Topic 1 – Ownership of Minerals and Natural Resources

Introduction

- Mining is a vitally important industry for Australia.
  - The most economically significant onshore mining exports to date have been iron ore, gold, nickel and aluminia (made from bauxite).
  - Other expanding resources include coal seam gas, shale seam gas and petroleum (shale).
- Mining is a component of energy law – which covers all forms of energy regulation and policy.
- Energy Law: 'the allocation of rights and duties concerning the exploitation of all energy resources between individuals, between individuals and the government, between government and the states.
- Energy law includes finite and non-finite energy reserves: oil, natural gas, coal, uranium (nuclear energy), solar energy, wind energy, wave energy, fidal energy, ocean thermal energy conversion, hydro-electricy biomass, hydrogen and geothermal energy.
- The production of energy naturally affects the environment and, in some cases, can have a dramatic impact.
- The production of land-based energy will affect land ownership and this includes the ownership rights of indigenous holders.
- This course examines the different regulatory frameworks for mining and energy law.
  - It provides an understanding in key areas of legal regulation in sustainable energy technologies and new markets.

Energy Resources

- Energy law regulates the exploitation of energy resources.
- The methods of turning energy resources into productive and profitable use differ greatly and the involvement of the law must be separately considered.
- Both domestic and international law is applicable
- GATT Treaty (General Agreement on Tariffs and Trade) and UNCLOS (United Nations Law of the Sea) may be relevant.
- Important regulatory areas: pipelines regulation (especially for domestic gas), the protection of confidentiality and rights to intellectual property, property security, the construction of petroleum contracts, project financing, native title rights, and the scope and sufficiency of environmental safeguards.
  - These issues are touched on in different topics.

Ownership of the subsurface strata at common law

- In all Australian states and territories, the ownership of subsurface non-renewable minerals has either been reserved or vested in the state pursuant to specific statutory vesting provisions or reservations on title provisions enacted under mineral and petroleum state legislation.
- Introduction of these rights has diminished the rights of the surface estate owner that exists at **common law**:
  - **'*cuius est solum eius est usque ad coelum et ad inferos*'.**
  - The maxim states that the person who owns land owns it from the heavens above to the centre of the earth below.
  - This is a fundamental component of the common law framework for land and mineral ownership.
  - It presumes that ownership of the subsurface strata, which includes minerals and natural resources residing in that strata belong to the surface estate owner.
  - Principle was recognised in English law in 1586 by the decision ***Bury v Pope*** and was thus a component for the common law inherited by Australia upon colonisation.
- The maxim has functioned as a general guide for common law principles rather than an exact measure.
- In ***Commissioner for Railways v Valuer General***, the Court noted that the use of the Latin phrase, 'whether with reference to mineral rights, or trespass in the air space by projections, animals or wires, is imprecise and it is mainly serviceable as dispensing with analysis'.

- In ***Star Energy Onshore ltd v Bocardo Ltd***, the Latin 'brocard' was described as having relevance purely as 'an imperfect guide'.
    - In this case, Aikens LJ went on to conclude that the correct common law position is that the registered freehold proprietor of the surface will also be the owner of strata beneath the surface including minerals unless there has been an express of implied alienation to another. (quoting from ***Mitchell v Mosley*** **[1914] 1 Ch 438**).

Star Energy Onshore Ltd v Bocardo Ltd **[2010]**

Facts

- The land owner Bocardo sued Star Energy Onshore in trespass that had been drilling for petroleum under the plaintiff's land.
- The well head was on neighbouring land.
- The drilling pipelines descended to a depth of 2,800 ft under the adjoining plaintiff's land.
- The company had a licence to extract petroleum but did not have the plaintiff's permission.

Court of Appeal:

