Inquiry into scrap metal theft

Submission No:	7
Submitted by:	Energy Queensland Limited
Publication:	Making the submission and your name public
Attachments:	See attachment
Submitter Comments:	

Energy Queensland Submission to Parliamentary Inquiry into Scrap Metal Theft – September 2023







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1 Executive Summary

Energy Queensland strongly supports the Parliamentary Inquiry into the theft of copper and other scrap metals and appreciates the opportunity to provide this submission.

Energy Queensland is Australia's largest, wholly government owned electricity company.

Our retailer, Ergon Energy Retail, sells this electricity to its 766,000 customers throughout regional Queensland, with generation, energy trading and retailing capabilities. Our customer base makes us the fourth largest retailer in the National Electricity Market (NEM).

Our energy services business, Yurika, provides integrated solutions in energy and infrastructure, energy supplies, metering, telecommunications, and digital services to connect its customers to a sustainable energy future.

Our electricity network businesses - Energex and Ergon Network - own, operate, and manage the entire electricity distribution network across Queensland - from the Tweed to the Torres Strait and out west to Birdsville and Mt Isa. We supply more than five million Queenslanders through more than 200,000 kilometres of electricity networks, and 33 isolated systems.

Energy Queensland's electricity assets and infrastructure are not only essential to the social wellbeing and economic growth of Queensland communities but are also assets critical to Australia's national security.

For Energy Queensland, the theft of copper is a widespread problem across the entire State and poses significant impacts in the areas of public and employee safety, incurs financial costs to repair stolen and damaged assets, and has an operational impact in terms of field crews needing to repair damaged infrastructure.

The theft of copper from our network jeopardises the safety of both the public and our electricity workers. Exposed and damaged wires pose a very real safety risk with potentially fatal consequences. This illegal activity is putting the safety of our communities and workers at risk, hence our support for this inquiry to investigate and recommend effective measures to prevent and deter copper theft in our communities.

The theft of copper from our electrical networks has reached alarming levels in recent years. This dangerous and illegal activity not only impacts the safe supply of electricity to homes, businesses, and critical facilities like hospitals and aged care facilities - but also places an unnecessary burden on our field crews.

Our annual repair costs for copper theft are soaring into the millions annually, which are ultimately passed through to customers – like mum and dad residential customers and small businesses. The electricity supply interruptions caused by copper theft impact our communities - affecting industries, essential services, and everyday Queenslanders.

Since 2017/18, there has been over 500 incidents of copper theft on our electricity networks across Queensland. The number of copper theft incidents has increased from an average of 40 incidents a year in 2017/18 to a total of 170 incidents in 2022/23 - an increase of over 325 per cent.

Currently, there is on average 1 copper theft incident every 2 days across our electricity networks in Queensland.

A conservative estimate is that copper theft costs Energy Queensland more than \$4.5 million per year. This is only the immediate repair cost and excludes the cost to business customers, delays to our program of work, delays to new customer connections, and the inconvenience to residential customers impacted by electricity supply interruptions.

This also does not include costs incurred by customers when copper is stolen 'behind the meter', such as sporting clubs, construction sites, and gated communities that are also frequent victims of copper theft.

Over the past 5 years, the immediate financial impact of copper theft to Energy Queensland exceeded \$20 million, which is more than the cost for Energy Queensland to respond and recover from the 2022 South-east Queensland floods. These costs are ultimately passed through to customers.



Rather than dealing with copper theft repairs, our field crews would rather deliver new customer connections and complete important network maintenance works to keep Queensland's electricity network safe and reliable.

Energy Queensland acknowledges that copper theft has a wider impact then just to our business and we are committed to continue working with industry partners, safety regulators, and the Queensland Police Service to combat this issue.

We have reviewed existing legislation in Queensland whilst also considering current frameworks in other Australian jurisdictions. Our view is that the Queensland legislative framework does not go far enough in deterring copper metal theft and other jurisdictions have implemented a more successful approach to addressing this issue. We are seeking reform which would serve as a deterrent, reduce the instances of this behaviour, and strengthen Police enforcement in order to achieve the following outcomes:

- Improved community and employee safety;
- Improved reliability of services to customers as a result of reduced criminality;
- Reduced network costs as a result of criminality.

