

Water Regulation: Separate Regulatory Body with Licensing Regime

Full Description

Summary

Under this model, an agency separate from the water service providers issues licenses to them and sets the terms of supply. Traditionally used to regulate private providers (such as in England and Wales and the United States), it features increasingly in the regulation of public service providers (such as some states in Australia and the United States). Regulatory agencies may be at national or regional levels (as in England and in the United States and Australia, respectively) or they may be local.

In some countries the regulatory agency is made autonomous from national or local government to distance it from political interference and influence. In each case, the regulator has been established as an independent authority or commission by statute, with commissioners appointed for long terms (between five and seven years) and financed out of tariffs.

Their functions, clearly set out in statute, cover the setting and monitoring of tariffs and standards, the collection of data on financial and operational performance, and the handling of consumer complaints. Their mandates have evolved since they were established and increasingly require consultation with consumer groups. In particular, the Water Services Regulation Authority of England and Wales, known as OFWAT (the Office of Water Services), uses extensive benchmarking of water companies to compare performance, the results of which are widely circulated.

The regulators have broad powers—also derived from statute and supported by licenses they issue to the utilities—to impose penalties or sanctions and give incentives and to require disclosure of data and other information. In some cases, they have the power to resolve disputes regarding contracts entered into by the utilities with third parties (for instance, the bulk supply arrangements entered into by water companies in England).

Each regulator carries out price reviews periodically (in Australia and England, usually every five years; in the United States, more frequently). Their decisions can be challenged in court (although England provides an appeal mechanism via the UK Competition Commission, the use of which can be complicated). In each case, an agency responsible for monitoring water quality and enforcing environmental standards is separate from the agency or agencies responsible for water sector policy. The regulators coordinate with these agencies to ensure utilities have the funds to cover planned and mandated investments and improvements.

The regulator in England and Wales is at the national level, but it is a relatively small jurisdiction. The commissions in Australia and the United States are at the state level and are mostly multi-sector regulators, with specialists for each sector. The state commissions are relatively close to their constituents, but a lack of uniformity among them is cause for concern in both countries, and policymakers and other stakeholders in each have called for coordination at the national level of service standards and tariffs.

Tariff-setting methodology in England and Wales is based on a price cap that allows utilities to retain efficiency gains as long as fee limits are not exceeded. By contrast, the approach taken in the United States is to apply a rate base/rate-of-return methodology, whereby estimates are made of the value of assets on which a return can be earned (the rate base), the authorized (but not guaranteed) rate of return to recover capital costs, and the allowable operating expenses for the utility. Once the utility's total revenue requirements are established, the commission approves the tariffs that can be charged to various classes of customers. As underperforming utilities will not earn their authorized returns, the system gives them some incentive to achieve efficiencies. The gains achieved from cost savings are generally allocated to the consumers,

however, so the incentive is limited. Some state commissions in the United States are moving toward performance-based regulation in the energy sector and have established it in the telecommunications sector. Some NGOs and policymakers have called for this to be replicated in the water sector.

In England and Wales, responsibility for water supply and sanitation provision was aggregated in the 1970s into ten regional bodies established along river basin lines, which in turn were corporatized and privatized. It was at this juncture that economic regulation was introduced by statute. In the United States, the water sector is very fragmented, and little attempt has been made to aggregate responsibility or create policy to promote efficiency and economies of scale.

This table summarizes the advantages and disadvantages of having a separate regulatory agency with a licensing regime.

Table of Advantages and Disadvantages

Separate Regulatory Agency with Licensing Regime

Advantages	Disadvantages
Strong independent regulator free from political influence	Some argue some political interference still exists
Functions and powers established clearly by statute	
Good coordination between policy and regulatory agencies, with generally well-defined and distinct functions	Regulation comes at a cost. Reviews and reports require time and resources on the part of regulator and companies
Consistency in setting tariffs and measuring performance (particularly in England and Wales, with a national regulator), significant improvement in performance, and significant private sector investment	Monopoly of companies makes it difficult to change
Economies of scale with service providers of significant size in England and Wales. Aggregation of service providers along river basin was implemented in England in 1973 prior to privatization and introduction of regulation (1990).	U.S. system is fragmented, with little aggregation serving as a catalyst to aggregation.
Most license provisions standardized	
General consistency in enforcement of obligations	
Flexibility in that licenses can be amended by agreement	
License with penalties and incentives, with ultimate sanction of termination	

Accountability through courts

Extensive obligations for disclosure of information

Extensive use and publication of benchmarking of performance
(England)

Consistency of regulation, with regulators in England and Australia
regulating almost all service providers

Inconsistency occurs where regulation is not in place. In the United States, regulation is more piecemeal (with some public providers).

