
- Finance management, and
- Metering data management.

Financials

As corporate ICT benchmarks refer to enterprise wide ICT management and services, the operational and business drivers of the financial benchmarks include:

- Scale of economy e.g. shared ICT services across participant organisations or distribution network businesses,
- Complexities associated with different types of energy distribution operations, services or over different jurisdictions,
- Customer or asset density, costs associated with providing ICT services over greater business geographical coverage,
- Age of systems or assets, operating costs associated with maintaining older ICT technologies, assets and older energy distribution network assets,
- Service delivery model, costs associated with service delivery based on internal or external resources or outsourced service providers,
- Balancing capital expenditure to operating expenditure, driven by the participant's service delivery approach, and
- Corporate finance costs and financial strategy.

General observations on participants revenues and expenditure include:

- Overall drop in revenues across the industry,
- Corporate opex across the group has fallen,
- General trend of reduction in ICT Opex, with only one participant increasing their ICT operating costs, and
- General trend of reduction in ICT Capex.

Executive Summary – Benchmark Results

Corporate ICT Benchmarks (continued)

Resourcing

- Across the board reductions in both internal and external ICT staff evident,
- Applications support and applications development remain as the highest % of ICT staff functions, and
- Use of contract staff remains relatively steady.

Hardware

- Trend of increased use of handheld devices continues with an overall increase in these devices across the group,
- Overall drop in the number of desktops and laptops with the former showing the largest drop. Compared to only a slight drop in total user numbers, the results indicate the increased use of handheld devices.

Cloud, Innovation / Smart Strategies

- The participants showed a general slow pace in uptake of cloud technologies. The functions which have already moved to or will be moved to cloud services include office productivity, communications, collaborations and human resources management.

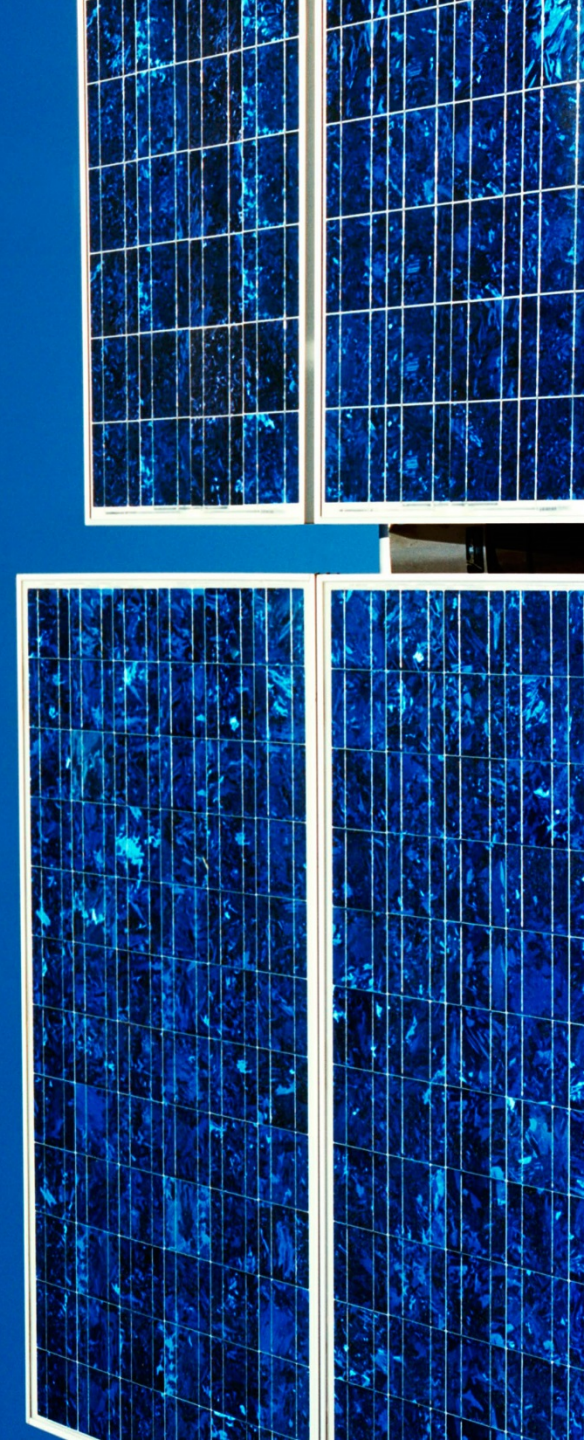
Regulatory Technology Benchmarks

Electricity distribution

- Revenue per customer has steadily increased from 2009 to 2012, then plateaued from 2013 to 2015. The results are consistent with general decline in power consumption in recent years,
- Network capital expenditure followed a similar trend with increases from 2009 to 2012, then declined from 2013 to 2015 for both customer and per km of circuit length metrics. The results are consistent with industry capital expenditure constraints in recent years,
- Replacement capital expenditure is increasing in the portion of capital expenditures, this is consistent with industry constraints on augmentation capital expenditure and the general fall in power consumption,
- ICT capital expenditure as a portion of capital expenditure and per customer have remained relatively stable over the period from 2009 to 2015. The profile of ICT capital expenditure has generally reflect timing of industry reform activities over the same period,
- Increases in both ICT capital and operating expenditure metrics from 2013 to 2015, suggest network businesses are investing in technologies,
- Network operating expenditure continues to increase in both the per customer and per km circuit length metrics. Distribution businesses are increasing their network operating activities,

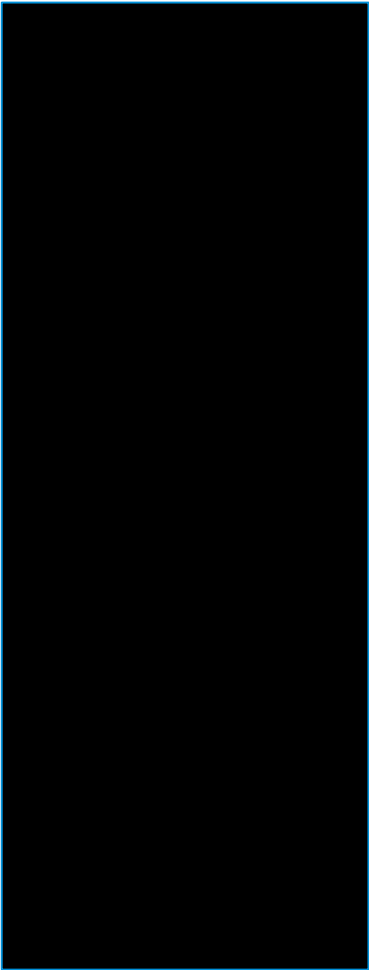
Participants

Endeavour Energy IT Benchmarking



Participants

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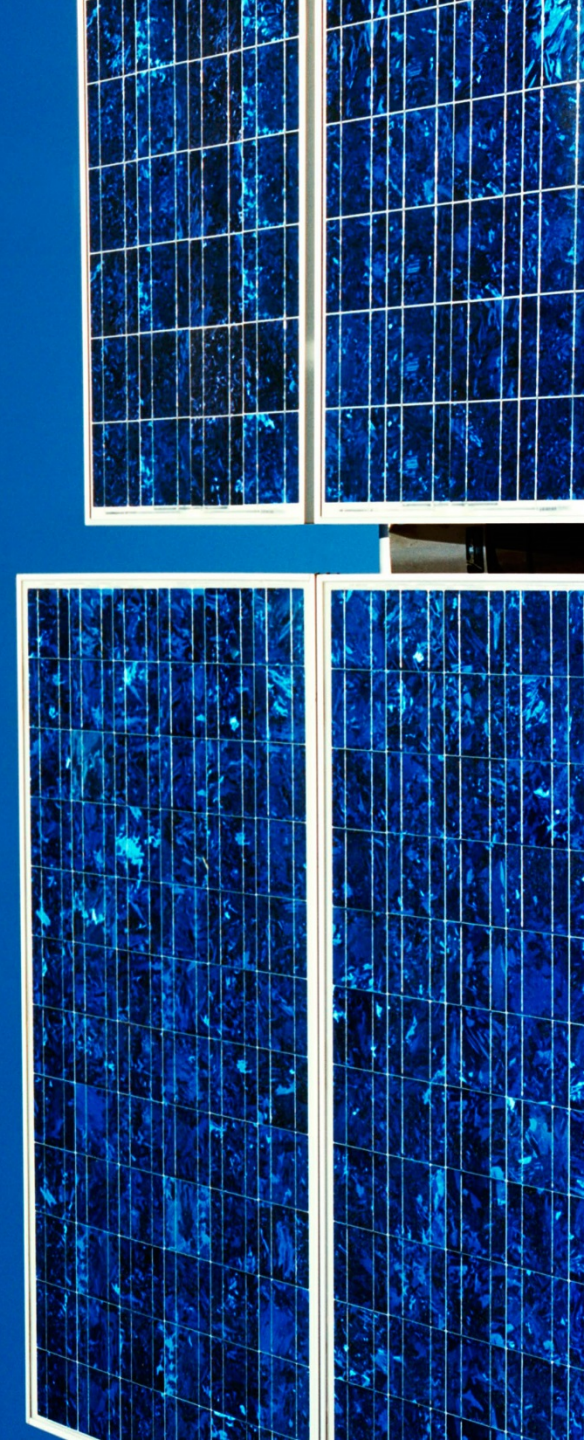


The nine organisations benchmarked in this IT Benchmarking Survey are listed below:

Participant	Sector	Coverage
[Redacted]		
[Redacted]		

State of the industry

Endeavour Energy IT Benchmarking



AER benchmarking – key points from the 2016 annual reports

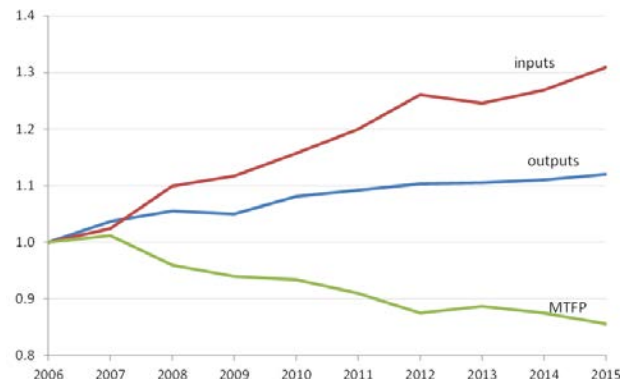
Following the changes to the National Electricity Rules (NER) brought about as a result of the AEMC's review of market regulation in 2012, the AER is required to publish an annual benchmarking report on the electricity distribution and transmission sectors.

These were first published in November 2014 and subsequently in November 2015.

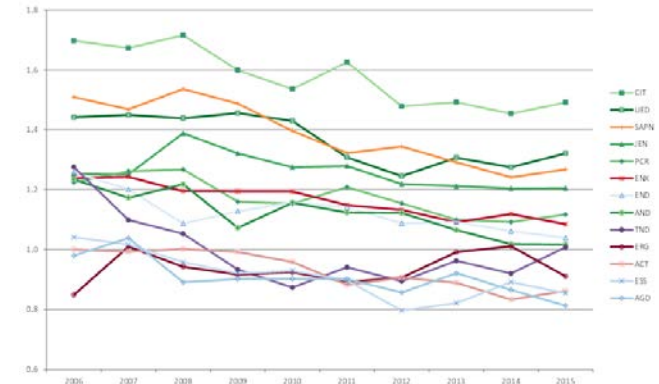
Distribution

The AER uses “Multilateral Total Factor Productivity” (MTFP) as its primary measure of efficiency as this takes in to account a number of output factors that in turn make allowance for the differing operating environments of DNSPs (e.g. customer density, line length etc.). The AER's analysis of MTFP over the period 2006-2015 showed a consistent decrease in efficiency across the market, with only a small number of DNSPs showing a small increase in the later years. This pattern was also reflected in the 2016 analysis as illustrated below.

MTFP input, output and TFP indices for all DNSPs, 2006–15



MTFP by DNSP for 2016-15



(AER – Annual Benchmarking Report, Electricity DNSPs, November 2016)

The key observations made by the AER were:

- Outputs show a moderate to flat increase as overall demand for electricity remains relatively static and the long term trend of declining productivity continues,
- Jurisdictional requirements such as the those from the Victorian Bushfires Royal Commission and NSW Ministerial reliability requirements, have resulted in increased expenditure without any corresponding output increase, and
- 2015 showed a widening of the spread of productivity between DNSPs after it had narrowed in recent years. Despite the downwards trend driven by restructuring activity in NSW and QLD, a number of DNSPs did improve their productivity in 2015.

Industry Trends

Demand for network energy remains flat as the installed base of household solar PV increases.

The recent 'black network' event in SA has focussed attention on state renewable energy targets and their impact on network security and stability.

Recent revenue reset processes have appeared increasingly adversarial as large reductions in revenue are imposed by the AER then appealed by DNSPs.

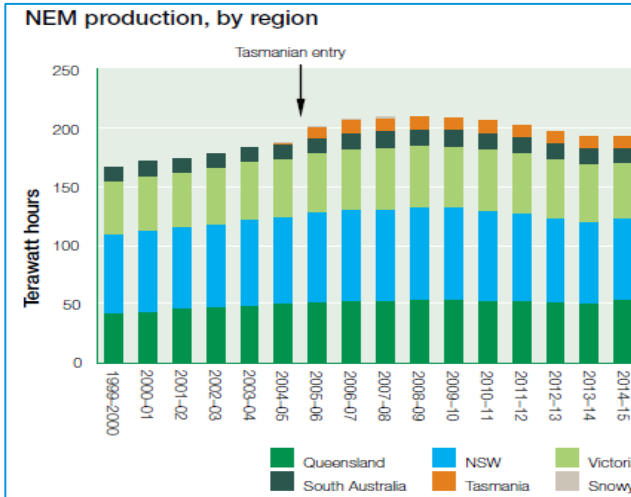
National Energy market

Increased reliance on renewable energy sources resulting in potentially increased instability of the network

In 2014/15 installed solar PV capacity reached 3,700 MW or 8% of the NEM total. AEMO forecast this rising to 21% by 2024/25.