- The *cuius est solum* maxim should not be taken literally as it would lead to absurdities – i.e. literally ownership to the centre of the earth.
- The plaintiff's surface ownership did, however, extend sufficiently downwards to prevent others from interfering with minerals under the surface.
- This meant Star Energy was in trespass by laying the pipelines.
- Trespass was purely technical – no loss of enjoyment.
- Damages were assessed in the same manner as cases of compulsory land purchase – were only 1,000 pounds.
    - The core principle underpinning compulsory purchase valuations is that compensation for the compulsory acquisition of land cannot include an increase of value which is entirely due to the scheme underlying the acquisition.
    - As Bocardo had no right to the oil beneath its land, it had not actually lost of diminished any specific value.
- The right of the licensee to extract was only over the authorised area and this did not include Bocardo's land.
- The right includes a right to use reasonable means to extract the resource including boring (***Re an Arbitration between Lord Gerard and London and North Western Railway Company*** **[1895]**, per Lord Esher).
- Subsequently, in ***Star Energy Weald Basin Ltd v Bocardo SA*** **[2011] AC 380**, the Supreme Court affirmed the Court of Appeal decision.
- **Lord Hope**: The Latin maxim retained some utility as a general guide to the common law position regarding sub-surface ownership.
- Lord Hope stated at [26-[28]:
    - *The better view, as the Court of Appeal recognised is to hold that the owner of the surface is the owner of the strata beneath it, including the minerals that are to be found there, unless there has been an alienation of it by a conveyance, at common law, or by statute to someone else.*
    - *That was the view which the Court of Appeal took in* ***Mitchell v Mosely [1914] 1 Ch 438****.*
    - *Much has happened since then, as the use of technology has penetrated deeper and deeper into the earth's surface.*
    - *But I see no reason why its view should not still be regarded as good law.*
    - ***There must obviously be some stopping point, as one reaches the point at which physical features such as pressure and temperature render the concept of the strata belonging to anybody so absurd as to be not worth arguing about. But the wells that are at issue in this case, extending from about 800 feet to 2,800 feet below the surface, are far from being so deep as to reach the point of absurdity.***
    - *Indeed, the fact that the strata can be worked upon at those depths points to the opposite conclusion.*
    - *I would hold therefore that Bocardo 's title extends down to the strata through which the three wells and their casing and tubing pass.*

- Common law ownership of subsurface strata has been subject to a range of different qualifications.
    - It has no application to surface estate grants that are subject to express height or depth limitations or to any express reservation contained in a Crown grant that concerns minerals.
    - It has also been substantially qualified by the introduction of a range of judicial and statutory modifications.
    - The introduction of a public ownership framework for subsurface minerals and petroleum has made the maxim virtually redundant in the sphere of mining and energy law in Australia and removed its core functionality.

Public ownership for minerals and petroleum

- Common law: Surface estate owner owns minerals.
- This is abrogated by statute.
    - Public ownership framework sets out that all minerals and resources in the ground are owned by the state.
- All states and territories passed legislation reserving all minerals in land for future Crown grants.
- Prospective operation in all states apart from SA, NT and Vic where it is retrospective.
- ***Crown Lands Act 1884*** **(NSW) s 7;** ***Land Act 1891*** **(Vic) s 12;** ***Mines Act 1891 (No 2)*** **(Vic) s 3;** ***The Mining on Private Land Act 1909*** **(Qld) ss 6, 21;** ***Crown Lands Act 1888*** **(SA) s 9;** ***Mining Act 1904*** **(WA) s 117;** ***The Crown Lands Act 1905*** **(Tas) s 27.**
- Victoria: All minerals are vested in the Crown pursuant to the ***Mineral Resources (Sustainable Development) Act*** **1990 (Vic) s 9, (MRSD).**
- The **MRSD** s 4 defines mineral to include oil, shale, coal, alluvial minerals (e.g. titanium nd zirconium) and naturally hydro-carbons contained in oil shale or coal.
    - This would include coal seam gas so the **MRSD** will cover the regulation of CGS in Vic.
- Petroleum is expressly excluded from the definition of minerals in the **MRSD**
- Petroleum on or below the land is vested in the Crown pursuant to **s 13** of the ***Petroleum Act*** **(Vic)** (PA).
- Ownership of petroleum remains with the Crown despite any Crown grant of land: **s 14**.
- Petroleum is defined broadly to include any naturally occurring hydro-carbon whether in a liquid, gaseous or natural state.
- **PA s 6(2)** expressly excludes naturally occurring hydro-carbons contained within a deposit of coal or oil shale.
    - This would appear to exclude coal seam gas from the application of the **PA**.

Ownership of sub-surface land

- The notion of land as three dimensional has facilitated the legal acceptance of subdivisions which can be either horizontal, or vertical, or both: ***Superannuation Fund v Clough Property Fairmont Pty Ltd*** **[2010] WASCA 232 at [20]**.
    - This means that today, the ownership of land can be divided in different ways and that the common law maxim is purely the starting point.
- The common law rights of land-owner extend into the strata but how far is a matter of interpretation.
- Future issues: carbon storage technologies: carbon being stored into the land which migrate laterally into adjoining land – will this constitute trespass? Some legislative provisions.

