

BEST PRACTICE TOOLKIT

Subsea Telecommunications Cable Policy and Regulation In the Indo-Pacific

Toolkit Overview



Acknowledgement

This publication has been funded by the Australian Government through the Department of Foreign Affairs and Trade and the Cable Connectivity and Resilience Centre (CCRC) initiative.

The Australian Government has established the CCRC to address the most important issues facing the development and management of subsea telecommunications cables in the Indo-Pacific.

CCRC acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of Country throughout Australia and pay our respects to Elders past and present. CCRC also recognises early connections between the Pacific, Southeast Asia and the First Nations peoples of Australia.

Disclaimer

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BEST PRACTICE TOOLKIT

Subsea Telecommunications Cable Policy and Regulation In the Indo-Pacific

This *Best Practice Toolkit* is intended to support governments across the Indo-Pacific to strengthen the policy and regulatory frameworks that govern the planning, protection and management of subsea telecommunications cables. Developed by the Australian Government's Cable Connectivity and Resilience Centre, it consolidates international best practice and practical guidance to support informed, real-world decision-making.

Subsea telecommunications cables are fundamental to modern economies and societies. They carry almost all international data traffic, connecting people, communities, and economies, and underpin financial systems, government operations, trade, innovation, and everyday communication.

As demand for data continues to grow, and countries rely on improved connectivity, the need for resilient and well-protected subsea telecommunications cables is becoming ever more critical. These cables can be vulnerable to disruption or damage, which can have significant impacts on countries and stakeholders.

Getting the policy and regulatory settings right is therefore essential. Governments face diverse issues shaped by geography, capacity, market structure, environmental challenges, and development priorities. This *Best Practice Toolkit* provides clear and practical guidance to support decision-making on subsea telecommunications cables across their full lifecycle, with flexibility to adapt to different national contexts across the Indo-Pacific.

Cable Connectivity and Resilience Centre

The Cable Connectivity and Resilience Centre is a whole-of-Australian-Government initiative, embedded within the Department of Foreign Affairs and Trade. The Centre works with governments and industry across the Pacific, South Asia and Southeast Asia to support the effective development, management and protection of subsea telecommunications cables.

The Centre was established in response to growing regional demand for secure and resilient digital infrastructure. Drawing on Australia's experience in subsea cable governance, the Centre's work complements Australia's work with partners across the Indo-Pacific on subsea telecommunications cable infrastructure investments and regulatory and policy support.

The Centre has three areas of focus:

- **Technical assistance:** We deliver tailored support, capacity building, and training to governments and key agencies across the Indo-Pacific, helping countries better plan, protect, and manage subsea telecommunications cables
- **Research and analysis:** We commission practical research and regulatory analysis to inform policy, strengthen decision-making, and support long-term cable resilience.
- **Dialogue and knowledge sharing:** We convene governments, industry, and regional partners to share knowledge, address challenges, and shape coordinated approaches to cable connectivity and resilience.

For more information, visit www.ccrc.gov.au

How to use the Best Practice Toolkit

The *Best Practice Toolkit* provides practical guidance to support policy and regulatory decision-making for subsea telecommunications cables. It is designed to adapt to different national contexts, institutional roles, and priorities.

Who is the Best Practice Toolkit for

The Best Practice Toolkit is intended for people working within government across the Indo-Pacific who are responsible for, or advise on, subsea telecommunications cable policy and regulation, including:

- policymakers and regulators
- officials working across digital connectivity, telecommunications, infrastructure, security, and economic development
- state-owned enterprises managing cable infrastructure.

What is included in the Best Practice Toolkit

- **The Best Practice Toolkit Overview** (this document) serves as the starting point and explains the scope of the Toolkit, how the packs fit together, and how the materials can be used.
- **12 thematic packs**, each focused on a specific aspect of subsea telecommunications cable policy or regulation. Each pack contains core guidance supported by supplementary documents that provide additional detail, examples, or context. The glossary included in each pack should be used as a reference when engaging with the Toolkit, particularly where technical or policy terms are unfamiliar.

Support to use the Toolkit

- The Cable Connectivity and Resilience Centre can support governments in identifying which packs are most relevant. Relevance will vary depending on national circumstances, existing frameworks, and the issues being addressed.
- For support or further information, contact the Cable Connectivity and Resilience Centre undersea.cable@dfat.gov.au.

Best Practice Toolkit – summary of packs

PACK	WHAT IT DELIVERS	WHO IT IS FOR
Backhaul Network Planning	Recommendations to inform backhaul network planning to facilitate investment and ensure availability of domestic services. The guidance explains how planning and management of backhaul infrastructure ensure reliable and cost-efficient data transmission from subsea telecommunications cables to domestic networks.	Policymakers and regulators.
Business Case	Recommendations to inform strategic and investment planning, strengthening governance for subsea telecommunications cable planning and approvals, aligning public investment timing and risk with industry best practice. The guidance explains how a government can encourage subsea telecommunications cable investment and outlines key market attributes investors assess when investing in subsea telecommunications cables.	Policymakers and state-owned cable operators.
Cable Protection Zones	Recommendations to inform strategic planning and legislative design of Cable Protection Zones. The guidance explains how establishing Cable Protection Zones helps protect subsea telecommunications cables by restricting or managing activities that may damage them in these areas.	Policymakers and regulators.
Competition Regulation	Recommendations to establish competition principles, promote effective competition frameworks and evaluate institutional models aligned to competition objectives. The guidance explains the need for appropriate frameworks to enable competition and choice in telecommunication markets and explains how high barriers to market entry can restrict infrastructure access and limit downstream competition.	Policymakers and regulators.
Decommissioning and Recovery	Recommendations to inform policy, regulatory and operational approaches to managing subsea telecommunications cable decommissioning and recovery. The guidance explains how the frameworks for decommissioning and recovery of subsea telecommunications cables ensure activities are assessed, coordinated and managed, reducing risks to connectivity, minimising environmental impacts and supporting safe and efficient seabed use.	Policymakers, regulators and state-owned operators.
International Engagement	Recommendations to inform international engagement on subsea telecommunications cable governance and protection. The guidance explains how international engagement can support effective governance and protection of subsea telecommunications cables. Understanding and participating in these international arrangements helps align domestic policies, contribute to development of international frameworks and norms, and remain informed of emerging issues.	Policymakers.