Maximum demand, a key driver of network investment, has remained flat at a level, for NSW, SA and Victoria, around 20% below their historic peaks from 2008/09.

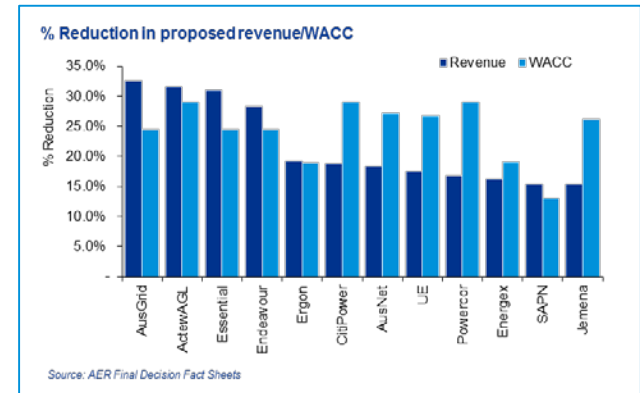
Power of Choice roll out continues with competition in metering being introduced as a lead to greater use of smart meters and more cost reflective pricing structures.



Source: State of the energy market 2015 (AER)

Recent AER decisions

Recent decisions by the AER have seen significant decreases in the proposed revenues for many DNSPs as the AER takes an apparently harder line on efficient operating practices and the calculation of WACC. For the 12 DNSPs illustrated below, the average drop in total nominal revenue was 21.8% whilst WACC fell from an average proposed rate of 8.39% to an average allowed rate of 6.32%.



This has in turn resulted in 'merits review' appeals to the Australian Competition Tribunal as DNSPs challenge the basis and process of the AER's decision making.

On 26 February 2016, the Australian Competition Tribunal released its decision to set aside the final revenue determinations for the NSW DNSPs, ActewAGL and Jemena Gas Networks. This decision is currently under appeal by the AER in the Federal Court.

Applications for review of AER determinations for United Energy, CitiPower, Powercor, Jemena Electricity Networks, SA Power Networks and AusNet are currently before the Australian Competition Tribunal.

Industry Trends

General Economic Trends

- Continued drag from decline in the resources sector,
- Manufacturing slow down continues,
- Service sectors the powerhouse for economic growth but represent low investment, and
- Continued low inflation and interest rates but increases may be just around the corner.

Around the states

- NSW assets leasing arrangements for TransGrid, Ausgrid and Endeavour Energy completed,
- NT has enacted the National Electricity Law, AER has become the regulator of electricity networks in NT,
- WA's legislation approval to adopt the national regulatory framework has been delayed,
- 260km/hr tornadoes wreck South Australia transmission network resulting in state wide black out.
- Victoria's Hazelwood power station to follow SA's Port Augusta power station into history, and
- Upgrade to Heywood interconnector and consultation on options for an additional link between SA and eastern states and other non-network solutions underway.

World Economic Forum

In 2016 the WEF released its latest Global Energy Architecture Performance Index (EAPI) Report. The EAPI combines measures of:

- Economic growth & development,
- Environmental sustainability, and
- Energy access & security.

to assess and rank each country's energy market performance.

Australia ranked 56th of the 126 countries assessed.

The report highlighted 3 specific areas that were impacting energy markets:

- Transition to renewable energy sources:

Benefits such as diversification of supply offset by challenges in changing utility business models and regulatory policies,

- Digital disruption:

Technology is vital to realizing the benefits of intelligent grids and providing households with greater control over their energy use, but the threat of cyber attack increases the risk to infrastructure,

- Rebalancing of energy supply & demand:

Economic power and wealth is shifting from net exporters to net importers as unconventional sources of oil and gas come on line emerging markets slow down.

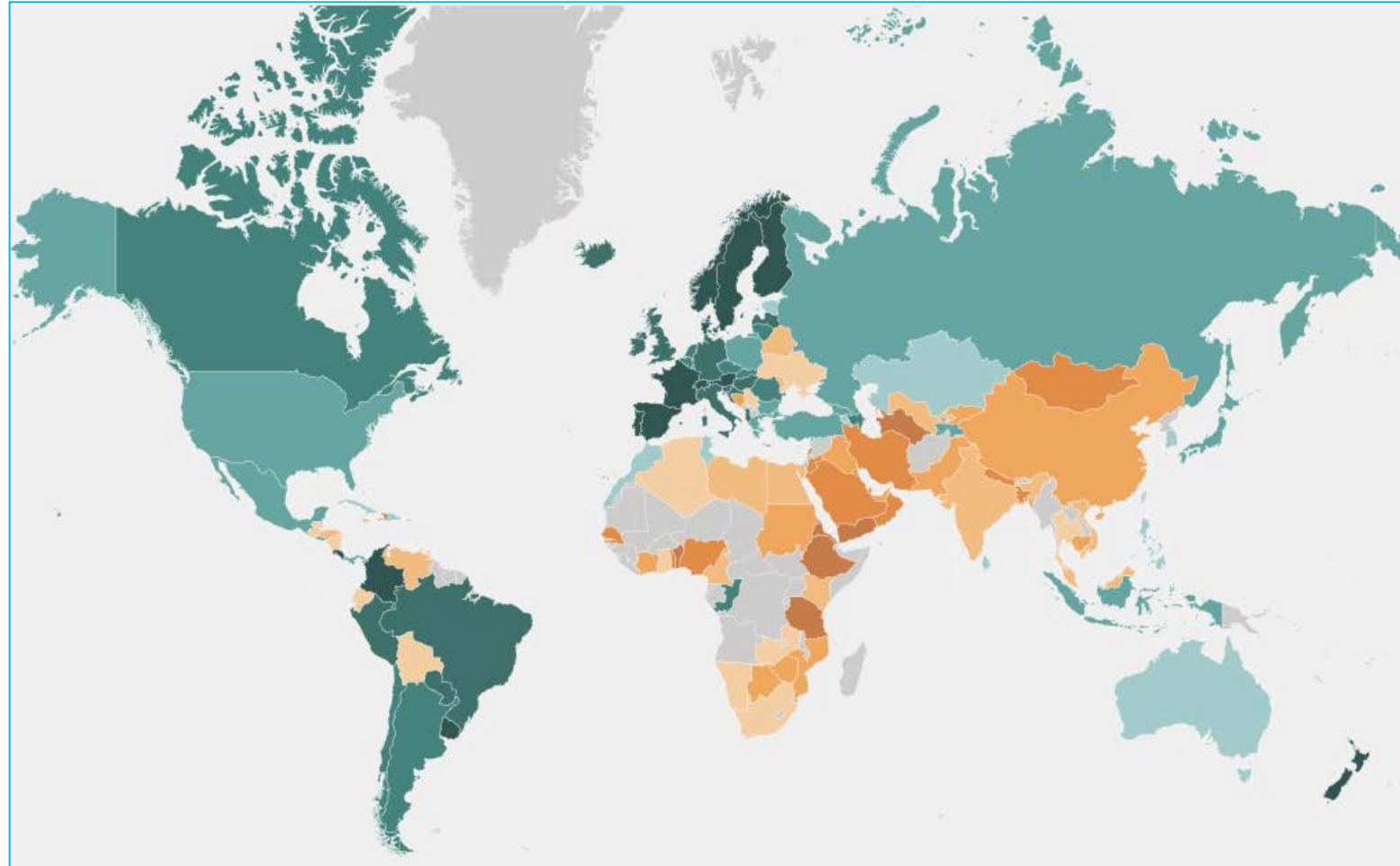
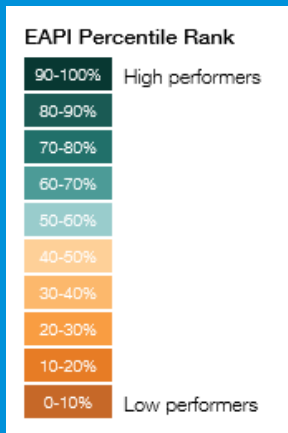
<http://reports.weforum.org/global-energy-architecture-performance-index-report-2016/>

WEF - EAPI 2016 - Heat map

This world map provides a visual overview of the scores and rankings per indicator for each of the 126 countries on the Energy Architecture Performance Index 2016.

Australia is ranked 56th.