Greenhouse Gas Geological Sequestration Act 2008 (Vic)/Greenhouse Gas Sequestration Act 2009 (Qld)

- ***Greenhouse Gas Geological Sequestration Act*** **2008 (Vic)** makes it clear in **s 14(1)** that '*The Crown owns all underground geological storage formations below the surface of any land in Victoria*.' and in **s 14 (2)** that '*The Crown is not liable to pay any compensation for any loss'* that this might cause.
- The ***Greenhouse Gas Act (Vic)*** creates ownership certainty and the legislation has been described as 'groundbreaking.' It is argued that it reduces perceived industry risk and lower transaction costs: see the discussion by T.J. Logan, 'Carbon Down Under - Lessons from Australia: Two Recommendations for Clarifying

Sub-surface Property Rights to Facilitate Onshore Geologic Carbon Sequestration' (2010) 11 *San Diego International Law Journal* 561 at 580 (Materials Reading 5).

- The scope of the definition in the Act covers 'underground geologic storage formation. This is not defined although the regulations (Reg 16) requires any discover of 'geo-scientific properties' of sub-surface storage 'discovery' to be given to the Minister to ensure that the portfolio of titles is accumulating.
- See also ***Offshore Petroleum and Greenhouse Gas Storage Act 2010 (Vic)*** which covers offshore geologic storage and which vests ownership of underground geologic formation in the Crown (per **s 65**)

The proprietary status of mining tenements

- Ownership of minerals and petroleum gives the state government the power to issue resource titles/mining tenements to third party mining proponents.
- Mining tenements are statutory creations.
    - They derive all their rights and interests from the statutory provisions that support them.
    - In most states, statutory mining tenements will confer upon the holder all ancillary rights necessary to support the activity for which the title is issued.
    - Hence, an exploratory title will include rights to drill and construct appropriate exploratory equipment and structure.
    - A production title on the other hand will include rights to access the land, rights to drill and extract the mineral, as well as rights to construct appropriate production operations.
- In most states, a statutory mining or petroleum title has either been statutorily define or judicially interpreted to constitute personal rather than real property, although the exact nature and status of the interest and the rights conferred will depend upon the particular provisions of legislation.
- The ***Personal Property Securities Act 2009*** **(Cth)** (the PPSA) applies to all security interests in personal property in Australia. Personal property is defined under the PPSA to include any kind of property other than land, fixtures water rights, and certain statutory rights but significantly, it does not include resource titles.
    - It will, however, include the minerals and hydrocarbons that are extracted pursuant to a resource title as well as any income derived from dealing with those titles.
- Nature and scope of a resource title issued under the ***Mining Act 1978*** **(WA)** was examined by the WA Supreme Court in ***Commissioner of State Revenue v Oz Minerals***.

Commissioner of State Revenue v Oz Minerals

Facts

- Here, the Court interpreted **s 76(1)** of the Act, which sets out that an application for a mining lease that includes a portion of land already contained in a current mining tenement held by a person other than the applicant will be taken not to include the said portion of land.

Held

- During the course of the judgment, Murphy JA adopted a broad approach to the interpretation of the proprietary status of the 'tenement' as referred to in **s 76(1)**.
- His Honour held that the term was equivalent to the *notion of property capable of being held in freehold*'.
- His Honour stated:
    - *The word 'tenement' in the phrase 'tenement, right or interest' in the chapeau in par (c) of the definition of 'mining tenement' in **s 76(1)** of the Act, conveys the notion of any property capable of being held in freehold which is connected with land, including a tenure of a strata or seam of minerals as well as any incorporeal hereditament involving the right to dig and carry away minerals.*

- Proprietary status of a mining tenement in WA has a significant history.
- **S 273** of the ***Mining Act 1904*** **(WA)** expressly defined all mining tenements to constitute 'chattel interests'.
    - This phrase was subsequently judicially defined as a reference to personal property by the HC in ***Adamson v Hayes*** (1973)**.**
- These provisions reflect the tendency to characterize a mining lease as a 'sale of the mineral extracted rather than as a demise of the land from which they were taken'.