In particular, Energy Queensland would like to see stricter penalties for copper and other scrap metal offences where there is evidence that this material has been stolen from critical infrastructure. We consider that to be a circumstance of aggravation.

We would like to see closer relationships with the scrap metal industry to establish procedures for verifying the source of the scrap metal, particularly copper. We would like see consideration for amendments to the Second-hand Dealers and Pawnbrokers Act and any other relevant legislation, including:

- to remove the option for cash or cryptocurrency transactions;
- ensure dealer transaction records for scrap metal purchases are suitable for audit; and
- require sellers to prove their identities on the 100-points system before they can trade or in circumstances where they are the intermediary delivering metal to the dealer on behalf of another person or business and for these details to be recorded in auditable transaction records.

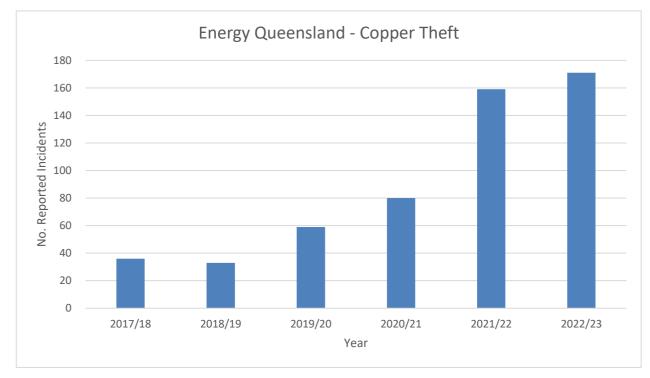
And finally, to define scrap metal dealers and specifically include these within the definition of the secondhand dealers licensing requirements.

Energy Queensland strongly supports the review of legislation and reforms to disrupt this criminal enterprise, enhance detection and deterrence, and ultimately reduce incidences of copper theft from our critical electricity infrastructure and communities.



2 Issue Identification

The theft of copper metal is a persistent issue across the entire Energy Queensland -owned distribution network and sites, with a recorded increase of more than 325% in thefts in the past 6 years - from a total of 36 incidents in 2017/18 to 170 reported incidents in 2022/23:



The number of copper theft incidents is likely under-reported as many incidents of asset damage are not identified immediately. The number of unlawful trespass incidents on Energy Queensland owned distribution network sites is not included within these reported incidents, as although the motive is believed to be theft, we cannot with all certainty confirm that copper was the target. On this basis, the actual number of offences targeting copper is likely much higher.

Copper theft poses significant and negative impacts in the areas of:

- **Safety** in relation to the network itself; the personal safety field crews, members of the public, and the offender who steal copper wire and cable.
- Environment including incidental release of pollutants as a result of copper theft-related network asset damage.
- Cost direct cost to repair and replace stolen copper and damaged assets. Impact on electricity worker and policing resources to respond and investigate copper theft. Subsequent electricity supply interruptions to customers and loss of trade to businesses and the indirect costs as outages interrupt services to our Queensland communities, domestic and business customers experience NBN (internet) interruptions, social issues resulting from interruptions to hospitals, schools and critical community infrastructure (traffic lights, telecommunications etc).
- **Regulation and Enforcement** gaps owing to the misalignment or requirements within the existing sections provides sufficient ambiguity as to hinder investigation and prosecution.

Safety issues

Copper wire is used as both a conductor of electricity to distribute supply to customers across Queensland



and is also a material used as a safety mechanism in electrical infrastructure to "earth" electrical assets. When an electrical fault occurs, the earth wire disperses electricity safely from the electrical asset through the wire and to the ground.



Example of copper neutral earthing wire



Power pole with stolen section of copper neutral earthing wire (Black River, Townsville)

The absence of an earth wire when a fault occurs presents a significant risk which can lead to serious injury and death should contact be made with the infrastructure. In targeting this safety control, copper theft offenders are creating a potential public safety issue should a person come into contact with the electrical infrastructure. The existence of the risk also threatens Energy Queensland personnel who might work on the equipment and the offenders themselves.