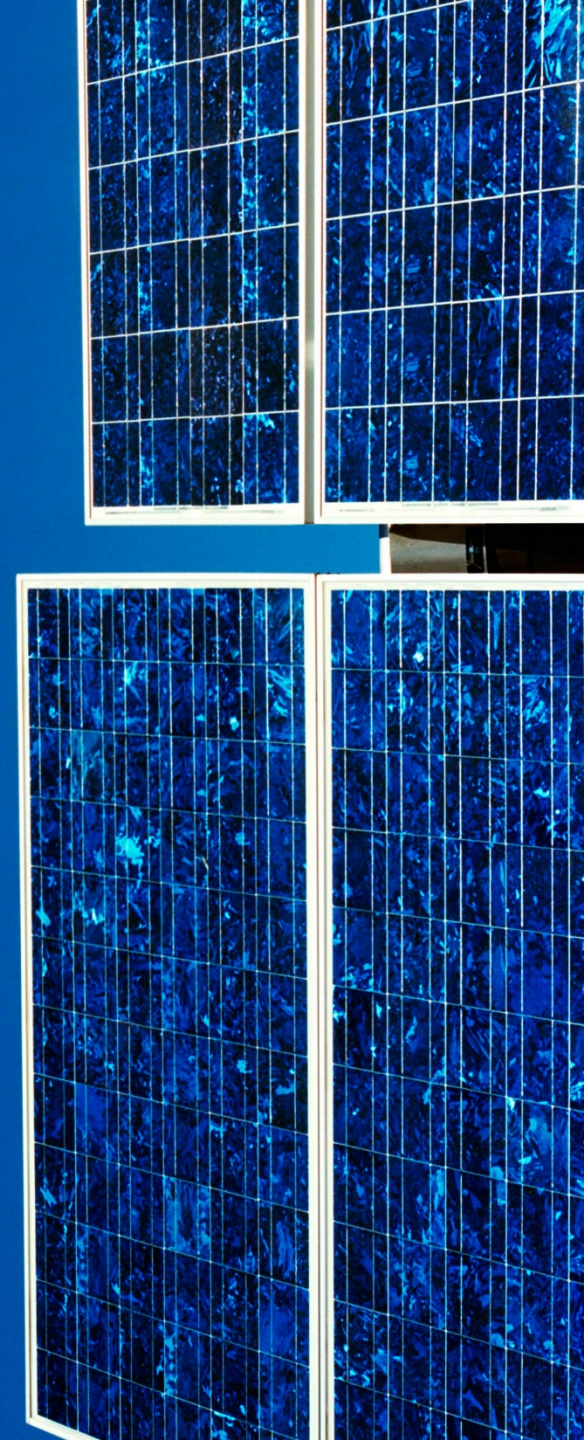
<http://widgets.weforum.org/eapi-2016/>



Presentation

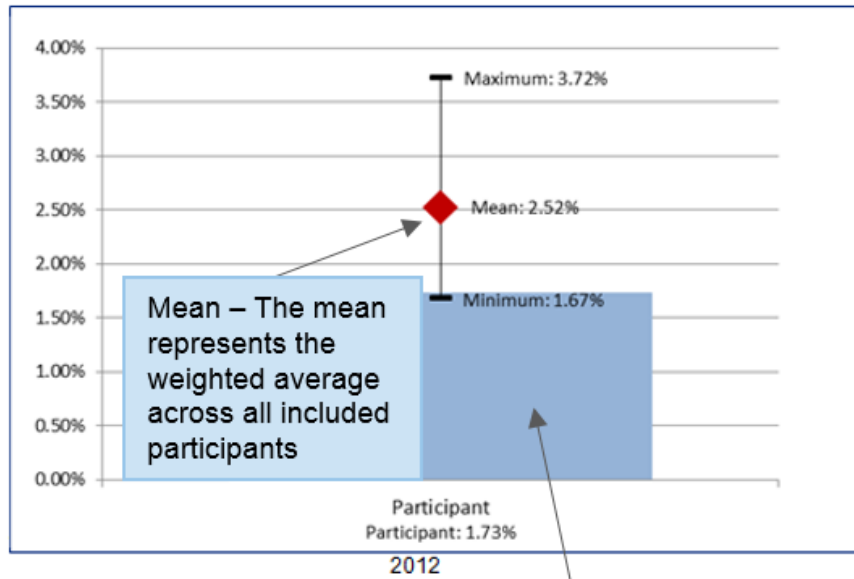
Benchmarking results

Endeavour IT Benchmarking



Presentation of the results

Bar and range charts



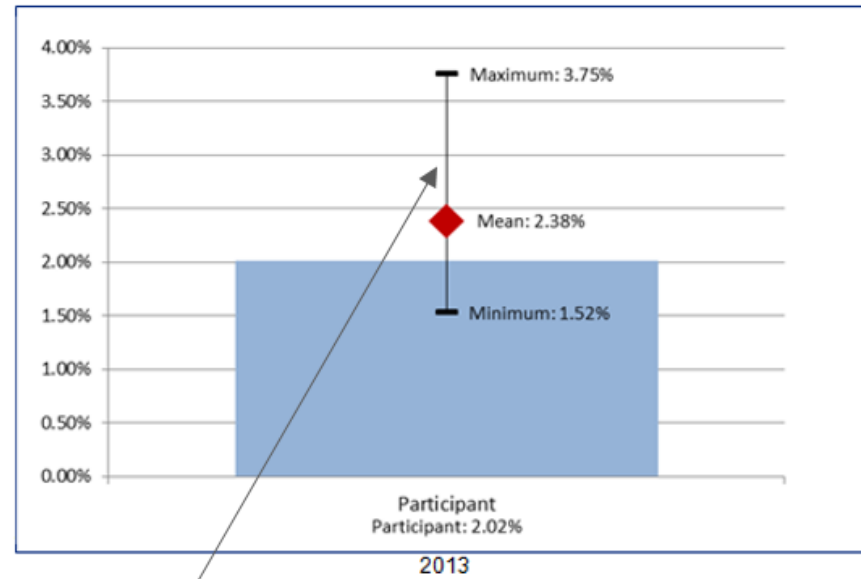
8 participants

Participant

■ There is no data issue

The participant's value

Commentary has been provided on key observations on the results



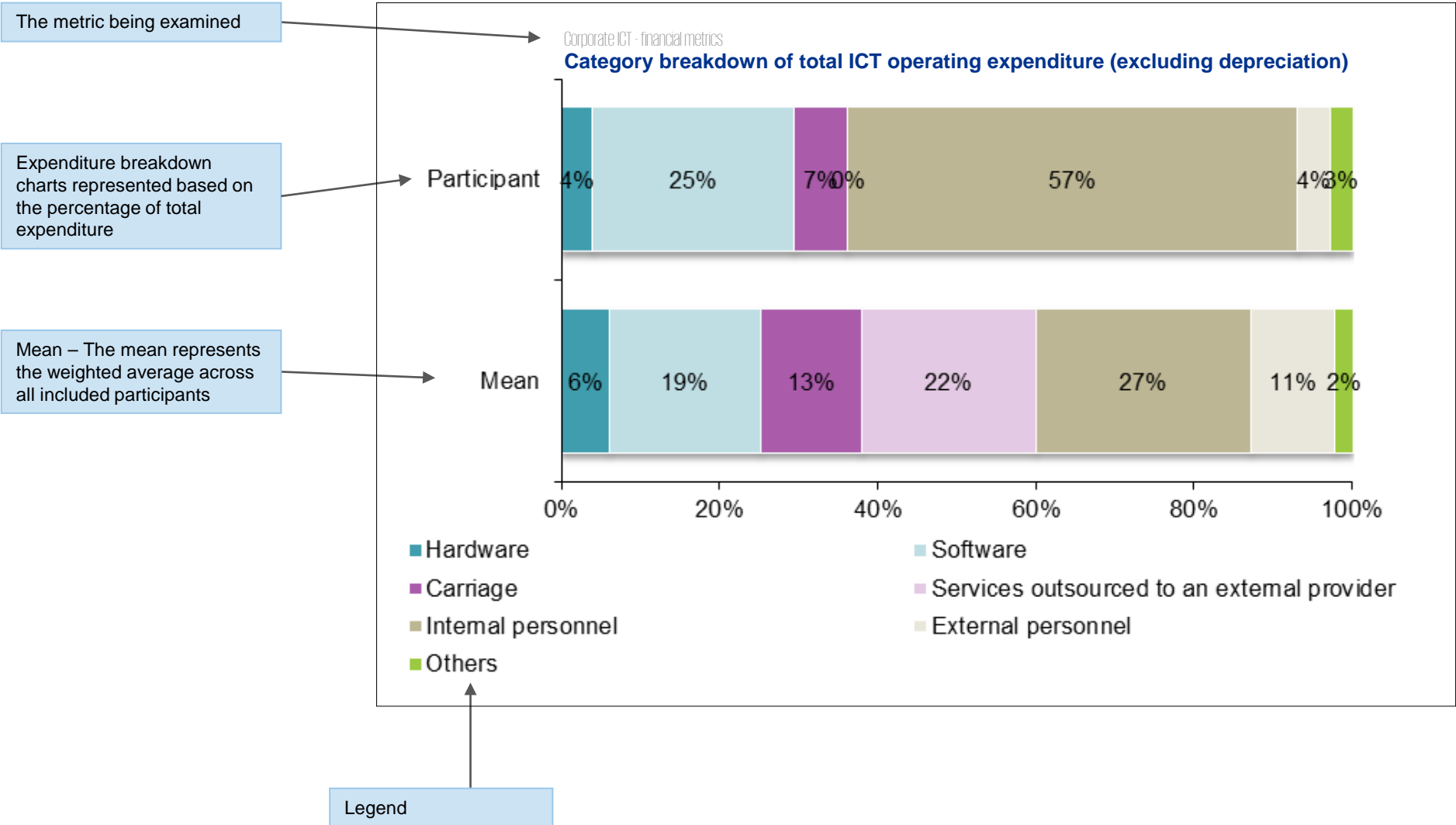
The maximum and minimum values represent the highest and lowest values for the specified metric across all included participants.

Significant outliers are excluded and noted

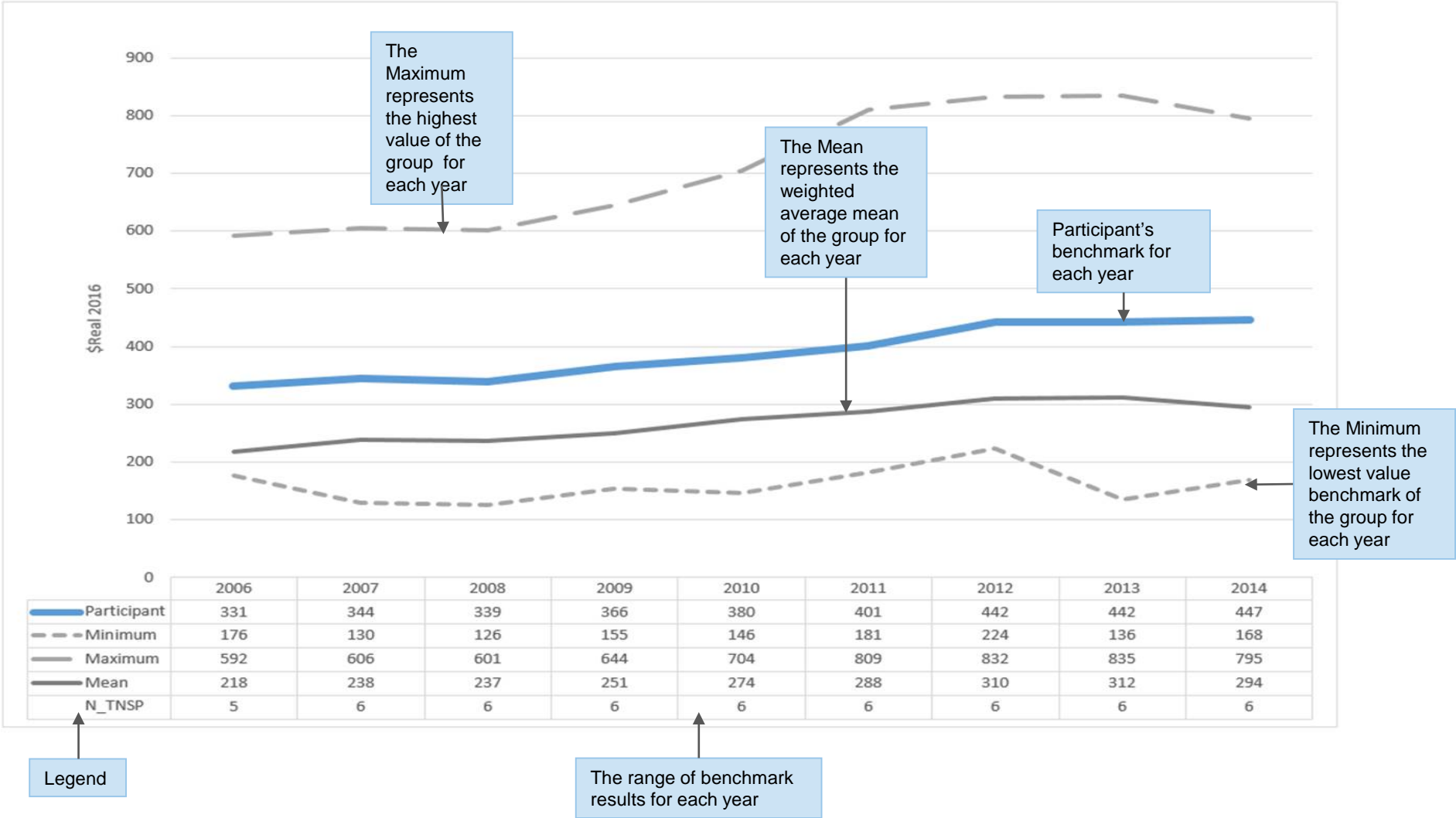
Explanation as to how the metric is calculated

Notes: Metric calculated as ICT operating expenditure, including ICT depreciation, divided by corporate revenue

Breakdown charts

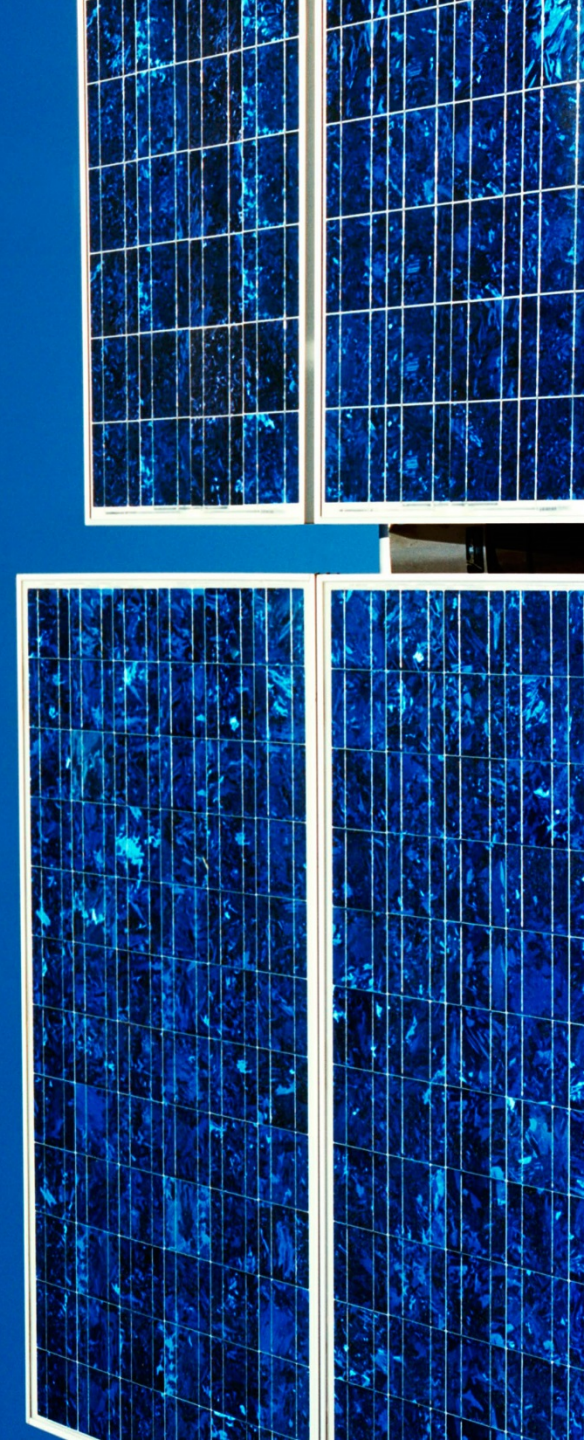


Trend line charts



Corporate ICT Benchmarks

Capex and Totex Results





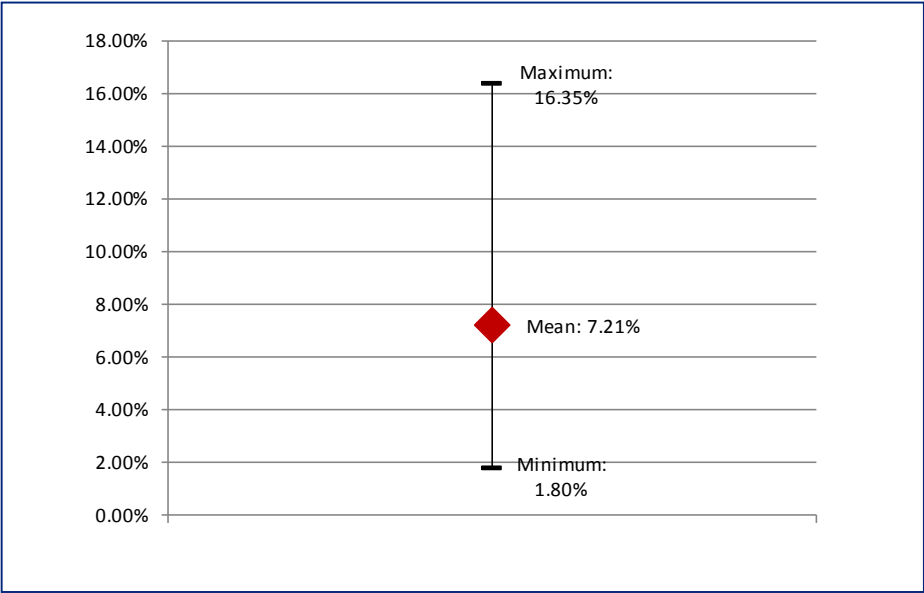
Corporate Information & Communications Technology Benchmarks