Best Practice Toolkit – summary of packs

PACK	WHAT IT DELIVERS	WHO IT IS FOR
Marine Route Planning	Recommendations to manage marine activities, facilitate coordination with all seabed users and support flexibility in potential route and landing site options. The guidance explains how marine spatial and marine route planning helps governments manage maritime uses, reduce risks to cables, support environmental protection and enable coordinated and efficient use of marine space.	Policymakers, regulators and state-owned operators.
Operations and Maintenance	Recommendations to develop regimes that enable owners and operators to undertake effective operations and maintenance. The guidance explains the importance of effective operations and maintenance arrangements to ensure subsea telecommunications cables are appropriately monitored and maintained, reducing risk of disruptions and supporting service delivery.	Policymakers, regulators and state-owned operators.
Permitting and Maritime Access	Recommendations to inform a permitting and maritime access framework that provides oversight whilst balancing regulatory burden. The guidance explains how well-designed permitting frameworks support timely installation, repair and maintenance of subsea telecommunications cables, avoid extended connectivity disruptions and give governments oversight while balancing regulatory burden.	Policymakers and regulators.
Policing and Enforcement	Recommendations to enact legislation penalising damage and empower local enforcement to investigate and enforce these offences. The guidance explains how well-established policing and enforcement arrangements are essential to ensure compliance and deterrence of harmful activities to subsea telecommunications cables.	Policymakers, regulators, state-owned operators and enforcement agencies.
Security	Recommendations to inform the development of legislative and regulatory measures to strengthen subsea telecommunications cable security. The guidance explains how cables are vulnerable to security threats, including physical damage and cyber intrusion, how disruption can affect delivery of critical services, and how strengthening security of subsea telecommunications cable is critical to maintaining national resilience and reliable delivery of essential services.	Policymakers and regulators.
Stakeholder Engagement	Recommendations for when and how policymakers and regulators can engage with stakeholders throughout the subsea telecommunications cable lifecycle. The guidance explains the importance of stakeholder engagement in the delivery, management and protection of subsea telecommunications cables.	Policymakers, regulators and state-owned operators.

Glossary

TERM	DEFINITION
Archipelagic state	A state constituted wholly by one or more archipelagos, and which may include other islands.
Archipelagic waters	Waters enclosed by the archipelagic baselines, which are lines joining the outermost islands of an archipelagic state.
Automated Identification System (AIS)	A vessel-tracking system that transmits a vessel's identity, position, speed and direction.
Availability	The assurance that systems are accessible and usable for users when required.
Bandwidth / Capacity	The maximum amount of data a network or communications link can transmit over a given period of time.
Coastal state	A state with a coastline that may exercise rights or jurisdiction over the ocean sea or body of water.
Cable Protection Zone (CPZ)	Designated areas established to protect subsea cables from damaging activities.
Contiguous zone	The maritime zone beyond the territorial sea where a coastal state may enforce limited customs, fiscal, immigration or sanitary controls.
Continental shelf	The submerged edge of a continent over which the coastal state has sovereign rights to the seabed and subsoil extending beyond the state's territorial waters as far as 200 nautical miles, which may extend further provided there is geological evidence of a natural prolongation of the land mass as defined by UNCLOS.
Critical infrastructure	Infrastructure including physical facilities, supply chains, information technologies and communication networks, which are vital to a nation's social or economic wellbeing.
Distributed Acoustic Sensing (DAS)	A sensing technology used to detect vibrations on a fibre-optic cable.
Exclusive Economic Zone (EEZ)	A maritime zone extending up to 200 nautical miles from the baseline, within which the coastal state has sovereign rights over natural resources, excluding the water column.
Graduated enforcement	An enforcement approach that scales responses according to the level of harm, intent and repetition.
High seas	Maritime areas beyond national jurisdiction, as defined by UNCLOS.

Glossary

TERM	DEFINITION
Internal waters	Waters on the landward side of a state's baseline.
Permit	A formal approval issued by a government permitting authority that authorises and outlines conditions relating to subsea cable infrastructure activities such as installation, repairs, maintenance, decommissioning and recovery.
Recovery	The removal of all or part of a decommissioned or out-of-service cable from the marine environment.
Resilience	The ability to prepare for, adapt to, withstand, or recover from changing conditions and disruptions such as deliberate attacks, accidents, or naturally occurring threats or incidents.
Subsea cable infrastructure	Subsea cable infrastructure comprises all wet and dry plant which includes the subsea cable, fronthaul, the cable landing station, passive infrastructure and active transmission, mechanical, electrical and power facilities.
Territorial sea	The maritime zone extending 12 nautical miles from the baseline, adjacent to the coast over which a coastal state exercises sovereignty.
The Area	The ocean floor or abyssal plains that extend beyond the continental shelf as defined by UNCLOS.
UNCLOS	The United Nations Convention on the Law of the Sea.
Vessel Monitoring System	A tracking system, commonly used for fishing vessels, that reports a vessel's location, speed and direction to authorities.