

Environmental Certificates 101: What Are Environmental Certificates and How Do Their Markets Operate? - Northmore Gordon

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Strategic Energy Sourcing Feasibility & Assessments: Renewables, PPAs or Certificates Compressed Air Services Air Compressor Leak Audits, Surveys and Benchmarking EEO Assessments (SG) Singapore Energy Efficiency Assessments Energy Procurement Navigate energy markets with confidence Virtual Environmental Manager Leverage our teams wide experience Certificates Close Certificates Open Certificates Certificates Our Environmental Attribute Certificate services help businesses accelerate technology adoption, improve project ROI, and manage claims of renewable energy, energy efficiency and carbon offset 1 carbon offset = 1 tonne of CO₂-e avoided or removed from the atmosphere. Avoided emissions covers activities that alter behaviour that would have otherwise caused emissions such as energy efficiency improvements or avoided deforestation. Removal covers activities that permanently remove CO₂ from the atmosphere such as new forestry plantations, soil carbon improvement or carbon capture and storage. certificates Live Certificate Prices The value of certificates change day-to-day, check today's prices Solar VEECs (VEU PBA) VEU PBA for Large-scale Solar Measurement & Verification (VEU & ESS) M&V; for Large C&I; Efficiency Projects (VEU PBA & ESS PIAM&V;) BESS Calculator Estimate the Peak Reduction Certificate revenue available to your NSW battery project in minutes ERF & Carbon Credit Registration ACCUs for Emission Reduction Projects Boiler Upgrades (VEU & ESS) NSW & VIC Boiler Rebates REC Registration (I-RECs & LGCs) Register renewable assets for I-RECs and LGCs Trade RECs & Carbon with us Trade Local & International Environmental Attribute Certificates moREnewable100 (RECs & Offsets) Reach Global Sustainability Goals with Certificates and Offsets Deemed Certificates (VEU & ESS) NSW & VIC Rebates Global Certificates Environmental Attribute Certificates Australian Programs Australian EAC Programs Case Studies Sectors Articles Team More Close More Open More Northmore Gordon Learn more about Northmore Gordon with the latest news and insights, were to find us, and the extensive terminology used in emissions reductions About Us Who we are & what we do in energy efficiency & decarbonization. Locations Find our offices near you. Contact Us Get in touch with our team. Careers Join our team making a sustainability difference Articles Learn about energy efficiency & carbon reduction. Latest News Stay informed on industry developments. Government Updates Track policy changes impacting your energy use. Accreditations See our certifications for trusted service. Glossary Define key terms in emissions reduction. Environmental Certificates 101: What Are Environmental Certificates and How Do Their Markets Operate? Northmore Gordon June 14, 2022 Articles Share this article Whether it be recognising status or declaring ownership, certificates acknowledge value. For the broad class of products known as Environmentally Attributed Certificates, the value comes from ascribing some environmental benefit to a traded commodity. Environmentally Attributed Certificates most commonly apply energy or carbon attributes to a generation or offsetting activity, yet they can be used to track any type of environmental value, such as distinguishing between different carbon intensities of hydrogen or managing nitrate concentration in water outflows. In essence, Environmentally Attributed Certificates serve as an accounting layer that sits atop a product or commodity to track its environmental credentials. Certificates and their markets serve as valuable economic tools to incentivise businesses to embrace decarbonisation and environmental responsibility. Understanding how the Environmentally Attributed Certificate markets function and operate will help businesses design a procurement strategy that aligns with the national decarbonisation goals as well as their own corporate objectives. What are the Different Energy Certificates? In the energy space, there is a spectrum of certificates to distinguish between various decarbonisation efforts and activities: Green Certificates (Energy Attributed Certificates) White Certificates Carbon Offsets or Carbon Credits Green Certificate also known as a Renewable Energy Certificate (REC) represents 1 MWh of renewable electricity generation, typically from sources such as solar PV, wind, hydro, geothermal, and biofuels A Green Certificate, also known as a Renewable Energy Certificate (REC Renewable Energy Certificate), represents 1MWh of renewable energy generation. Popular energy sources for these certificates include PV Solar Photovoltaic solar, wind, hydro, geothermal, and biofuels. Nuclear is not typically credited because uranium is not a renewable fuel, despite having zero carbon intensity. To take things a step further, there are Time-based Energy Attributed Certificates being trialled that match the renewable energy generation with the electricity demand on an hourly basis throughout the day. White Certificate used to track reductions in energy use, usually from energy efficiency activities, can be measured in either MWhs of energy saved or in Tonnes of CO₂-e abated depending on the policy

objectives of the program (see Glossary - White Certificate for more details) White Certificates are used to track reductions in energy use and are measured in either MWhs of energy saved or in Tonnes of CO₂-e abated. Certified activities are typically those that improve energy efficiency, such as replacing traditional lighting with LEDs, installing more energy-efficient equipment, or adjusting business practises to increase energy productivity. There is an emerging market for demand response certificates that aim to drive reductions in peak energy use times at the height of summer. Carbon Offsets (or Carbon Credits) Carbon Offsets represent a reduction of one metric tonne of CO₂-e from either removal or avoidance activities. Emissions removal involves activities that will extract carbon from the atmosphere. This includes planting new forests, making certain changes to agricultural practices, or implementing direct air capture and sequestration technologies. On the other hand, emissions avoidance activities stop emissions that would have otherwise occurred. Energy efficiency measures, fuel switches to low-carbon sources, and forest conservation practices are examples of emissions avoidance activities.