Financial Metrics related to ICT Capital Expenditure

- 2016 - IT capital expenditure as a % of corporate capital expenditure
- 2016 - Metering Technology capital expenditure as a % of corporate capital expenditure
- 2016 - IT depreciation as a % of IT asset value
- 2016 - Digital Security capital expenditure as a % of corporate capital expenditure
- 2016 - Innovation operating expenditure as a % of corporate capital expenditure

ICT capital expenditure as a % of corporate capital expenditure

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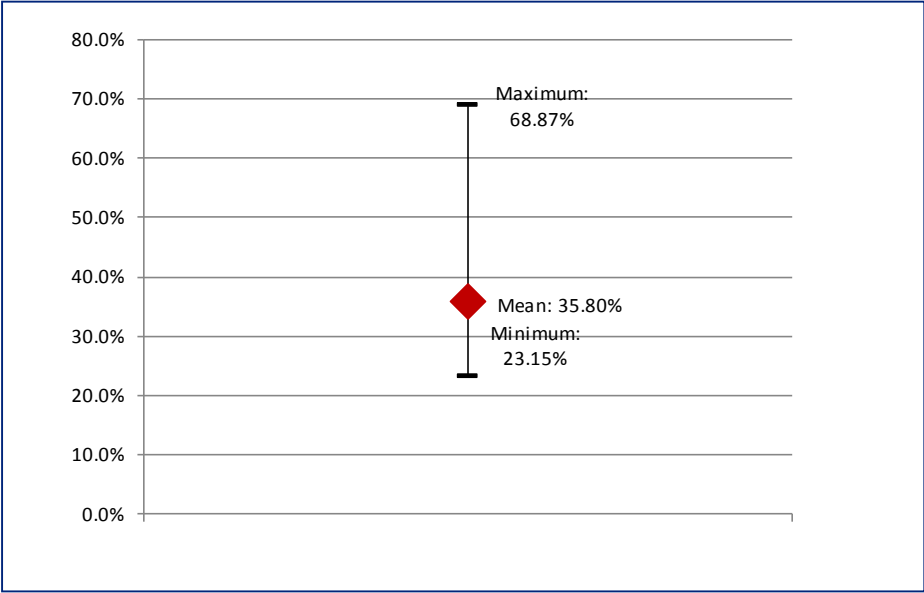
2016

Number of participants: 9 (2016)
Endeavour Energy

Notes: : Metric calculated as ICT capital expenditure divided by corporate capital expenditure

ICT depreciation as a % of ICT asset value

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2016

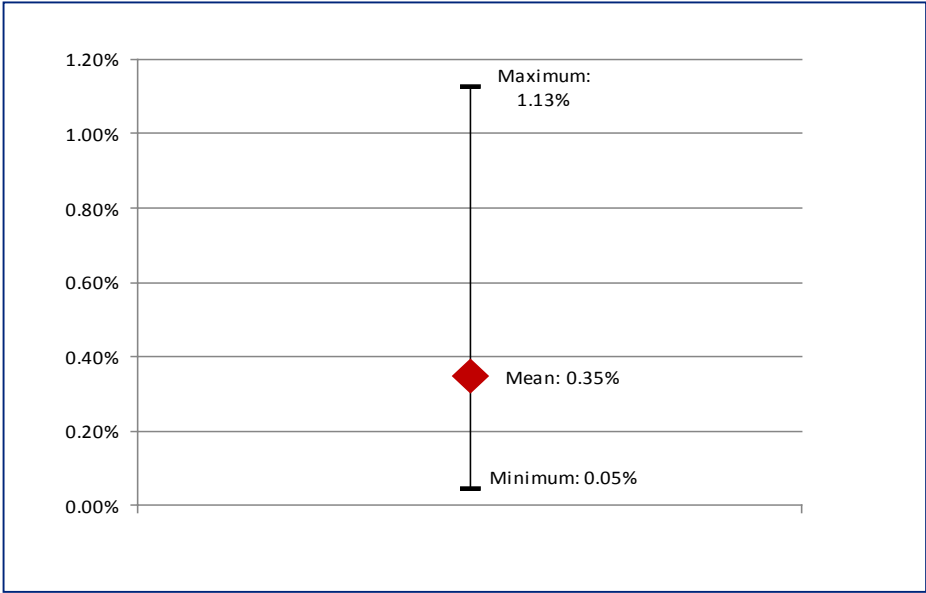
Number of participants: 8 (2016)

Endeavour Energy

Notes: Metric calculated as the ICT depreciation divided by the ICT asset value

Digital security capital expenditure as a % of corporate capital expenditure

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2016

Number of participants: 7 (2016)

[Redacted participant data]

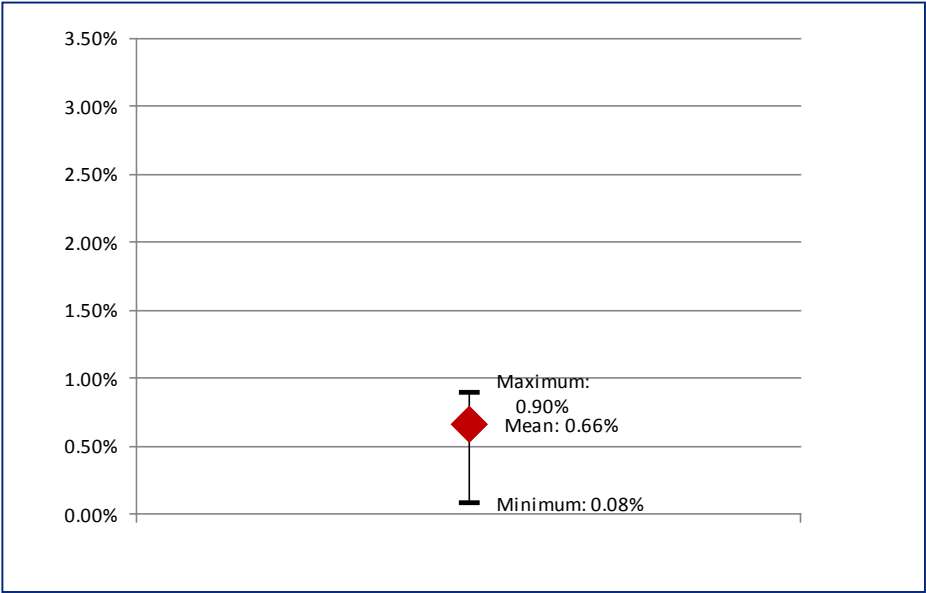
Endeavour Energy

[Redacted participant data]

Notes: Metric calculated as the cyber/digital security capital expenditure divided by the corporate capital expenditure

Innovation capital expenditure as a % of corporate capital expenditure

REDACTED



2016

Number of participants: 3 (2016)

[Redacted participant data]

Endeavour Energy

[Redacted participant data]

Notes: Metric calculated as the innovation capital expenditure divided by the corporate capital expenditure



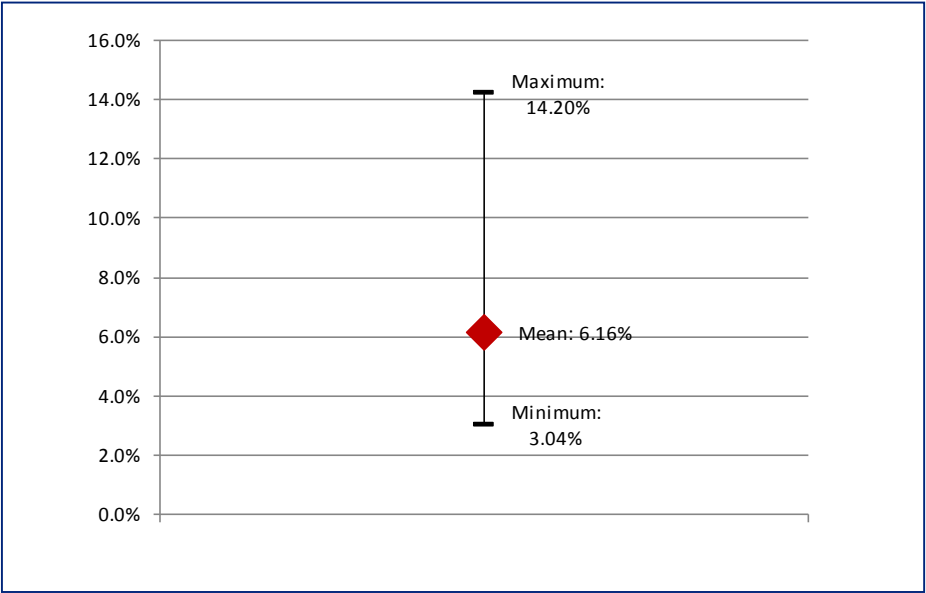
Corporate Information & Communications Technology Benchmarks

Financial Metrics related to ICT Total Expenditure

- 2016 - ICT totex as % of Coporate Totex
- 2016 - ICT Totex per organisation personnel
- 2016 - ICT Totex per corporate customer
- 2016 - ICT Totex per ICT personnel

ICT totex as a % of corporate totex

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2016

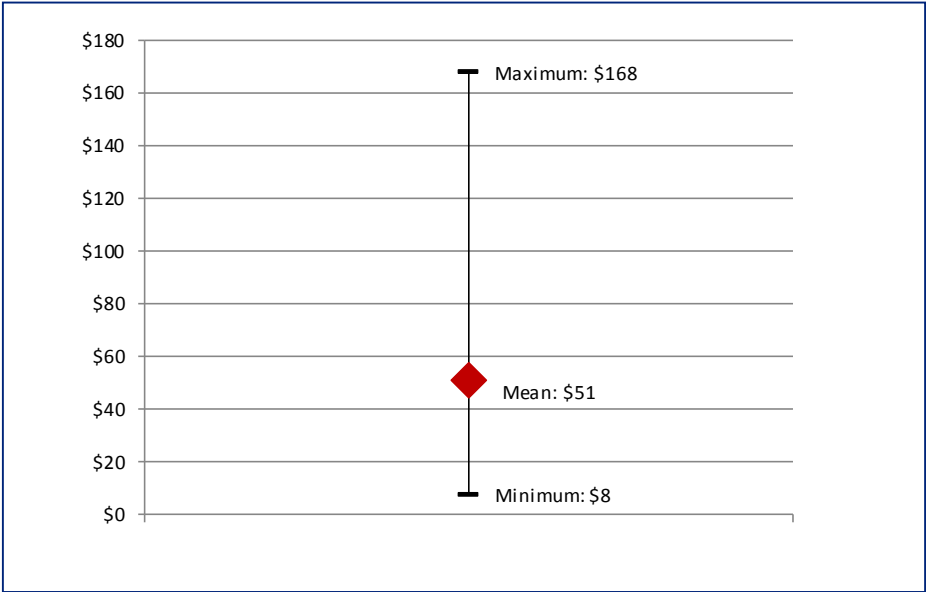
Number of participants: 9 (2016)

Endeavour Energy

Notes: Metric calculated as the total ICT total expenditure (capital + operating) divided by the corporate total expenditure (capital + operating)

ICT totex per corporate customer

REDACTED



2016

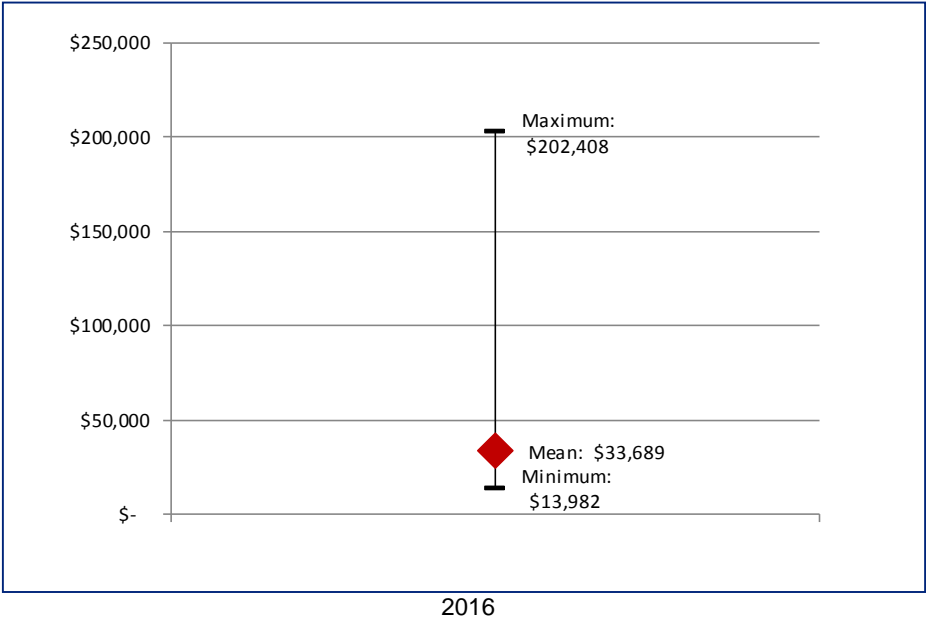
Number of participants: 9 (2016)

Endeavour Energy

Notes: Metric calculated as the ICT total expenditure (capital + operating) divided by the number of customers supplied