Fire-damaged pole caused by the stealing of the copper neutral earthing wire (Townsville)

Recent examples of serious electrical incidents involving copper theft:

- 2020 a person was found deceased after being electrocuted trying to steal copper from an industrial estate in Queensland
- 2020 a person escaped electrocution after chopping through an 11,000-volt Energex cable with an axe. This incident led to power outages to more than 800 homes in the relevant areas.
- 2022 a person used an axe to strike a power pole multiple times in an attempt to steal copper wire, sparking a pole fire and an emergency outage.
- 2023 an offender attached a car to a live 11,000-volt underground cable, which was secured to a pole. The live cable was torn off the pole and when it hit the ground a flashover occurred, starting a grassfire.
- 2023 offender stole 3km of copper cable from roadside in Brisbane impacting over 80 streetlights.
- 2023 offender cut through a live 11,000 volt cable on a bridge with an angle grinder narrowly avoiding a fatal injury and leading to a 36 hour outage to the Arnotts biscuit factory in Virginia, Brisbane affecting 600 employees.
- There have been multiple incidents where members of the public have attempted to steal copper assets, using various uninsulated tools, such as an axe/hatchet, where flashovers have occurred because the electrical assets were energised. There's a risk of burns, electric shock and fatal electrocution.



Of importance is the understanding that Energy Queensland's electricity assets manage high voltage loads of up to and including 110,000-volts, in some instances, mere proximity to assets can prove fatal.



Example of 11,000 volt electricity copper cable

Other indirect community impacts as a result of outages include delays to emergency services responding to priority calls, communication infrastructure interruptions and domestic and business internet services.

Looking to the future, the adoption of solar technologies has resulted in a rapid growth of both solar panels and battery technology (which contain copper and other metals). The latter forms an important aspect of electric car and home battery storage capability, making it foreseeable homes and vehicles will be increasingly targeted if incentives for theft of copper (and other metals) continue without change.



Exposed wires left next to public footpath after copper theft. (Carseldine, Brisbane 2023)

Environmental issues

Electricity transformers are essential infrastructure used for the transmission, distribution and use of electricity load and contain copper as well as highly refined oil to insulate and cool the transformer. This oil is a petroleum hydrocarbon product and is classed as regulated waste under the *Environmental Act 1994*. During attacks on these assets to remove copper, the uncontrolled oil discharge can lead to environmental damage.



The following are examples of incidents where transformers were damaged resulting in environmental impact and site remediation costs:



October 2019 - Mt Tyson (Toowoomba), Vandalism to transformer and copper theft

Total - \$301,916 (excl. GST) (this doesn't include the cost of removing the equipment from site)

lune 2021 - Oakey	(Toowoomba Region),	Vandalism to 1	Transformer a	and conner theft
June 2021 - Oakey	(100w00iiiba Kegioiij,	vanualisin to		and copper there



Total - \$282,075 (excl. GST)



July 2023 - Wandal (Rockhampton) - Vandalism to transformer and copper theft



Total Initial clean up - \$27,012.69 (excl. GST) (addition excavations and disposal of contaminated material may be required)

July 2023 - Rocky Street (Maryborough) Transformer damage and site clean up



• Total - \$231,940 (excl. GST)



July 2023 – Whites Street, Lota (Brisbane) Switchgear and copper cables stripped from transformer, 150 litres of oil spilled into surrounding environment



Two further incidents impacting Energy Queensland sites with significant damage to critical spares (equipment) stored at a warehouse also resulted in leaked oil causing substantial environmental contamination requiring remediation costing more than \$300,000. Damage to the transformer cost \$1 million, resulting in it being unusable for use should the need arise.

Additionally, the incidents all require extensive effort and resources to repair and replace damaged assets and remediate site contamination.

Cost issues

Copper wire is most commonly stolen from electrical infrastructure, such as poles in the street, however, offenders also target Energy Queensland storage facilities, substations and depots. These locations often store rolls of copper and scrap copper stored in large secure recycling bins onsite.

The targeting of sites involves offenders equipped with bolt cutters and battery powered tools cutting holes into fences and targeting other valuable tools, materials and equipment used to operate the electricity network. This often includes damage to operational vehicles in which equipment has been locked away.





Offender attempting to steal 11kV cable from depot warehouse in SEQ

Underground cabling, as opposed to traditional overhead powerlines, is increasingly used for newly developed estates and is increasingly being targeted by copper theft offenders.

In particular, recent trends have seen an increase in the targeting of housing estates during the construction phase as electrical infrastructure is installed.