What are the Principles of an Environmental Certificate Program? Certificates must pass through a regulatory framework to become approved and registered for trading. This involves registering a project, monitoring the activity or performance of the project, collecting data and evidence to support the environmental claims, undergoing external verification, and being accepted by the program regulator. Once projects and their associated certificates are approved, the certificate programs have underlying principles that promote the existence and maintenance of certificate markets. These fundamental principles include additionality, persistence, and traceability. Additionality asserts that having an existing certificate market promotes the development of activities that would otherwise not have developed under business-as-usual scenarios. For instance, without the existence of REC markets, there would not be an economic incentive for developers to build renewable energy plants. Therefore, the certificates stimulate additional activity to drive climate, energy, and other environmental improvements. As such, owners of environmental certificates can take ownership of driving this progress. Persistence refers to the certified activity having a lasting impact. In some situations, this persistence may mark that savings are intact for an allotted period of time. For other certificate activities, it assures permanence, where the carbon offset or sequestration activity represents emissions reductions that are permanently maintained and not re-released into the atmosphere. Traceability enables certificates to be traced back to their source and for them to be tracked in a registry. This promotes transparency of activity and also inhibits certificates from being used by multiple parties. These programs can be administered by government regulators or by third-party administrators. Certificate programs give shape to market-based funding programs, voluntary markets, and direct obligation schemes.

What are the Types of Certificate Markets? There are two types of markets for certificates: compliance and voluntary. While demand is generated differently between these distinct market types, they both share the same underlying objective of accelerating environmental goals through an additional source of funding. This funding makes it feasible to develop renewable energy plants, implement energy savings Electricity or gas savings or both. strategies, and build carbon-reduction projects. In regulatory compliance markets, there is an obligation on liable entities to surrender a certain number of certificates each year. Government bodies are the typical regulator for this market type, placing requirements on certain entities – such as electricity providers or large energy users – to surrender back to the government a certain number of certificates each year. Often there is a penalty price in compliance markets if an obligated entity fails to surrender the required number of certificates. Regulatory markets are the primary market for most certificates, yet there are certificates that are gaining popularity within voluntary markets. In contrast to the compliance market, voluntary markets generate demand through businesses and consumers who want to buy certificates for their environmental credentials. These credentials bring businesses closer to achieving goals focused on net-zero pathways, decarbonisation, resource conservation, community development, and environmental stewardship. Although participation in voluntary markets is optional, third-party recognition can stimulate demand for specific certificates within the market. For example, Climate Active is an accreditation program for Australian companies to certify their organisations, products, services, events, buildings or precincts as carbon neutral. The program is backed and administered by the Australian government. Companies have to measure their scope 1, 2 and material scope 3 emissions, reduce where possible and offset the remainder by purchasing and

retiring offsets. Allowed offsets are LGCs for scope 2 and ACCUs, CERs, RMUs, VCU or VERs for scope 1 or 3 emissions. Annual reporting is required and published on the Climate Active website. More , the Australian government's carbon-neutral standard, only recognises certain certification types as eligible carbon offsets, which makes them more coveted than other certificates in the market. There is a greater diversity of certificates within voluntary markets than in compliance markets. This causes voluntary markets to exhibit certificate price differential that is unseen in compliance markets where all certificates are treated as equal. Price disparity can be caused by the type of certificate, such as whether it represents carbon avoidance or carbon removal. In addition, some certificates in the voluntary market may cost a premium due to their associated co-benefits that align with the United Nations Sustainable Development Goals. Not all certificate types have both compliance and voluntary markets – some certificate products are entirely voluntary, and some certificates with a compliance market have no voluntary demand from buyers. Where both a compliance market and a voluntary market exist for the same certificate, the prices are linked as demand in the voluntary market reduces the supply for the compliance market and vice versa. How Does an Environmental Certificate Provide Value? Holding an environmental certificate enables the owner to take claim to the environmental benefit it offers. For instance, when clean electricity from a PV solar farm enters the grid, it becomes indistinguishable from the rest of the grid electricity that is generated from other power sources. This makes it difficult to determine who the end-user of that clean electricity is. Therefore, a facility must purchase a REC to make the claim that they are indeed using the clean electricity generated from that solar farm. Without the certificate, the facility is unable to make the claim and is therefore unable to take advantage of the other significant business benefits that stem from transitioning to a clean energy profile. Making the clean energy transition is becoming increasingly important, as people, governments, corporations, and investors want stability now and security for the future. Climate change is no longer an abstract scientific conversation. It is wrapped into all pressing matters of the day, from fuel price hikes and supply chain bottlenecks to rising concerns around sweeping fires, intense storms, and dying coral reefs. Our climate and environment must be prioritised, and businesses that adapt to and embrace a nature-positive model are positioning themselves for long-term success. Although there are immeasurable societal and environmental benefits in transitioning away from fossil fuels and protecting the environment, there also must be sound economic motives to really incentivise businesses to embrace decarbonisation. This is where certificate markets, and Northmore Gordon, come into play. Northmore Gordon specializes in the nuances, policies, and procedures of the energy certificate marketplace. We help businesses find and source energy solutions that promote the well-being of their own business as well as that of the community and environment. To incorporate a more nature-positive strategy and stay ahead of the changing energy landscape, reach out to us and see just how empowering our partnership can be. Carbon Credits , Carbon Offsets , Certificates , Environmental Certificates , Green Certificates , White Certificates You may also like: Australian Certificate Markets – August 2026 Update Where's the value in renewable heat? 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