ICT totex per organisational personnel

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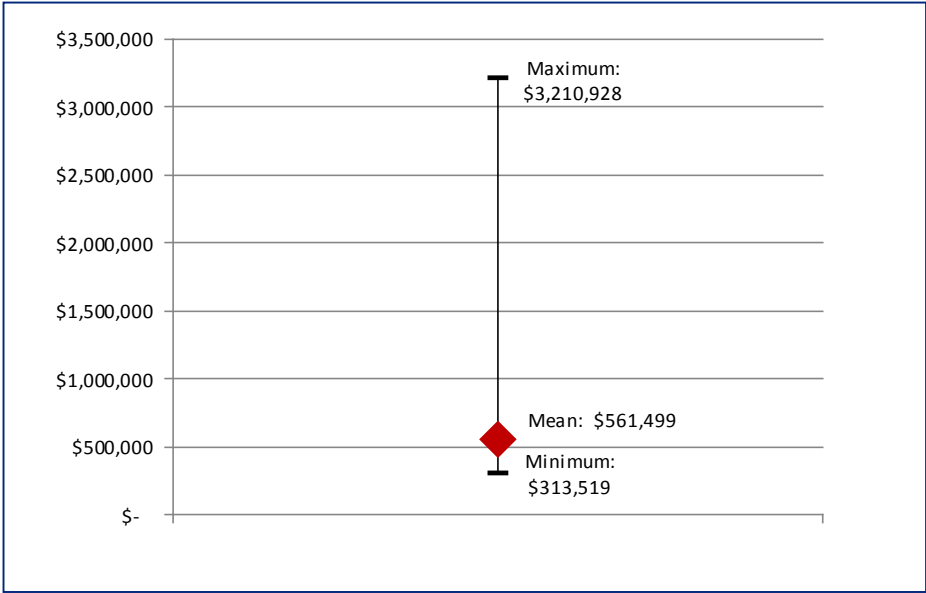
Number of participants: 9 (2016)

Endeavour Energy

Notes: Metric calculated as the ICT total expenditure (capital + operating) divided by the number of organisational personnel

ICT totex per ICT personnel

REDACTED



2016

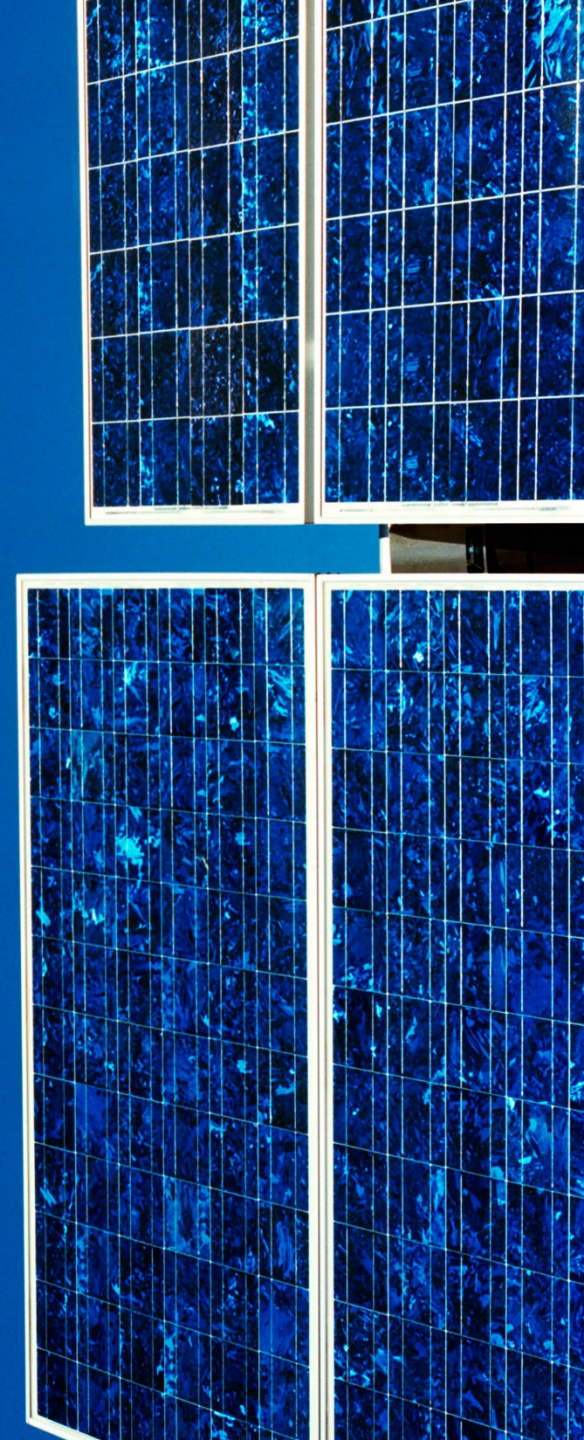
Number of participants: 9 (2016)

Endeavour Energy

Notes: Metric calculated as the ICT total expenditure (capital + operating) divided by the number of ICT FTE

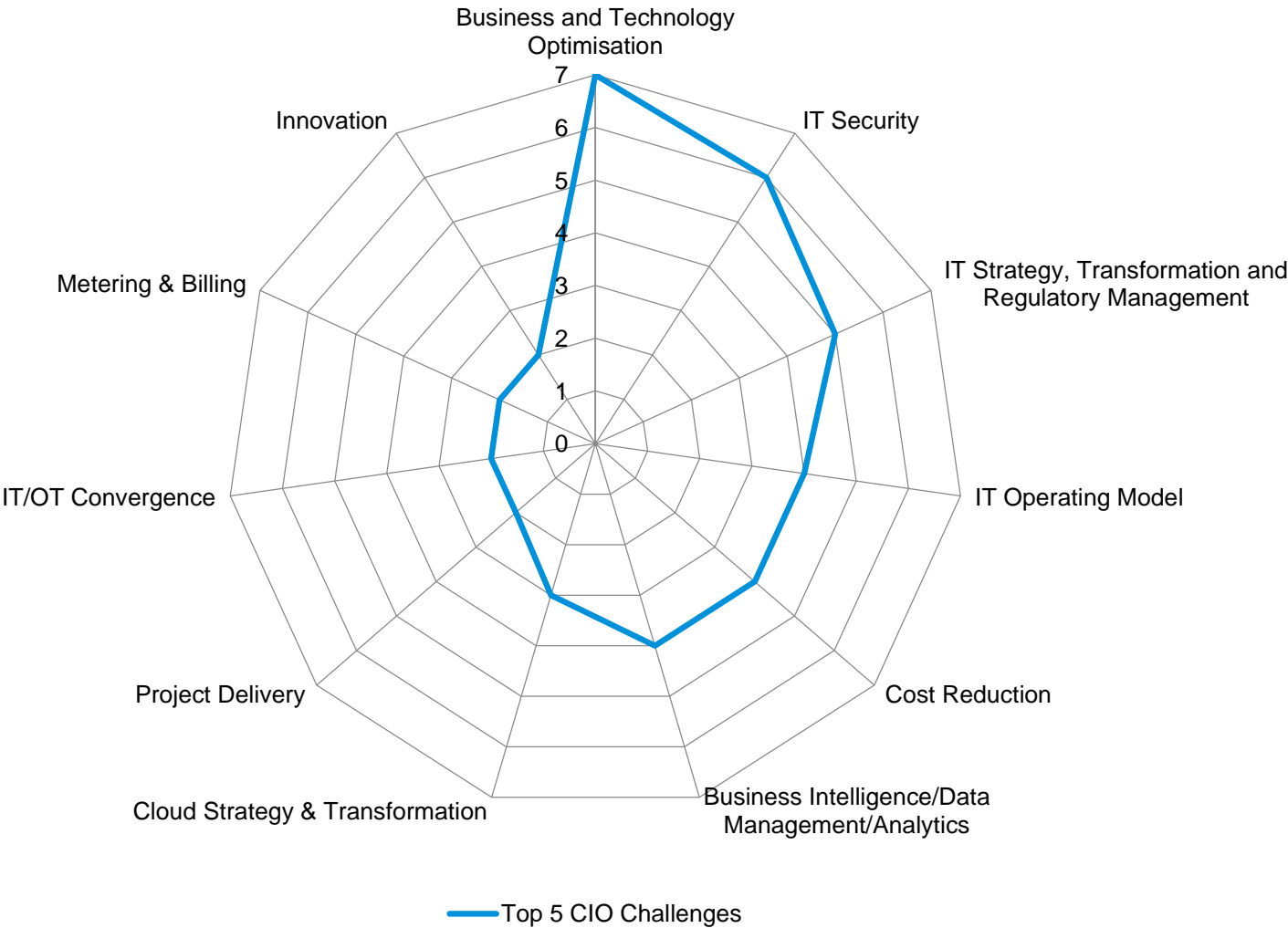
Corporate ICT Benchmarks

Strategic Issues



Corporate ICT – Strategic Issues

Top CIO challenges



Notes: Metric is based on the Top 5 CIO Issues/Challenges provided in the 'Volume & Quality' section of the survey. Challenges selected by 2 or more participants are shown above.

Top five CIO challenges

Project Delivery

- Manage blended delivery, and
- Increasing velocity in project execution.

IT Strategy, Transformation and Regulatory Management

- Aligning with the business and their priorities, growth and efficiency agendas,
- Providing clear leadership and direction with respect to Technology roadmaps and investment priorities,
- Supporting Transformation, and
- Efficiency improvement.

Cost Reduction

- Reduce spend / headcount,
- Cost Control, and
- Cost Optimisation.

Business Intelligence/Data Management/Analytics

- Improved Analytics,
- Analytics, and
- Big data and analytics to enable risk based and predictive asset management.

IT Sourcing

- Sourcing.

ICT Security

- Cyber security,
- Cyber Security - remaining secure and up to date,
- Improved Cybersecurity, and
- ICT Security.

Business and Technology Optimisation

- Consolidation and right sizing of systems,
- Shadow IT - supporting business ownership of applications but retaining IT leadership and ownership of technology decisions,
- Application Rationalisation,
- Field force enablement (schedule and dispatch),
- Mobility, and
- Cumbersome ERP.

ICT Operating Model

- Overcoming cultural resistance to collaboration, experimentation and new ways of working,
- Attracting and retaining the skills/capability required to be successful in this digital era,
- Transition to an Agile Operating Model, and
- ICT Agility.

Information Management

- Improved Information Management.

Cloud Strategy & Transformation

- Cloud Strategy and implementation in the regulated framework,
- Cloud, and
- Transition to Cloud inc.capex/opex regulation funding.

IT/OT Convergence

- ICT and OT Convergence - integration between real time systems and corporate systems and the separation of the functions in the business, and
- IT/OT Convergence.

Metering

- Billing System Replacement & Meter Contestability, and
- Metering Competition.

Innovation

- Exploring and exploiting new technology (innovation & digital) in support of the business priorities, and
- Emerging Industry Trends.

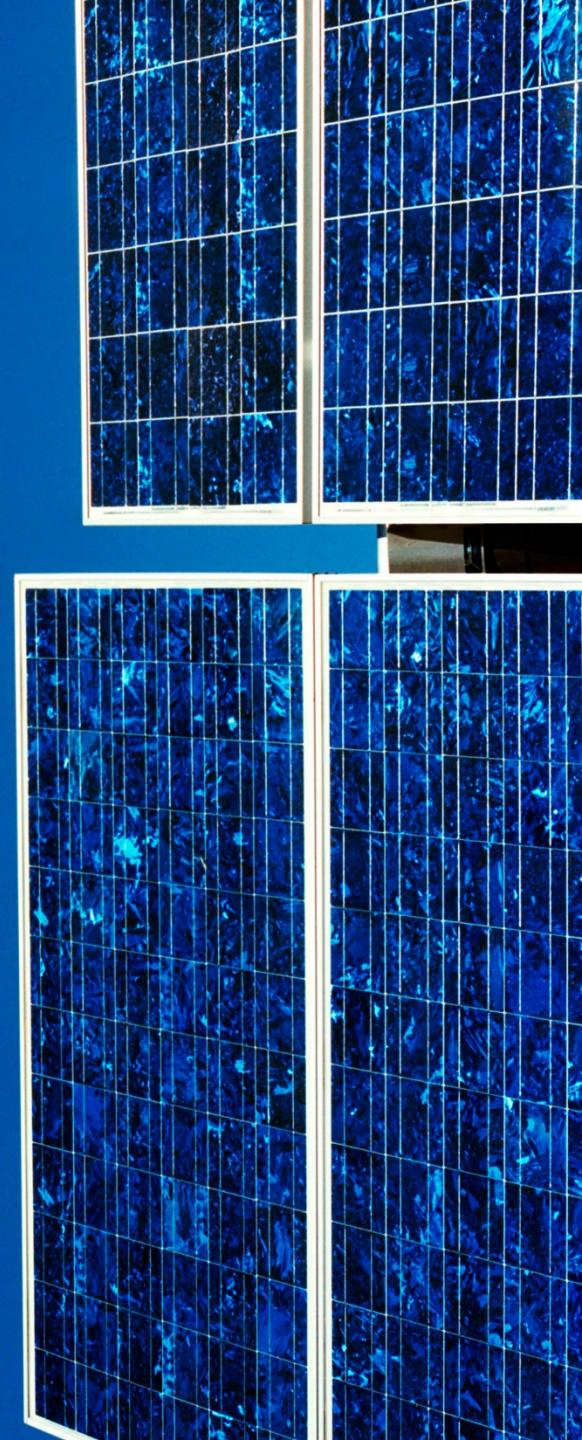
Ringfencing and Growth of Unregulated Business

- Ringfencing and Growth of Unregulated Business.