Community clubs and sporting fields

Although the lighting infrastructure of community clubs and sporting fields is "behind the meter" and not belonging to the electricity distribution networks, Energy Queensland is acutely aware that these community facilities are also frequently targeted offenders. For example earlier this month (September 2023) Mitchelton Football Club reported an estimated 3km of copper wiring was stolen from their sporting fields at an estimated replacement cost of over \$100,000. This incident not only burdens the community clubs with these repair costs but also prevents the playing of night sporting fixtures until the repairs are completed.

Recent media articles:

"Lights out: Copper thieves hit popular Sunshine Coast sporting venues" <u>Sunshine Coast Daily</u> (online) 24 May 2023

"Copper theft spikes in south-east Queensland as sporting clubs repeatedly targeted" <u>ABC News</u> (online), 21 May 2023

"Copper thefts on the rise across Queensland as police warn electrocution is not worth the risk" <u>ABC News</u> (online), 26 March 2023

"Copper cabling allegedly stolen and damaged at showgrounds" <u>Redland City Bulletin</u> (online), 14 April 2022





<u>Offenders used a vehicle to rip out underground asset at new subdivision on Sandstone Bvld, White Rock</u> (Ipswich). The cables were not stolen after offenders discovered they were aluminum not copper.

Offenders have adapted their techniques to include de- energising assets in order to have safer and open access to the copper.

The impacts of offenders de-energising the infrastructure include:

- Direct impacts to homes, businesses and hospitals through outages of electricity supply; and
- Interruptions to services to local communities including telephone and broadband services, emergency services and transport, as well as any other inter-dependent critical services.

These costs ultimately pass through to the regulated costs of operating a network and each households' and businesses' electricity bills.

Regulation & Enforcement issues

Metal theft affects electricity, telecommunications and rail infrastructure with various existing regulations in place to manage this issue.

Where a theft endangers the safety of the public or electricity and rail corporations' employees, an offence may be committed under the *Criminal Code Act 1899, Electrical Safety Act 2002, Electricity Act 1994* or *Rail Safety National Law (Queensland).* The specific legislation of interest to Energy Queensland is *the Second-Hand Dealers and Pawnbrokers Act 2003* (SHDP Act), administered by the Department of Justice and Attorney-General (DJAG) with the Queensland Police Service responsible for enforcing the SHDP Act.

Despite the existence of the above legislation, some scrap metal dealers pay cash for this metal which facilitates the crime, whilst others more actively encourage the theft of metal as they pay cash for suspect material on a "no questions asked" basis.



Energy Queensland considers that tightening the existing SHDP Act would enable Police and authorities to more effectively apply the regulatory requirements as they were intended. The current sections of the SHDP Act are:

Section 37: Second-hand dealer must keep a transactions register

The SHDP Act requires second-hand dealers to keep a transactions register however, it is silent on the specific details to be included within that register, including the capture of details of the person transacting or delivering metals (as opposed to the 'owner' of the property), metal types and quantity being transacted.

Section 47: Second-hand dealer must ask for information

While section 47 requires the dealer to ask for, and verify information before acquiring any property from a person, it's effectiveness could be enhanced by integrating these requirements with those regarding maintaining a transactions register, namely:

- section 47 requires the dealer to ask for a person's information, but the SHDP Act does not require the information provided to be recorded within the transaction register (section 37); and
- section 47 also requires the dealer to verify the person's information, but the SHDP Act again does not specify how verification must occur (e.g. provision of 100 points of identification), or require such proof to be recorded within the transaction register.

Although section 39 and 40 requires second-hand dealers to provide the transaction register to Police, the information contained within it has not been verified, hindering Police auditing, investigation, and detection.

Currently, under the SHDP Act, there is no prohibition against second-hand dealers paying cash for items.

3 Rationale for Change

In Queensland, the current absence of regulation specific to the scrap metal market allows offenders to receive cash for scrap without a need to formally record details relating to the transaction. As a result, the ability to monetise criminal proceeds means buyers of scrap metal, such as recyclers, are a crucial and potentially unwitting enabler for criminals profiting from metal theft.

The gaps in the Queensland legislation, compounded by the enhancements to legislation in other jurisdictions can be exploited by criminals in bordering jurisdictions as copper theft perpetrators on both sides of the border target network assets in the vicinity.