Examples

England and Wales

The best known example of a system with a national independent economic regulator is in England and Wales, one of the few jurisdictions where the water sector has been fully privatized.

History

Traditionally, municipalities in England and Wales were responsible for water and sanitation services. In the early 1970s the sector was fragmented, with 200 public water supply entities (down from 1,200 in the 1950s), 29 private water supply entities, and almost 1,400 public sewerage authorities. In 1973, in a move to aggregate the sector, ten regional water authorities (RWAs) were created, based on river basins. These authorities were responsible not only for water resource management but for the provision of water and sanitation services.

In 1971, the UK government announced its intention to reorganize the sector, to take effect with a local government and public health reorganization on April 1, 1974. Following extensive consultations carried out during 1972, the legislation was drafted and debated during the course of 1973 and passed in Parliament within six months. The schedule for reform was constrained to fit timetables for the reorganization, leaving just nine months between enactment and implementation. The structure for aggregation was established and implemented at the national level, but each of the RWAs had to establish its own operational and financial structures, according to its specific needs. Government provided invaluable support during the implementation period through working committees, which offered guidance on management structures, staffing, and economic and financial issues. Shadow RWAs were created before they were officially established under the legislation to allow for a transition period.

The transfer of assets to the RWAs was an internal budgetary exercise for the public sector, so no compensation was paid to local authorities. Local authorities initially held a majority of the seats on the boards of the new RWAs. The private statutory water companies, which provided water to 25 percent of the population, escaped reorganization and were left to operate as before. Although cost efficiencies were achieved and tariffs increased significantly, the UK government determined further commercialization was needed. As part of this effort, the Water Act of 1983 reduced the number of board members of the water authorities. It also eliminated the local government representation on the boards, however, and required that all members be appointed by ministers, thus further centralizing the sector.

In 1989, the regional water authorities were privatized and their original tasks split. Water resource management became the responsibility of the newly created National River Authority, a public entity that

was replaced by the Environmental Agency in the mid-1990s. Newly created water and sewerage companies (WASCs) became responsible for water and sanitation services. WASCs are both asset holders and providers, and they assume all the risks of private companies. Subject to some recent limited initiatives to increase competition in the sector, each of the ten WASCs has a regional monopoly over services according to boundaries (“appointment areas”) that were fixed during privatization. Each serves between 1.2 million and 8.5 million customers.

In addition, eleven private companies provide water services only (water only companies, or WOCs), with the sanitation services provided by the relevant WASC(s) for that area of appointment. The WOCs serve anywhere from 2,000 to 3.1 million customers. Most have always been in private ownership, and their status was not affected by the aggregation when the regional water authorities were created.[\[1\]](#)

Regulatory Functions

The WASCs and WOCs operate under significant constraints imposed by several national regulators. The Water Services Regulation Authority (OFWAT) is the economic regulator of the water sector. It is an independent agency with an independently appointed board and is funded out of tariffs.

The relationship between the water companies and OFWAT is established in law and through licenses to provide water and sanitation services in specified appointment areas. While the licenses held by the WASCs and WOCs can differ, service standards vary little in practice. OFWAT requires licensees to provide large amounts of data and audited regulatory accounts (different from the statutory accounts the companies are required to file under company law). Tariff reviews take place periodically—currently every five years—and require significant resources from both the companies and OFWAT. OFWAT is funded from the tariffs charged to customers and so has budgetary independence from the UK government.