Notes: Metric is based on the Top 5 CIO Issues/Challenges provided in the 'Volume & Quality' section of the survey

Regulatory Technology Benchmarks

DNSP Results



Regulatory Technology Benchmarking – use for efficiency comparison

When comparing benchmark results to industry peers for expenditure efficiency, it is recommended to:

- Clearly state the basis of benchmark comparison,
- Consider the differences of expenditure drivers,
- Use a number of suitable benchmark to provide a comparison in totality of ICT operations, performance and expenditure, and
- Use historical expenditure performance as a basis to support ICT expenditure forecasts and planned investments.

Network Services Providers

The benchmarks on the following pages have been calculated based on historical data from the AER Category Analysis and Economic RINs, for the following Distribution and Transmission Network Services Providers:

Distribution

- ActewAGL,
- Ausgrid,
- CitiPower,
- Endeavour Energy,
- Energex,
- Ergon Energy,
- Essential Energy,
- Jemena,
- Powercor,
- SA Power Networks,
- AusNet Services,
- TasNetworks,
- United Energy, and
- Western Power.

Transmission

- ElectraNet,
- Powerlink,
- AusNet Services,
- TasNetworks,
- TransGrid, and
- Western Power.

Benchmark Drivers

The benchmark results reflect the operation characteristics of each network business, it is recommended that the following expenditure drivers be considered when drawing conclusions on efficiency:

- Network business services and ICT services delivery model,
- Preferences on capital or operating expenditures,
- Scale of economy on shared services, and
- Customer and network densities.

ICT operating expenditure

- Compare your organisations' historical and forecast ICT opex trend to the industry mean,
- Provide appropriate reasons to support deviation from industry trend, such as a step change, and
- Understand the position of ICT opex to total opex.

Suggested benchmarks include:

- Non-network ICT opex as a % of opex, and
- Non-network ICT opex per customer.

ICT capital expenditure

- ICT capex are 'lumpy' in nature, state the status of capital investment cycle for historical and forecast ICT capex,
- Provide appropriate reasons to support ICT capex in line with industry trend and industry mean, e.g. age of ICT assets, catch-up to industry technology standard, and
- Understand the position of ICT capex to total capex and the position of non-recurrent to recurrent ICT capex.

Suggested benchmarks include:

- Non-network ICT capex as a % of capex,
- Non-network ICT capex per customer, and
- Non-network ICT capex (non-recurrent) as a % of ICT capex.

ICT total expenditure

- A balanced expenditure analysis to support the 'total' forecasted ICT expenditure plan, and
- Past regulatory determinations have analysed ICT totex for submissions which have proposed significant non-recurrent ICT capex.

Suggested benchmarks include:

- Non-network ICT totex as a % of totex, and
- Non-network ICT totex per customer.

CPI adjustment from \$Nominal to \$Real

The Regulatory ICT Benchmarks were calculated based on the historical data sourced from the AER Category Analysis RINs, Economic Benchmarking RINs and Reset RINs.

The financial data contained within these RINs are published in \$Nominal.

Adjustment from \$Nominal to \$Real 2016 have been made based on Consumer Price Index, Australia. 6401.0 Series ID A2325846C All Groups CPI. Published by the ABS.

The comparison and trending of the benchmarks based on expenditure data are consistently made in \$Real 2016.

The CPI adjustment approach applied are consistent to the approach used in the supporting analysis of the AER Annual Benchmarking Reports.

AER RINs data

The data used to calculate the Regulatory ICT Benchmarks have been sourced from the relevant AER electricity distribution and transmission network RINs for historical data between years 2009 and 2015. These include:

- Category Analysis RINs,
- Reset RINs, and
- Economic Benchmarking RINs.

Each of the distribution and transmission network business have reported their historical financial data in \$Nominal.

Adjustment to \$Real

The financial data are adjusted for inflation to \$real (December 2016), enabling consistent comparison and trending of the network service providers expenditure benchmarks.

The adjustment have been applied based on ABS publication - Consumer Price Index, Australia. 6401.0 Series ID A2325846C, All Groups CPI - Weighted average of the eight capital cities, published in quarterly intervals, from September 1948 to March 2015.

For benchmarking, an annual 2% CPI has been assumed beyond March 2015.

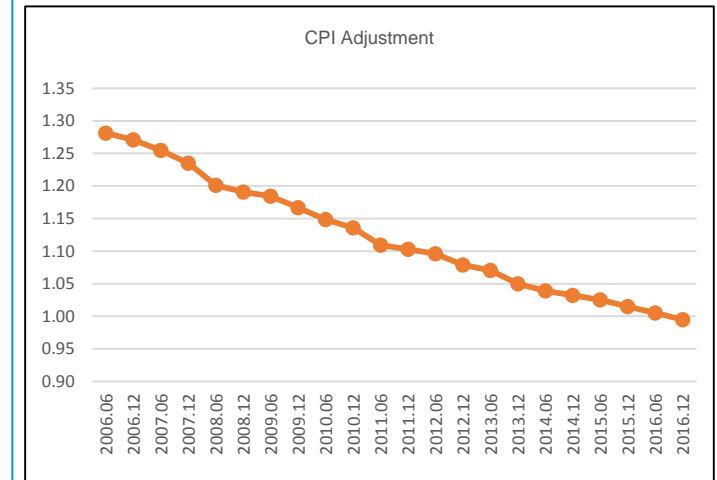
All RINs expenditure data have been adjusted from \$Nominal to \$Real according to their RINs reporting year, e.g. RINs data based on calendar years are adjusted to the Dec quarter indexes.

The CPI adjustment are consistent in the approach applied in the supporting analysis for the AER Annual Benchmarking Reports.

CPI Adjustment Factors

The CPI adjustment factors applied to the RINs data are presented in the table and chart as follows:

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
December Ending	1.27	1.24	1.19	1.17	1.14	1.10	1.08	1.05	1.03	1.02	1.00
June Ending	1.28	1.25	1.20	1.18	1.15	1.11	1.10	1.07	1.04	1.03	1.01





Regulatory Technology Benchmarks

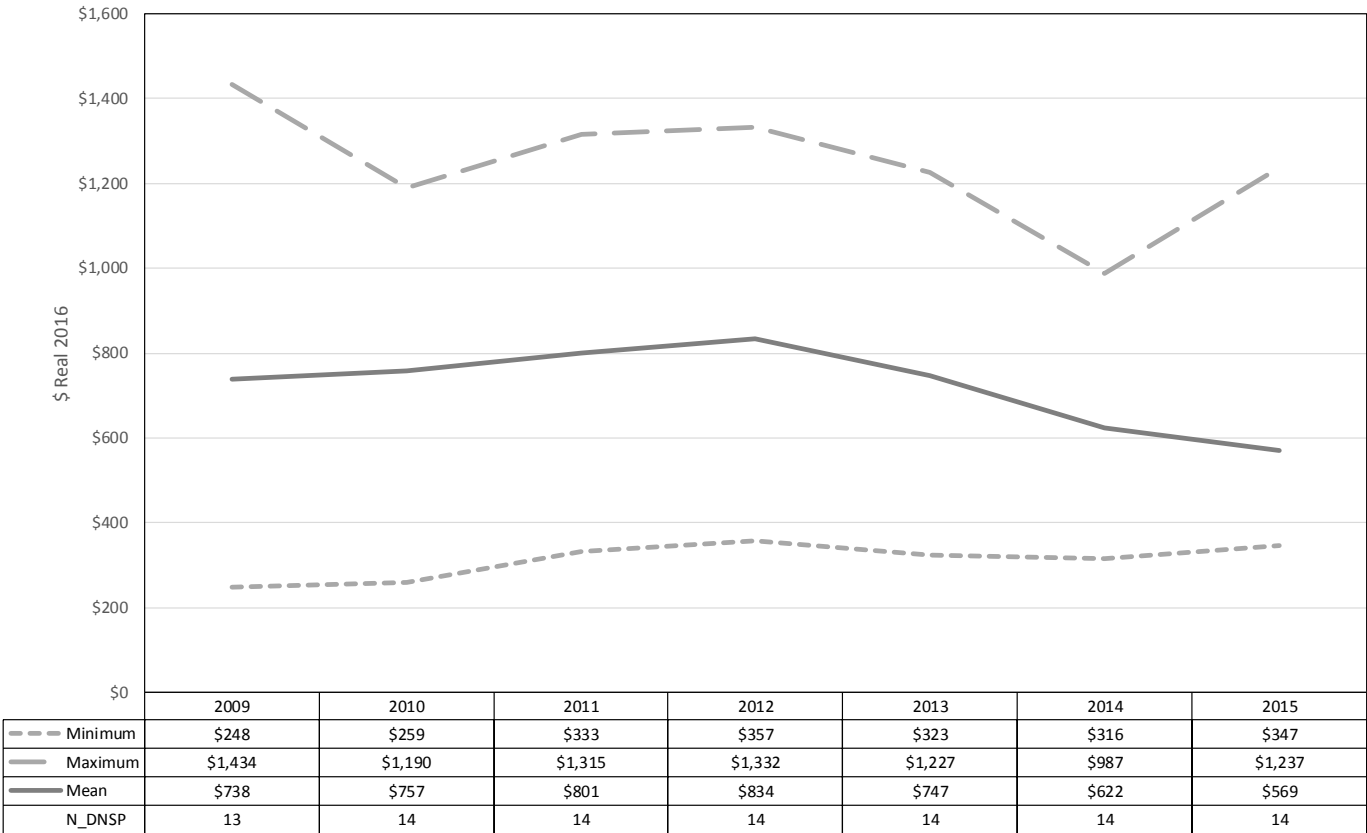
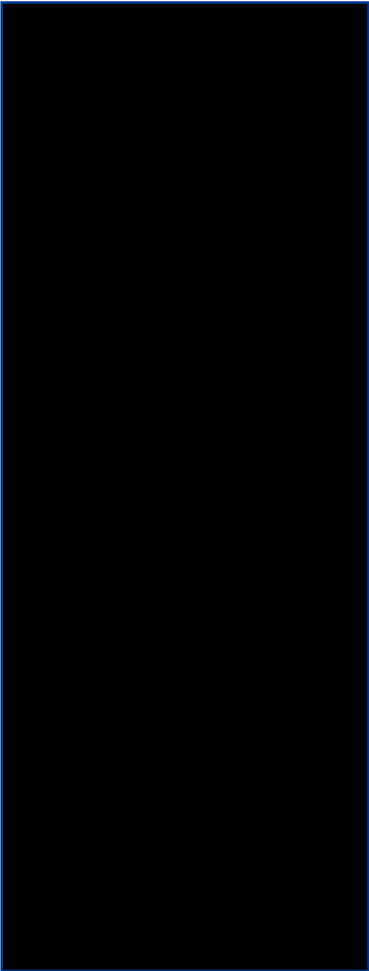
DNSP

Capital Expenditure

- Distribution capital expenditure per customer
- Distribution capital expenditure per km circuit length
- Non-network IT capital expenditure as a % of capital expenditure
- Non-network IT capital expenditure per customer
- Non-network IT capital expenditure (non-recurrent) as a % of non-network IT capital expenditure