- There are no equivalent provisions in the subsequent 1978 Act.
- Despite this, various provisions suggest that the lease constitutes personalty.
    - **S 85** of the ***Mining Act 1978*** **(WA)** describes the rights conferred by a mining lease as 'exclusive rights for mining purposes' in relation to the land over which the mining lease was granted.
    - **S 85(b)** also expressly confers a right upon the holder of a mining licence to take and remove all minerals lawfully from that land, subject to the Act and any conditions to which the mining lease is subject.
- Conferral of such exclusive rights has been judicially interpreted to be directed at the prevention of others carrying out mining activities on land which is the subject of the mining lease rather than evidence of an intention to create an interest in real property.
    - Further, **s 114** allows the holder of a mining tenement which expires, is surrendered, or forfeited to remove mining plant whether that plant is affixed to the land or not.
    - **S 119** allows mining tenements to be sold or disposed of an to be the subject of legal and equitable interests provided the dispositions are effected by a signed written instrument.
- In ***TEC Desert Pty td v Commissioner of State Revenue***, the HC held that the exercise of equitable jurisdiction with respect to mining tenements issued under the ***Mining Act 1978*** **(WA)** '*is not necessarily indicative of the character of those tenements as interest in realty rather than as personalty*'.
- In ***Hancock Prospecting Pty Ltd v Wright Prospecting Pty Ltd*** the Court concluded that if a mining lease under the ***Mining Act 1978*** did not give rise to an estate or interest in land, '*it must be the case, by parity of reasoning, that an exploration licence granted under the* ***Mining Act 1978*** *(an interest which permits the holder to conduct exploratory activities prior to full production and extraction) also fails to confer an estate or interest in land*'.
    - McLure P held that the exploration licences constitute property, but are not land or an interest in land and are not choses in possession, but are legal choses in action.

Royal Minerals: Gold and Silver

- Legislation in all states of Australia vests the ownership of minerals in the Crown.
- This means that ownership of 'surface' land, ownership of minerals and ownership of 'sub-surface storage' are regarded as separate forms of ownership.
- Ownership of gold and silver vest in the Crown pursuant to the royal prerogative rather than a statutory vesting provision.
- The right in the Crown to mines of gold and silver was judicially recognised in the ***Case of Mines*** **(1568)**
    - The right was classified in Hale's scheme of the prerogatives as *Census Regalis* ("of the King's Revenue")
- In ***Case of Mines***:
    - the judges held by a majority, that 'all ores or mines of copper … containing or bearing gold or silver, belong to the King.
    - The judges went on to hold that this prerogative right was an incident which was inseparable from the Crown and therefore could not be granted or severed from it by the use of express words.
    - **Rationale**: The excellence of the monarch's person, which '*draws to it things of an excellent nature*', the need for the Crown to obtain sufficient funds to finance such vital areas as defence and the royal right to control coinage.
    - The Court also held that the assertion of the prerogative over gold and silver avoided the undue concentration of financial power in the King's subjects.
    - Court concluded that the prerogative has now become a settled aprt of the common law of England
- Upheld in ***Woolley v Attorney-General of Victoria*** **(1877)**
    - *… it is perfectly clear that ever since that decision it has been settled law in England that the prerogative right of the Crown to gold and silver found in mines will not pass udner a grant of land from the Crown, unless by apt and precise words the intention of the Crown be expressed that it shall pass.* (***Woolley v AG of Victoria*** **(1877) 2 Ap Cas 163, 166**).