While the water companies are monopolies, adjustments to the system and performance requirements are sometimes needed, and OFWAT has the right to introduce changes to the licenses from time to time to accommodate them. (These require the consent of the water companies, but in practice they can prove difficult to resist.) OFWAT ensures the licensed water companies carry out their functions and are able to finance them properly. It also protects the interests of customers and potential customers of the appointed companies with respect to charges, quality of service, and terms of provision, carries out revision of price limits, and monitors the compliance of the companies with the licenses issued. It approves the codes of practice of the regulated companies and encourages competition where it benefits consumers.[\[2\]](#)

OFWAT’s tariff review methodology is based on a form of price capping, which effectively allows regulated utilities to retain efficiency gains as long as price limits are not exceeded. Most households pay on a fixed fee rather than a volumetric basis, as meters are still relatively uncommon in England and Wales, although an investment campaign is underway to install them.

In regulating performance of the water companies, OFWAT heavily emphasizes benchmarking, and it has argued on a number of occasions when water utilities have sought to merge (that is, aggregate) that it needed a minimum number of comparably sized water companies to benchmark effectively. It also devotes significant resources to data collection, and, as mentioned, the water companies are obliged to provide regulatory accounts periodically to the regulator.

The role of OFWAT has evolved over the years, with more and more emphasis placed on consumer consultation and encouraging competition. While OFWAT recognizes the significant private investments in the sector and the importance of maintaining the status quo and providing consistency in regulation to give the financial markets confidence, it has sought to introduce checks and balances to ensure water companies do not abuse their monopoly position. Users actively participate in the regulation process through ten consumer councils for water, which are recognized by law and in direct contact with both the water companies and OFWAT and are bound by the Water Act of 2003 to cooperate and exchange information with OFWAT (and vice versa). Councils deal with consumer complaints and so play an important role in

supporting OFWAT's monitoring of water companies. Although the companies are still monopolies, competition is encouraged horizontally through the concept of common carriage, which requires them to provide access to their pipe networks to other providers and, through the right of licensed water providers, to compete with appointed water companies to serve large customers in those areas. OFWAT also encourages vertical competition through outsourcing of services by water companies to third parties. It provides incentives through the price review process to institutional investors to invest in the water companies while looking to professional operators to operate the assets, thus creating a trend toward separation of asset holding from operations.

A number of other national bodies, listed below, are responsible for oversight and regulation of other aspects of the water sector, and OFWAT needs to coordinate with them—for instance, by allowing water companies to raise sufficient funds to cover the cost of new environmental requirements placed on them.

- *The Department for Environment, Food, and Rural Affairs* is responsible for setting the overall water and sewerage policy framework in England; this includes setting standards, drafting legislation, and creating special permits (for example, drought orders). In Wales, the *Welsh Assembly Government* carries out these functions.
- *The Environment Agency* is responsible for environmental regulation, pollution control, management of water resources and fisheries, flood defense, conservation, and recreation.
- *The Drinking Water Inspectorate* monitors compliance of water companies with their obligation to maintain drinking water quality standards.
- *The Consumer Council for Water* represents consumers within the water and sewerage sectors. The council also investigates consumer complaints that have not been resolved by the companies.

Enforcement, Sanctions, and Accountability

OFWAT and the Environment Agency have powers to impose sanctions enshrined in law and in the licenses. OFWAT also has the ultimate sanction of terminating an appointment if a company commits an egregious breach of its license obligations. While this sanction is largely theoretical and has not been exercised in the water industry, a similar provision in the rail industry was once exercised by the rail regulator against a privatized railway asset holder.

OFWAT can also offer incentives for the water companies to perform well; these tend to be in the form of advantages given in the next price review. The water companies have been criticized for insufficient investment in assets, particularly the aging pipe networks (for both water and sewerage). Furthermore, in the early days following privatization, some of the water companies allegedly took advantage of the young regulatory agency and nascent data-gathering mechanisms to exploit the system and achieve very high returns (for which they were subsequently penalized by a new government). After ten years or so, OFWAT developed the capacity to monitor performance and assess tariff levels more accurately and effectively.

OFWAT is held accountable for its price determinations through appeals to the Competition Commission and for other decisions through judicial review. These are both relatively difficult processes for the private operators, as an appeal to the Competition Commission implies a review of the whole decision. This means the commission can open up aspects of the determination with which the company was comfortable—a threat that has resulted in appeals being rare. Judicial review also imposes a significant burden of proof on the plaintiff; the water company would have to be able to prove that OFWAT's decision was highly unreasonable.