Distribution network capital expenditure per customer

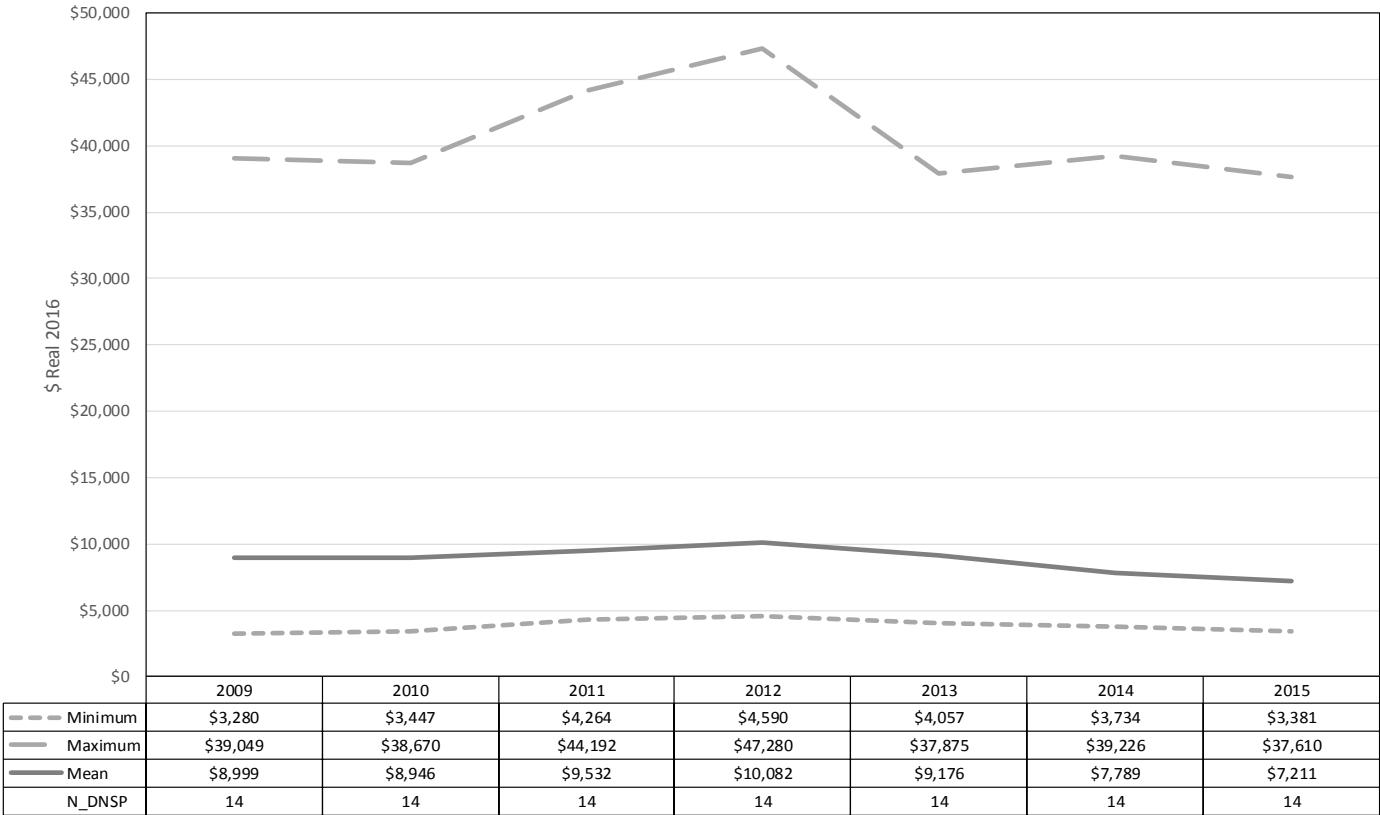
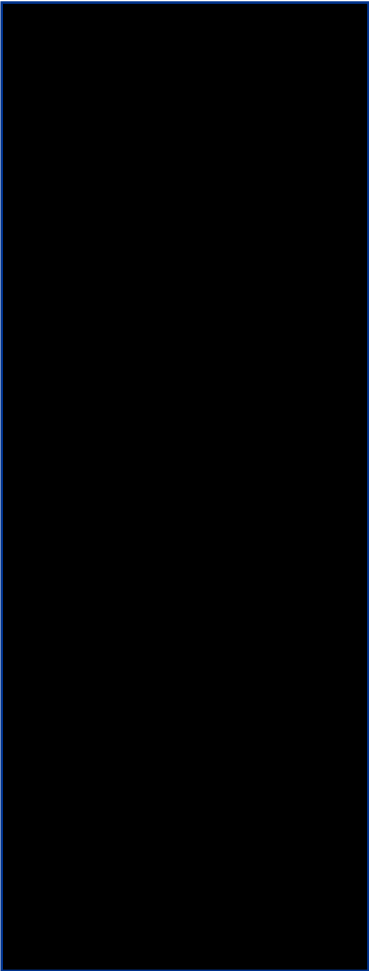
REDACTED



Note: Metric is calculated by dividing the capital expenditure by the number of customers

Distribution network capital expenditure per km circuit length

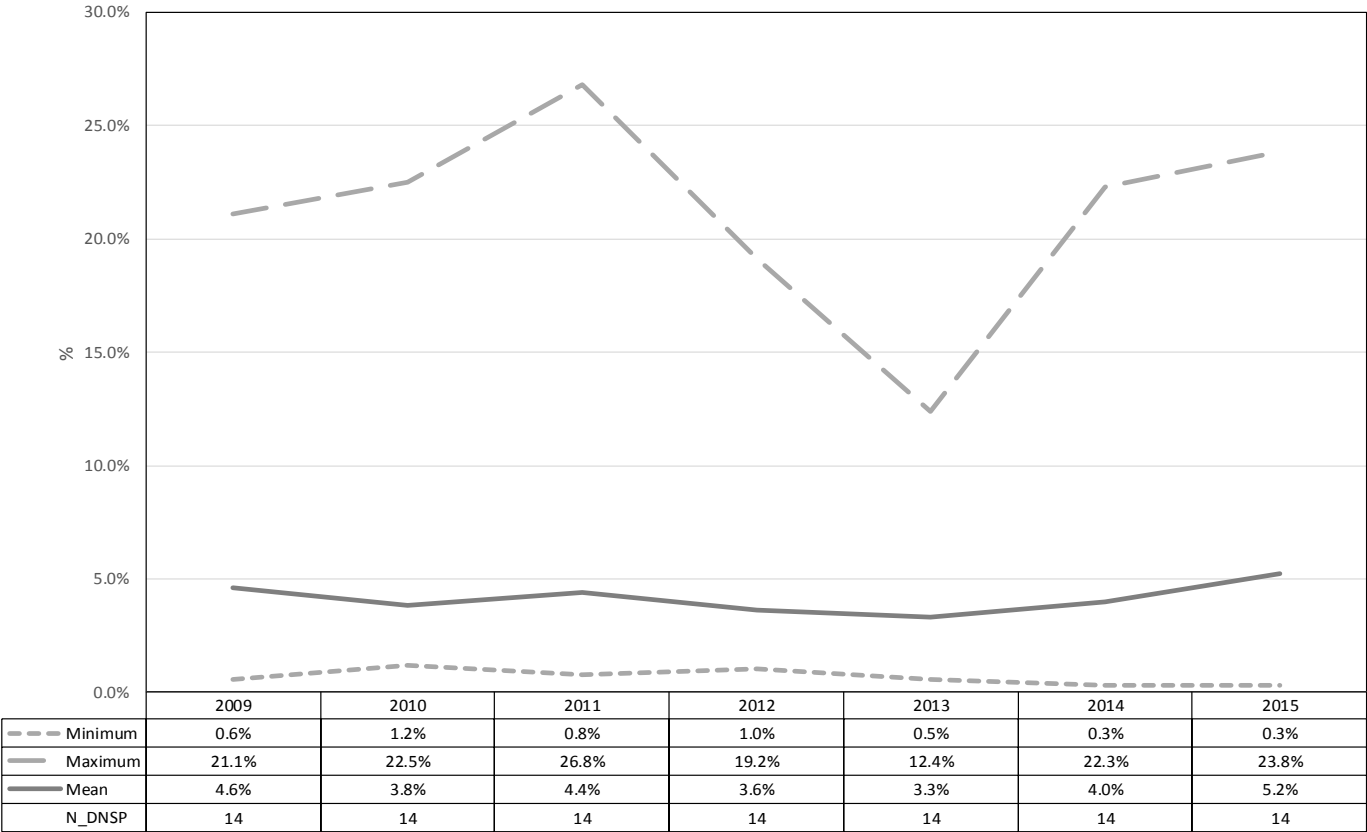
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Note: Metric is calculated by dividing the capital expenditure by distribution circuit length

Non-network ICT capital expenditure as a % of capital expenditure

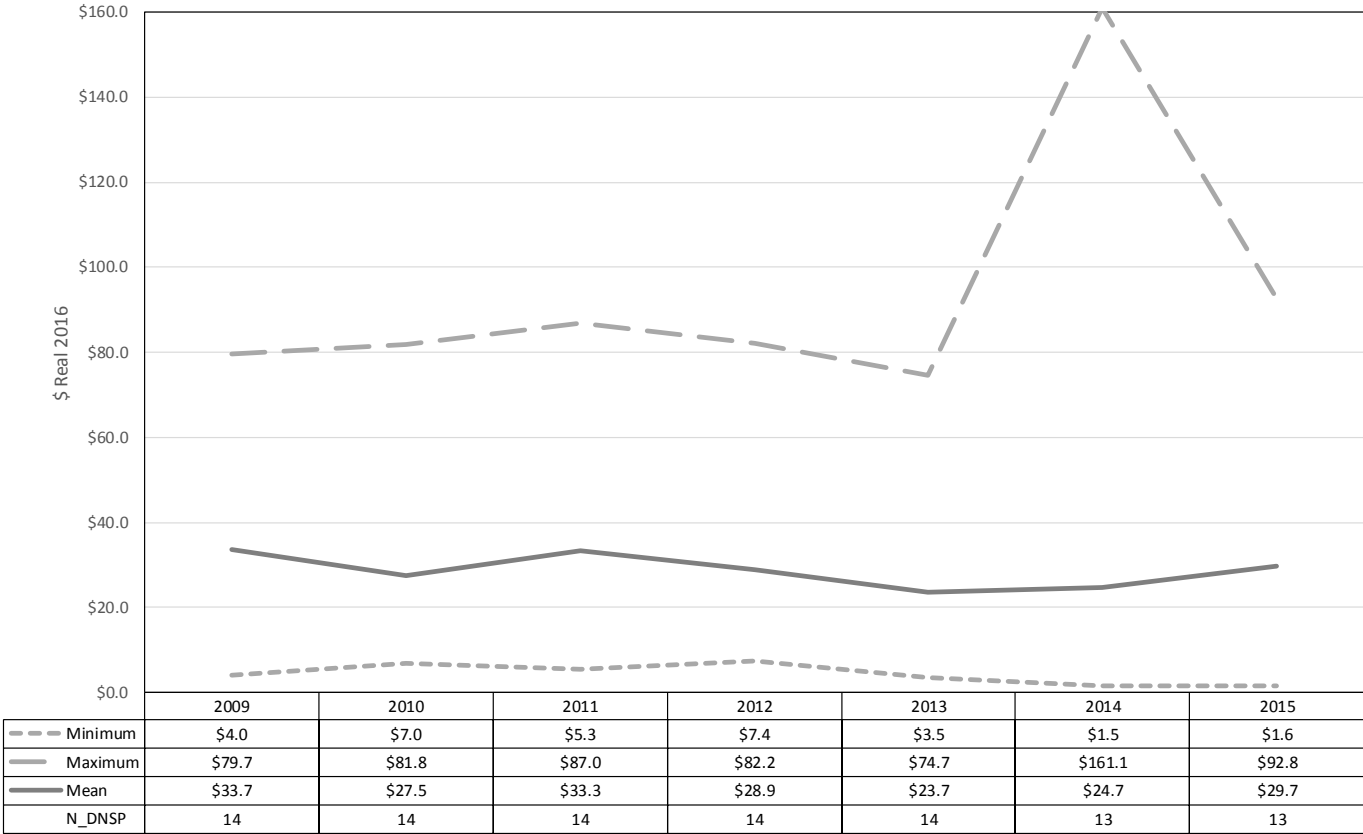
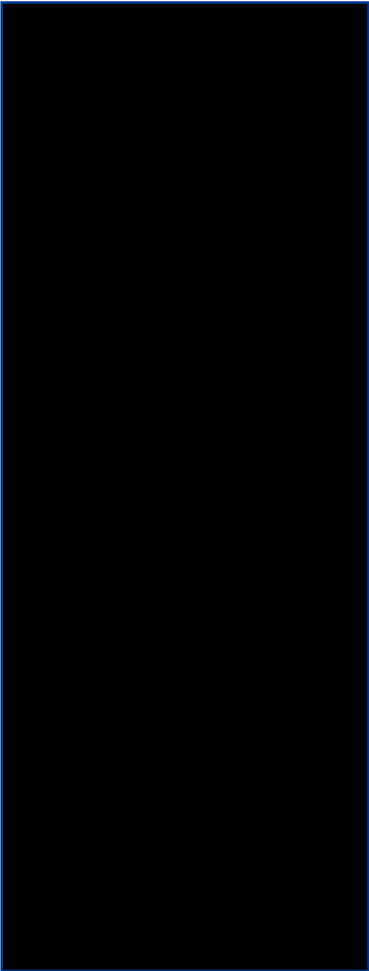
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Note: Metric is calculated by dividing the non-network IT capital expenditure by capital expenditure, presented in percentage

Non-network ICT capital expenditure per customer

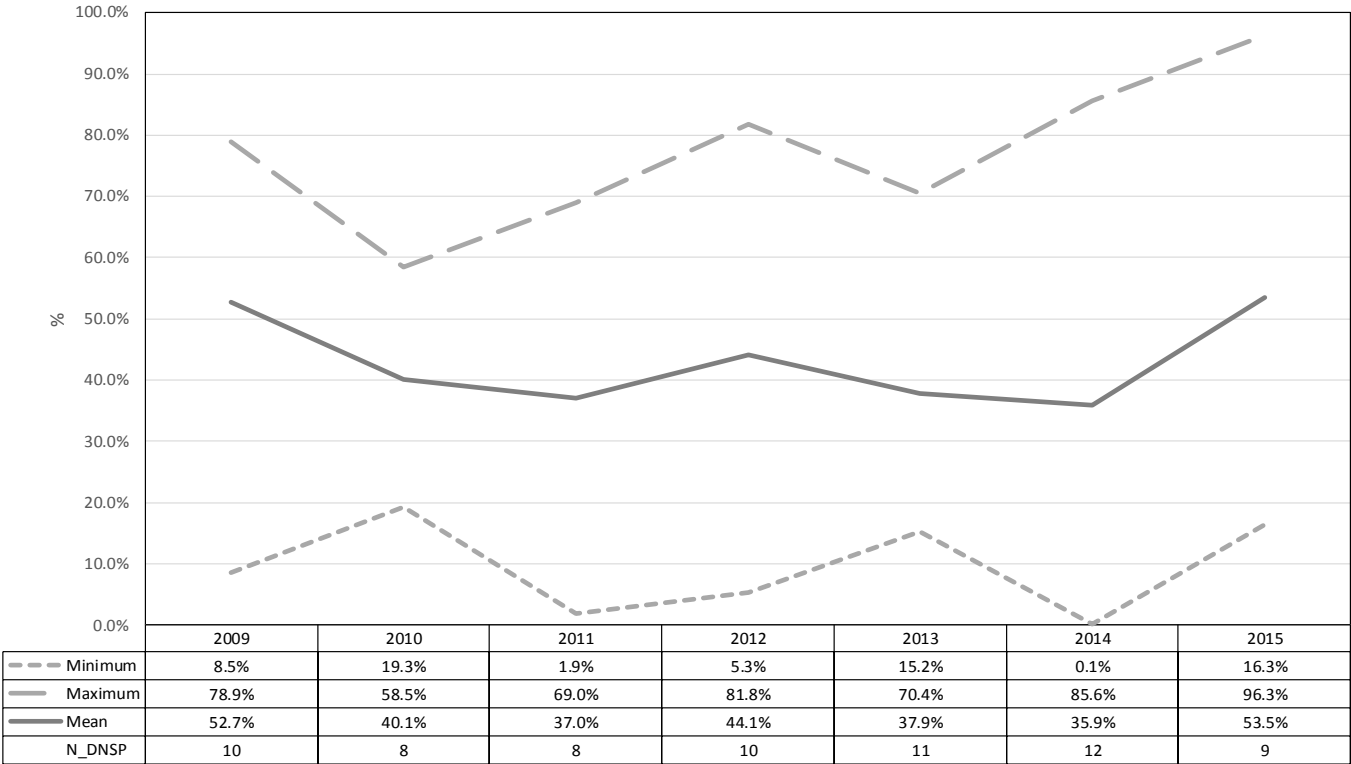
REDACTED



Note: Metric calculated by dividing non-network IT capital expenditure by number of customers