- The ***Case of Mines*** held that one of the fundamental incidents of the Crown prerogative was *'the liberty to dig and carry away the ores thereof, and with other such incidents thereto as are necessary to be used for the getting of the ore.*'
    - As such, the prerogative right of the Crown to gold and silver has, traditionally, included, incidental rights of access and extraction.
- The application of the prerogative to Australia was confirmed in in New South Wales in ***R v Wilson*** **(1874)** at 269-271 per Martin CJand in Victoria in ***Millar v Wildish*** **(1863)** at 43 per Molesworth J.
- Formal transfer of Crown power to colonial legislature.
    - See ***Federal Commissioner of Taxation v Official Liquidator of E O Farley Ltd*** **(1940) 63 CLR 278 at 322** per Evatt J: '*as a general rule" prerogatives which partook of the nature of proprietary rights and which before federation had been exercisable by the executive governments of the colonies were exercisable by the executives of the various States*'-
        - Royal prerogative applied automatically to Crown lands.
        - Applied to private lands only where the right to the minerals was expressly reserved in the Crown grant.
- NSW Legislation now makes it clear that the Crown has the power to issue a mining licence and that the scope of the royal prerogative is not affected: **Mining Act 1992 (NSW), s379;**
- NSW preserves A distinction is drawn between a publicly owned mineral (a mineral that is owned or reserved by the Crown and a privately owned mineral (a mineral that is not owned or reserved by the Crown)
- VIC legislation simply vests all minerals in the Crown (unless they are subject to a mineral exemption): ***Mineral Resources (Sustainable Development) Act*** **1990 (Vic), s 9**.
- NSW: ***Mining Act 1992***: abrogates Crowns right of entry for the purpose of exercising prerogative rights (gold and silver)
- ***Cadia Holdings Pty Ltd v State of New South Wales***: per FrenCh CJ at [50]-[51]:
    - *'The right of entry, while a logical incident of the prerogative right, is not a necessary condition of its existence …*
    - *The existence of the right, whether it be characterized in terms of sovereign authority to deal with the mines or beneficial ownership of them, is unaffected by the Crown's inability to enter, without a relevant authority, the land in which they are located.'*
- The fact that the mine in ***Cadia*** was a copper and a gold mine did not preclude it from being utilised.
- Gummow, Hayne, Heydon and Crennan JJ at [104]:
    - *'The proprietor of any mine in which there was copper might hold and work the mine notwithstanding that the mine might be claimed to be a royal mine.'*
- Majority concluded that copper was a private mineral because royal prerogative had been 'abridged' by the public/private distinction in NSW by the time the mine created on Cadia's land.

Cadia Holdings Pty Ltd v State of NSW **(2010)**

Facts

- Dealt with royalties that were payable to NSW by Cadia Holdings (Cadia) with respect to copper that had been mined.
- Cadia owned the land but it was subject to the 'reservations and conditions' contained in the Crown grants.
- The Crown grants had been issued between 1852 and 1881.
- Only one of the grants reserved 'all gold and mines of gold' to the Crown and there was no express reservation of copper the Crown in any of the grants.
- Cadia were the recipients of four resource titles, issued pursuant to the ***Mining Act 1992*** **(NSW).**
- Cadia recovered both iron ore and copper from two of the mines.
- Copper was often combined with gold which was not able to be mined separately.
- Weight of copper exceed that of gold, but value of gold exceeded that of copper.

Issue

- Whether the copper which was mined could be characterized as a privately owned mineral having been conveyed to the grantee at the time of the original freehold grants.

Held

- At first instance, the Supreme Court held that Cadia coulr recover the royalties because, on the facts, copper came within the definition of a mineral under the ***Mining Act 1992*** **(NSW)** and could thus be treated as privately owned.
- State appealed successfully to the **Court of Appeal**.
    - Majority held that the royal prerogative had not been modified and continued to apply to an indivisible ore mineral, and this mineral included copper.
    - This meant that the intermingled copper could not, per se, be treated as a mineral capable of being privately owned and that it did come within the scope of the royal prerogative so there was no obligation to pay the royalties.
- Upon appeal to the HC, French CJ reviewed the ongoing validity of the royal prerogative to royal minerals.
    - His Honour held that at the time of colonization, NSW inherited a modified royal prerogative.
    - The rights of the Crown to intermingled copper had, however, been conveyed pursuant to Crown grants which had been issued in the mid-nineteenth century.
    - This meant that on the facts, copper did constitute a privately owned mineral and royalties need to be repaid.
- His Honour further held that the broad prohibition against mining by any person without relevant authority, as contained in the ***Mining Act 1992*** **(NSW),** precluded the historical right of entry that accompanied the royal prerogative but did not abolish it altogether.
    - The inability of the Crown to enter land without authority should not be regarded as denying the 'existence of the prerogative'.

Following the decision in ***Cadia***, the status of royal prerogative in Australia may now be summarised as:

- The Crown retains ownership of gold and silver by way of royal prerogative which endures despite the statutory preclusion of a right of entry.
- A grant of freehold in land will not convey the gold and silver that may be contained within the land to the grantee unless the rights to these royal resources are expressly conferred.
- A grant of freehold in land will convey the copper, tin, lead or other base metals that may be contained within that land to the grantee unless the ownership of such metals has been expressly reserved to the state or territory in accordance with specific legislative provisions.
- The royal prerogative over gold and silver may only be modified or abrogated expressly or where implication is clear and, in the circumstances, necessary.