Maintaining transparency of the water companies and keeping them accountable is a very extensive and sophisticated process. OFWAT has extensive powers of data gathering, and water companies are heavily obligated to provide data. Benchmarking of the companies' performance and publication of the results by OFWAT are also extensive, as are the opportunities for consultation of consumers and the public, which are enshrined in law.

The advantages and disadvantages of the OFWAT model (separate regulatory agency with a licensing regime) are listed in table A.1.

Table A.1 Advantages and Disadvantages of the OFWAT Model

Advantages	Disadvantages
Strong, independent regulator free from political influence	Some decisions over the years have been so achieving effective independence has
Good coordination between policy and regulatory agencies, with generally well-defined and distinct functions	Regulation comes at a cost—periodic re- accounting require time and resources of companies.
National consistency in tariff setting and performance measurement and significant improvement in performance and private sector investment	
Aggregation of services already achieved (before privatization) along river basins	
Most license provisions standardized	
General consistency in enforcement of obligations	
Flexible system, with licenses amendable by agreement	Monopoly position of companies makes competition, and the water companies ju newcomers into the market by arguing th the sector and so should continue to enjo
Capacity for using sanctions and incentives provided by license, with ultimate sanction of termination	Accountability of OFWAT through appo Commission and judicial review is not s
Extensive obligations for disclosure of information	
Extensive use and publication of benchmarking of performance	
Regulation by OFWAT of almost all (other than very small-scale) service providers	

Generally, the OFWAT model has worked well for England and Wales: as service delivery levels have increased, non-revenue water levels have decreased significantly, and investment in aging infrastructure has also been significant. Tariff levels increased markedly at first, leading to a general view that, in the early

years of regulation, OFWAT did not have the experience or, indeed, the symmetry of information necessary to ensure the operators did not profit disproportionately. After two price review periods, however, OFWAT had gained the expertise and capacity to provide oversight, and the situation was more balanced.

While the OFWAT model may not be fully applicable to the Philippines, where water providers are more numerous and fragmentation worse, the accumulated expertise in the United Kingdom on the methodology of economic regulation and on performance benchmarking between water utilities may prove useful. Also useful is the example set by a truly independent regulator that is helping the sector to improve performance and efficiency.

[1]See <http://www.ofwat.gov.uk/industryoverview/today/watercompanies>.

[2]See <http://www.ofwat.gov.uk/aboutofwat/whatwedo>.

United States

The United States water sector is very fragmented, which may provide some comparison with the sector in the Philippines. The United States is a federal country in which water service provision is not a federal matter. Furthermore, the role of the courts in enforcing the rule of law and developing jurisprudence around principles such as fairness and reasonableness is a key factor in accountability of the regulatory agencies in the United States; this may be difficult to replicate quickly in the Philippines.

In the United States today, over 53,000 water systems serve more than 250 million American residents, which is about 1 system for every 4,700 people. Only 7 percent of the country's systems serve populations of over 10,000, and 1 percent serve populations of over 100,000. Most Americans are served by publicly owned water and sewer utilities, but 11 percent receive water from private (so-called "investor-owned") utilities. In rural areas, cooperatives often provide drinking water. Up to 15 percent of Americans are served by their own wells.

The water sector is under pressure, as a large proportion of the nation's water delivery infrastructure is estimated to be approaching the end of its life expectancy (EPA 2006). Some argue, however, that water tariffs often do not reflect the full cost of operations, and the need to replace and repair aging infrastructure is likely to require increases in rates. The fragmentation of the sector affects both service provision and water resources, and aggregation of some of these systems is increasingly seen as potentially beneficial.

Regulatory Framework

Regulation of water systems reflects the federal nature of the United States, with responsibility for governance shared between national and state governments. All community water systems are subject to regulation by state drinking water primacy agencies pursuant to the federal Safe Drinking Water Act of 1974. Systems must, at a minimum, meet federal standards, but states can impose additional standards. States have primacy with respect to water quantity regulation, including regulation of withdrawals and diversions. Interstate, state, and regional authorities can also exert significant influence. Examples include the Delaware and Potomac River Basin commissions (formed under interstate compacts) and the Florida water management districts (intrastate). The imposition of quantity and quality regulations should not depend on ownership—that is, enforcement and permitting processes should apply equally to all types of systems.