Cash transactions for scrap metal are often completed without any proof of personal identification or proof that the individual legitimately owns the metal being sold. This leads to anonymous, low-risk transactions for those individuals who steal metal. In addition, the widespread use of cash facilitates, poor record keeping by the metal recycling industry and cash payments makes it difficult to investigate and prosecute sopper and other metal theft and illegal trading.

The introduction of targeted legislative amendments would assist in reducing the attractiveness of copper theft by making it illegal to pay cash for items and requiring scrap metal dealers to properly record all scrap metal transactions within their transaction register, including the type and amount of metal sold, details of the person selling the item, even if they are not the owner.

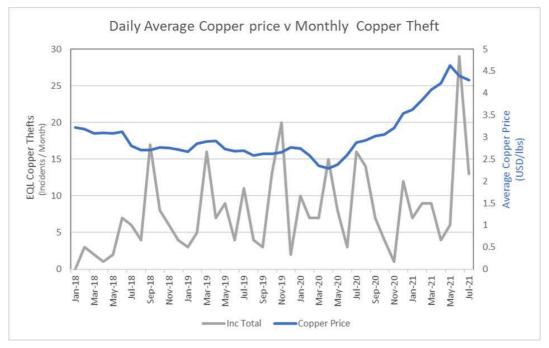
These minor amendments would act as a deterrent for stealing copper by removing the ability to conduct non-traceable transactions.

Reporting of such instances is challenging as under reporting is widely known to occur, but difficult to measure. At the same time, employees aggregate into a single report multiple instances of copper theft from a single geographic location. As a result, it is believed the scale of the problem is greater than the records



available.

A review of available data indicates a correlation between the price of copper and offences. The below diagram with data from June 2018 – July 2021 shows the relationship between reports of copper theft and fluctuations in the market price of copper:



Regulation and enforcement have clear roles in discouraging metal theft, and it should be noted that Energy Queensland and other companies have already implemented proactive preventative measures through physical, engineering, and cultural solutions.

These solutions are described as follows:

Physical solutions - Since 2019, Energy Queensland has implemented extensive measures to deter, delay, detect and respond to criminal acts, based on security-by-design principles, solutions include additional security cameras, electronic gates, barbed wire fencing, electric fencing, lockable storage containers, enhanced lighting, and intruder detection systems.

Engineering solutions - Copper has optimal conductivity characteristics compared to other metals. An alternative solution utilised by the industry includes repairing stolen earths with copper-coated steel rods. These rods are less susceptible to theft, although are significantly more expensive making it not financially viable to replace all copper.

Cultural solution – Energy Queensland drives strong adherence to site security behaviours by staff and contractors, as well as responsible supply chain practices so storage of materials is limited to operationally necessary volumes. Energy Queensland actively engages in public messaging to raise safety awareness on the potential risks of electrical infrastructure as well as liaison with law enforcement and other organisations; All working together to improve crime reporting and awareness.

The cultural solutions that Energy Queensland has implemented are important from a safety perspective. However, these practices alone have not been enough to prevent or reduce copper metal theft.

Security of Critical Infrastructure Act 2022 – proposed amendment

The Federal government updated the Security of Critical Infrastructure 2022 Act to enhance the regulatory framework, introducing positive security obligations on critical infrastructure entities and their assets.

With the introduction of such obligations to prevent unauthorised access to electricity infrastructure and non-energised sites, it is important to ensure supporting legislative instruments are updated to remove the



motivation and ability for criminals to monetise their proceeds of crime while also provider strict penalties for copper and other metal theft that impacts critical infrastructure of national security significance.

4 Jurisdictional Review

New South Wales, Victoria and Western Australia have implemented changes to their equivalent secondhand dealers' legislation to assist in preventing property crime.

The NSW legislation is extremely crime-prevention focused, while the other jurisdictions (in Victoria, South Australia and Western Australia) are orientated more towards consumer protection with powers and functions conferred on the police in respect of specific issues including licensing (and de-licensing), investigation and enforcement.

New South Wales - Scrap Metal Industry Act 2016 (NSW)

NSW introduced a new piece of legislation, the key aspects include:

- a new registration system administered by the Police;
- prohibiting second-hand dealers from paying sellers in cash (or cheque or in kind with goods or services) for scrap metal;
- requiring the second-hand dealer to keep and maintain transaction records including the details of the person who sold the scrap metal; and
- additional police powers including entry, inspection and seizure without the need for a warrant.