Division of land and resources: Overlapping tenures

- The different forms of ownership recognised in the subsurface region can generate competition between overlapping entitlements.
- Rights of the surface estate owner to subsurface strata may coalesce with a range of different resource titles that include rights to extract coal or gas, rights to inject carbon in subsurface reservoirs, and rights to lay pipelines for the transportation of gas.
- In most cases, the separate resource and injection entitlements are reconciled by statutory provisions that establish regimes for prioritizing rights and regulating interference.
- Common law doctrine of fixtures is also relevant in such context.
    - Has application in circumstances where pipelines are being laid in the land.
    - In this situation, the holder of a pipeline licence has a right to lay the pipelines, although the pipelines themselves, once affixed, may be treated as a component of the land.
- In this way, the doctrine of fixtures deems an object that is affixed to the subsurface strata of the land to lose its independent property identity and henceforth become a part of the ownership rights of the surface estate owner.
    - Important to determine what land the attached fixture relates to.

- Issue explore by the Supreme Court in WA in ***Re Epic Energy (WA) One Pty Ltd v Commissioner of State Revenue*** **(2011)**.
    - In this case, the WA Court of Appeal dismissed an appeal by the taxpayer and held that the land for the purposes of the landholder provisions of the former ***Stamp Act 1921*** **(WA)** included a taxpayer's beneficial entitlement to land and beneficial entitlement to pipelines fixed to the land.
    - McClure J concluded the **s 76AP(2)(a) of the *Stamp ct*** specifies that land to which a corporation is beneficially entitled includes land situated in WA of which the corporation is a co-owner of the freehold or of a lesser estate in the land.
    - This in conjunction is the definition of land in s 76(1) (*A thing fixed to land will not be and will not purport to be, the subject of ownership separate from the ownership of the land, unless te source of derivation of the actual ownership is separate from all estate and interests created in the land in question*) make it clear that Pt IIIBA applies to all of the multiplicity of estates and interests that may be created in land at common law, equity or by statute.
    - Therefore, held that an easement was sufficient to attract the application of **s 76AP(2).**
    - However, the Court found that a pipeline licence did not constitute an interest in land because it was a statutory entitlement and therefore did not come within the definition of land in **s 76(1)**.

Land access and compensation

- Gold and Silver are 'royal minerals'
- By royal prerogative, upheld by common law, they remain the property of the Crown despite a Crown grant *unless* they are expressly conveyed
- Royal prerogative may apply to 'mixed' mines eg gold/copper as in Cadia
- The right of entry was found to be a 'logical incident' of the prerogative but not a 'necessary condition of its existence' and hence, the inability of the Crown to enter land without authority should not be regarded as denying the 'existence of the prerogative'
- NSW: Post 1824 most Crown grants reserve minerals in the Crown
- NSW: Pre 1824 most Crown grants did not reserve minerals in the Crown.
- NSW: If no reservation, grantee could reserve.
- Subsequent legislation mandated reservations:
    - see **Crown Lands Act 1989 (NSW), s171** – sale, lease, or disposal of land does not include any minerals in the land.
- **Coal Acquisition Act 1981 (NSW)** vests all coal in the Crown
- **Petroleum (Onshore) Act 1991 (NSW), s 6** vests petroleum, helium, or carbon dioxide, in a natural state, on or below any land, to be the property of the Crown and to have been so always.
- Petroluem is defined in **s 3** to include any naturally occurring hydro-carbon, whether in a gaseous, liquid or solid state but not coal, oil or shale which is defined as a mineral under the *Mining Act* 1992 (NSW).
- Definition of hydro-carbon includes coal seam gas.
- **Summary**: Statutory vesting provisions confer ownership to valuable mineral resources such as coal, petroleum and coal seam gas in the Crown.
- This represents a qualification to the common law ownership rights that private owners may have in the land and the sub-surface strata.
- The capacity of statute to qualify the scope of common law land ownership is well established.
- Statute vests resources in the Crown and this constitutes a 're-vesting' of ownership rather than the creation of any new statutory interest:
    - See esp K. Gray, 'Regulatory Property' (2010) 32(2) Sydney Law Review 237 at 245 noting that the 'conceptual apparatus of private property' has been 'reconfigured' to accommodate 'regulatory property' which is a necessary correlative of statutory property.'