Non-network ICT capital expenditure (non-recurrent) as a % of non-network ICT capital expenditure

REDACTED



Note: Metric is calculated by dividing the non-network IT capital expenditure (non-recurrent) by IT capital expenditure, presented in percentage



Regulatory Technology Benchmarks

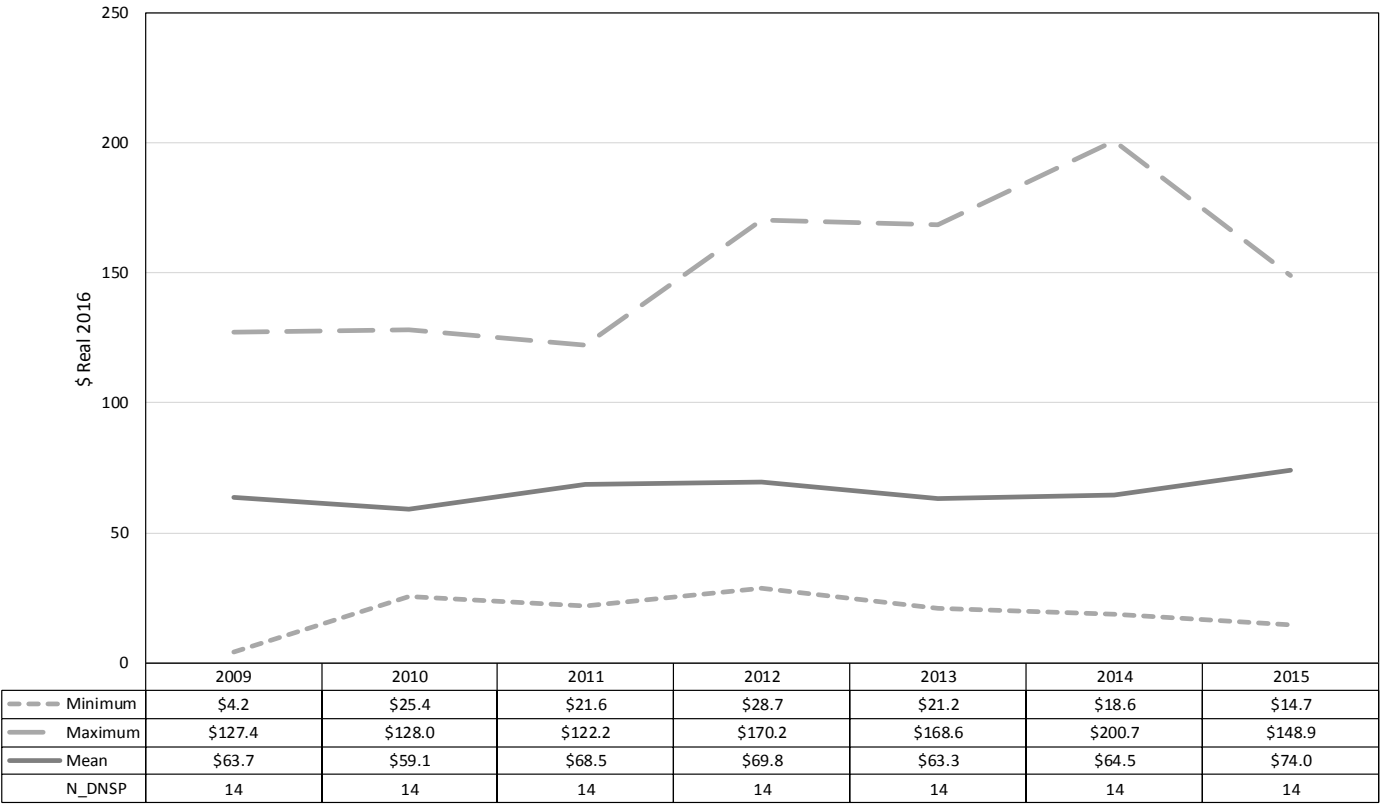
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Total Expenditure

- Non-network IT total expenditure per customer
- Non-network IT total expenditure as a % of total expenditure

Non-network ICT total expenditure per customer

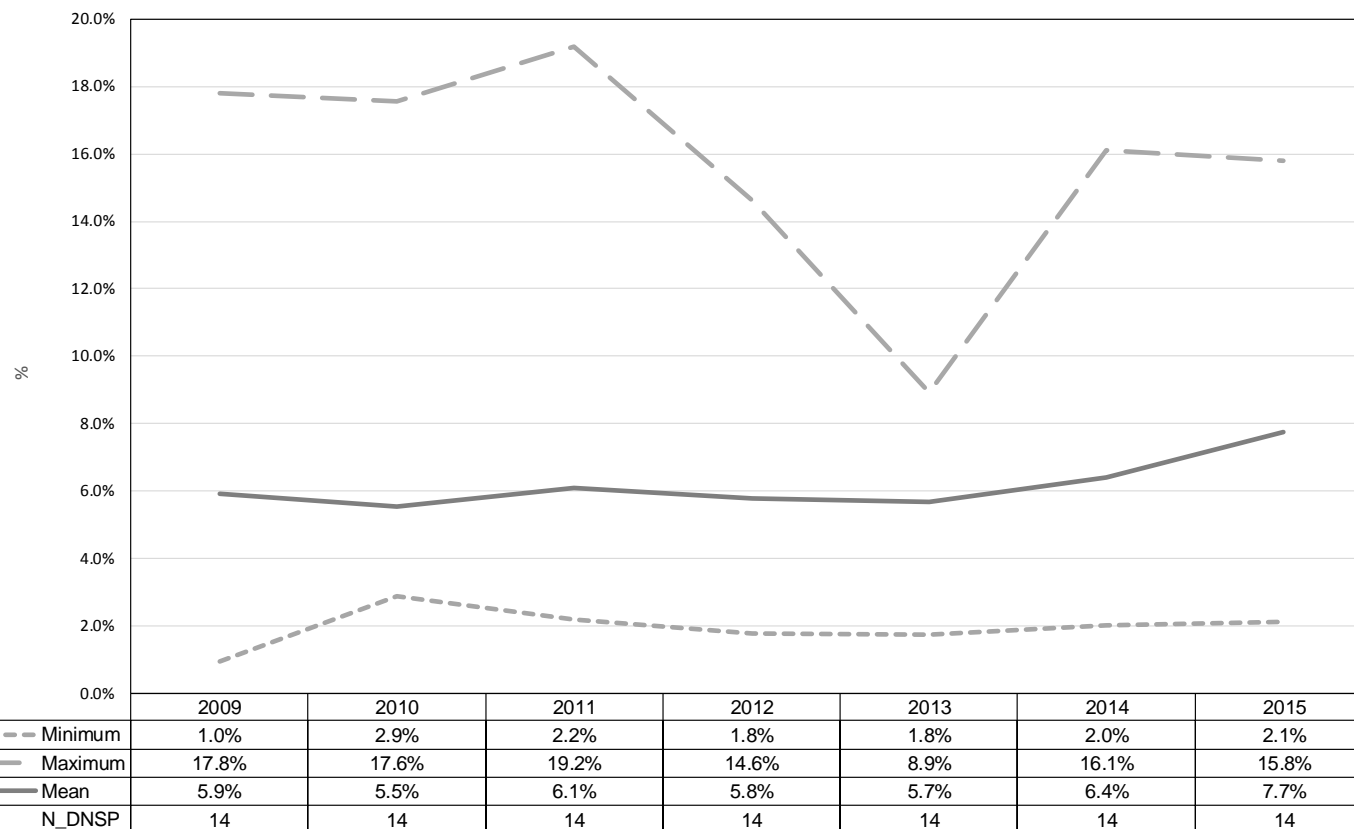
REDACTED



Note: Metric calculated by dividing the sum of non-network IT capital expenditure and operating expenditure by number of customers

Non-network ICT total expenditure as a % of total expenditure

REDACTED



Note: Metric calculated by dividing the sum of non-network IT capital expenditure and operating expenditure by the sum of distribution capital expenditure and operating expenditure



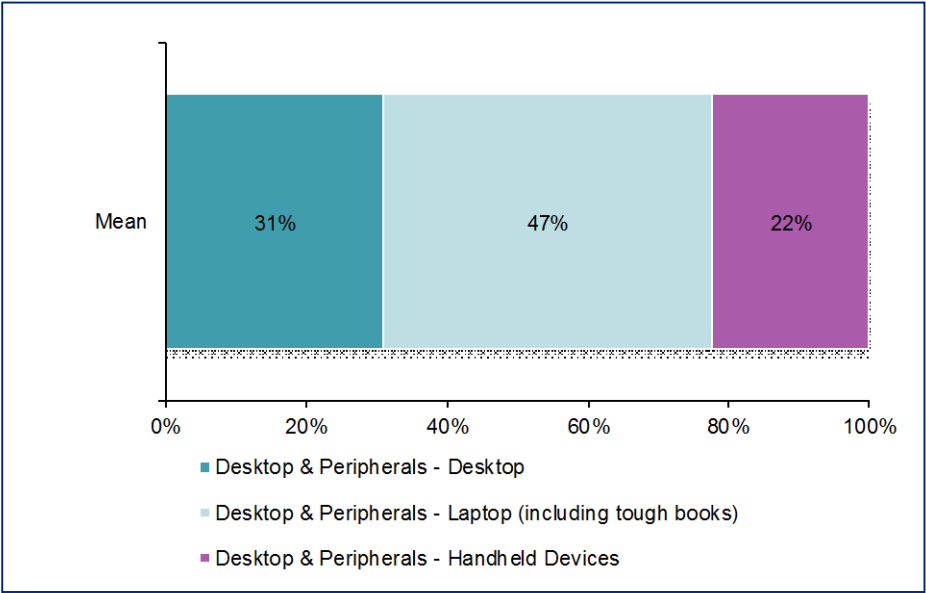
Corporate Information & Communications Technology Benchmarks

Device Metrics

- 2016 - Category breakdown of client devices
- 2016 - Ratio of client and peripheral devices to organisation staff

Category breakdown of client devices

REDACTED



2016

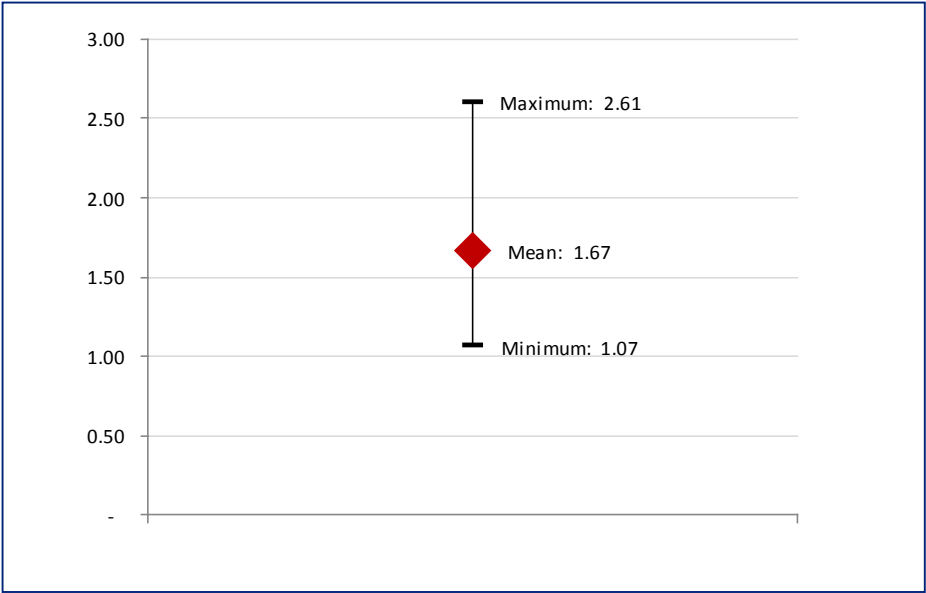
Number of participants: 9 (2016)

Endeavour Energy

Notes: Metric is calculated based on the number of desktop, laptops and handheld devices provided in the 'Volume & Quality' section of the survey

Ratio of client and peripheral devices to organisation staff

REDACTED



2016

Number of participants: 9 (2016)

Endeavour Energy

Notes: Metric calculated as the total number of desktop, laptops and handheld devices divided by the number of organisational staff



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