Victoria - Second-Hand Dealers and Pawnbrokers Act 1989 (Vic)

Following closely the NSW changes, Victoria amended existing legislation which:

- impose new restrictions on the activities of dealers licensed under the existing system;
- prohibits cash payments;
- requires detailed records to be kept including details of the seller; and
- requires the details are properly recorded in relation to sales of scrap metal.

Western Australia - Pawnbrokers and Second-hand Dealers Regulation 1996 (WA)

With effect from 1 December 2020, the WA Government moved to regulate copper, similar to other metals like gold and silver, to tackle the growing problem of copper theft. The amendments also required licensing of any person who is involved in transactions of copper and copper alloy (including brass and bronze).

United Kingdom - Scrap Metal Dealers Act 2013

In 2013 the United Kingdom enacted the Scrap Metal Dealers Act 2013 with a stated intent to stem 'the upward trend in levels of metal theft through stricter regulation of the metal recycling sector to make it more difficult to dispose of stolen metal.'

As review of this Act in 2017, and the subsequent years' Police crime data* demonstrates the positive outcomes since the legislation's introduction:

	2012-13	2013-14	2014-15	2015-16	2016-17
Number of offences	62,997	42,230	27,362	16,639	12,970

* Metal offences recorded in England and Wales between March 2013 and March 2017



5 Related industries

Energy Queensland meets regularly with other industry representatives in relation to common security issues including the issue of copper theft. These representatives include:

- Queensland Rail
- Telstra
- Queensland Police Service
- Powerlink Queensland
- Optus
- Aurizon
- NBN
- National Motor Vehicle Theft Reduction Council

6 **Options**

6.1 **Options Analysis**

In considering the possible options, Energy Queensland acknowledges that regulatory processes exist, including a consultation process to capture, collate and explore the topic holistically.

Additionally, this report and below options are not intended to be all encompassing, representative of every problem-area of the existing legislation. As a result, it excludes suggestions and proposals that may be identified by other stakeholder parties.

Option 1 – Retain Status Quo

Under this option no changes to legislation occur and companies including Energy Queensland continue to work within the existing legislative framework. Energy Queensland does not consider this to be a sustainable option.

Option 2 – selective amendments to the existing SHDP Act targeting:

- Prohibiting cash sales for scrap metal;
- minor amendments to the existing transaction register requirements to improve the quality and usefulness of the information required to be recorded;
- define scrap metal dealers; and
- require scrap metal dealers to proactively report suspected stolen scrap metal.

Option 3 – creation of a new "Scrap metal Dealers" Act:

This path was the preferred approach when NSW addressed these issues, establishing a new "Scrap metal Dealers" Act, and whilst it may prove to be the most effective, it would take longer to develop and implement.



6.2 Preferred Option

Energy Queensland considers Option 2 to be the preferred option at a minimum, as retaining the status quo does nothing to mitigate the issues.

Option 3 would likely be determined in consideration of the wider underlying weaknesses of the existing legislation and whether it could be improved to be sufficiently robust to drive improvements.

7 Recommendation

Amendments to the Second-Hand Dealers and Pawnbrokers Act 2003 (SHDP Act) and any other relevant legislation to:

- Legislate stricter penalties for copper and other scrap metal offences where there is evidence that the material has been stolen from any critical infrastructure assets (such as electricity network, electric rail network, and telecommunications infrastructure etc) and consider that a circumstance of aggravation to the offence.
- Make it an offence for scrap metal dealers to pay cash or use crypto currency transactions for scrap metal;
- Ensure dealer transaction records for scrap metal purchases are suitable for audit and include details of types and quantity of metal received, details of the processing of that metal and the names of those disposing of metal at their site;
- Require sellers to prove their identity (100 points) before they can trade or in circumstances where delivering metal to the dealer on behalf of another person or business and for these details to be recorded in the transaction records;

Require scrap metal dealers to keep a photographic record of trade scrap samples as received

- Include defining scrap metal dealers and specifically including these within the definition of Second- Hand Dealers; and
- Provide new powers for police officers to enter and inspect both registered and unregistered scrap metal sites where reasonable grounds exist for believing a breach of the aforementioned amendments.



Appendix - Energy Queensland Copper Theft Incidents 2017/18 to 2022/23 by operational region