Ownership of renewable resources: Hydro-electricity, geothermal, solar, and wind

- Non-renewable, fossil fuel energy sources, such as coal and gas, have a significant advantage over wind and solar energy because their physical characteristics make them more susceptible to private ownership and control.
- It is not feasible to impose ownership rights upon emancipated resources such as wind and solar, which lack any tangible or defined presence.
- By contrast, ownership rights in water, which may constitute a source of renewable energy through its usage in hydro-electricity or via its geothermal capacities, is crucial to the functionality of renewable industries dependent upon this resource.

Hydro-electrical power

- Constitutes the production of electricity through the use of the gravitational force of falling or flowing water.

Geothermal energy

- Is essentially derived from the heat underneath the earth

Ownership of water in Australia

- Common law ownership rights incorporate not only rights to the drops constituting the body of water, but rights to the actual flow of water, measured according to its quality, velocity, and level.
- Common law usufructuary right (the right to use or enjoy) - riparian ownership of water adjacent to possessed land.
    - Riparian form of water ownership was inextricably connected to land ownership, as ownership rights to water in a stream could be upheld where a person retained ownership of the banks of the stream.
- The statutory schemes that evolved in Australia better equipped to consider physical and socio-cultural landscape of Australia and different climactic, ecological and hydrological conditions.
- No riparian ownership - water management is vested in the Crown.
    - Eg: ***Water Act* 1989 (Vic), s 7**; ***Water Management Act* 2000 (NSW), ss 392-393**.
    - Such provisions divested riparian owners of their common law entitlements and replaced them with qualified, statutory rights.
- Rights to water separate from ownership of land.
    - Unlike common law entitlements, statutory water entitlements do not depend upon the hold proving ownership of adjacent land. Successful applicants acquire a conditional entitlement conferring a right to access and use specified rivers and/or lakes for a prescribed period of time in accordance with defined terms and conditions.
- Under the National Water Initiative, statutory water entitlements (licences) may be traded.
    - For a transfer to be effective it must be conducted in accordance with the terms and conditions of the specific legislative provisions. Common requirements include ministerial approval, the recording of obligations on title and the introduction of specific provisions, qualifying the range of appropriate transferees.
- Water entitlements in the Murray Darling Basin governed by the ***Water Act* 2007 (Cth)**.
    - The Murray Darling Basin Plan imposes sustainable limits on the quantity of water that may be taken.
- Trading on entitlements in the Murray Darling must not increase water commitments already granted:
    - See **Schedule 3, *Water Act* 2007 (Cth)**
- Most hydro-electric projects operate pursuant to an issued water licence.
- Also relevant to geothermal energy; however, unlike hydro-electricity, geothermal water resides in the subsurface in underground aquifers.

Solar and wind power

- Solar provides 0.1 % of global electricity and wind power generates 1.4%.
- These rates are increasing with increasing focus on renewable energy sources

- Wind and sun are clean, emitting no pollutants and are essentially never-ending.
- Modern electrical system is predicated on the use of fossil fuels: coalmines, gas-fields, railroads, pipelines ships which are established
- New transmission lines must be built to transport wind/solar energy.
- International Energy agency predicts that by 2035, wind and solar may be producing 10% of global electricity.
- Subsidies required: Denmark get 18% of energy from wind
- For the foreseeable future wind and solar will supplement rather than supplant conventional energy sources.
- The creation of electric energy via wind/solar is regulated in Victoria pursuant to the ***Electricity Industry Act* 2000.**
- This Act regulates the creation of electricity and requires applicants to seek a licence: **s 18**
- (Australian Energy Market Commission (set up in SA and confirmed in ***Australian Energy Market Act* 2004 (Cth)** which confirms a National Energy Retail law.

Australian energy regulator

- The AER Regulates energy markets and networks under national energy market legislation and rules.
- It applies mostly to energy markets in Eastern Australia and South Australia
- Sets prices charged for using energy networks (poles, wires and gas pipelines) to transfer energy to customers
- Monitors wholesale electricity and gas markets to ensure supplies comply with regulations
- Regulates retail energy markets in: ACT, SA, Tas and NSW (enforcing compliance with retail legislation, authorising retailers to sell energy, approving retail policies, reporting on retail performance, educating consumers about energy rights
- Publishing information
- Assisting the ACCC with energy related issues arising under the ACCC – (See National Gas Laws)