Most responsibilities for daily operations of water utility systems are held at the municipal or community level. The main responsibility of the utility is to supply water of an acceptable quantity and quality, under constant pressure, at all times. Water utility managers must consider issues of public health and safety, pricing, employee training and relations, customer service, and public relations. A number of voluntary programs help water utilities improve distribution systems and produce water quality beyond the minimum

requirements established by law. These programs include accreditation standards, water safety plans, and personnel training.

Economic Regulation

Economic regulation in the United States focuses on the control of prices and profits of investor-owned utilities and is carried out at state level by public service or public utility commissions. Economic regulation by states is regarded as a substitute for competitive markets and public ownership, so it is generally limited to private water utilities, with public utilities (which serve most of the population) largely self-regulating. The theory is that accountability is assured for publicly owned monopolies through electoral and other public channels (namely, municipal governance). The city of San Francisco, for instance, is served by the San Francisco Public Utilities Commission, which is actually the water and sanitation department of the city and county of San Francisco. It has a commission of five members who are nominated by the mayor and approved by the city's board of supervisors, and it reports to the city of San Francisco.

Economic regulation by public utility commissions, therefore, applies to virtually all privately owned water utilities. In only a few states have public utilities opted to be regulated by state commissions—for instance, the state of Maine has a public utility commission that regulates public service providers.^[1] In cases where the public utility or municipality has contracted with the private sector for service provision, the arrangement is typically monitored by the utility as a form of regulation by contract. Commission jurisdiction over the different kinds of systems, and the scope of commission authority over different kinds of activities, vary substantially from state to state.

As of 1995,^[2] forty-six state commissions regulated approximately 8,750 water utilities, while twenty-eight regulated approximately 2,150 wastewater utilities. The commissions do not exercise uniform authority over all of the systems under their jurisdiction. Investor-owned water utilities are the most comprehensively regulated. In twenty-one states, jurisdiction extends to certain types of publicly owned or nonprofit utilities.

Many public utility commissions are multi-sector regulators, usually covering power and telecommunications as well as water. Most have a commissioner with a special expertise for each sector, but the other facilities and resources are shared. Some were established as multi-sector regulators, while others have acquired and lost jurisdiction over sectors over the years. An interesting example is the Florida Public Utility Commission, which was originally established in 1887 as the Florida Railway Commission and became responsible for water regulation in 1959. State public utility commissions in the United States apply a rate base/rate-of-return method of economic regulation, in which they consider the value of assets on which a return can be earned (the rate base), the authorized (but not guaranteed) rate of return to recover capital costs, and the allowable operating expenses for the utility. Once the utility's total revenue requirements are established, regulators approve the prices that can be charged to various classes of utility customers (the tariff). Various well-established standards of prudence and reasonableness are applied in the regulatory review process. A regulated company must operate within the parameters approved during its most recent tariff determination (rate case). During periods of rising costs, rate cases are often conducted annually. In between, the utility must operate in a manner that preserves its ability to recover costs and achieve its authorized return.

Some argue that the rate base/rate-of-return method can be a disincentive for efficiency and innovation because gains achieved by cost savings are generally allocated to ratepayers with subsequent rate adjustments. The system is not entirely without incentives, however, as underperforming utilities will not earn their authorized returns. Many state commissions in the United States are moving toward performance-based regulation for the energy sector, having already done so for telecommunications. With time, interest in performance-based regulation of water utilities will likely grow (for further discussion see Phillips (1993).

Economic regulation by the states offers certain advantages over other methods for overseeing utility monopolies, setting rates for service, and resolving conflicts. Most smaller cities do not have the expertise and resources that larger ones do. State commissions demonstrate economies of scale and scope in regulation when compared to decentralized oversight by local governments. Although their traditional policies are based

on rate base/rate-of-return methods, the commissions also have responded to the economic and technological changes affecting the utility industries, including emerging competition. Privatization through local “outsourcing” requires significant safeguards, without which local contracting and oversight can be prone to corrupt influences. State commissions can make politically unpopular decisions, and their regulation can be more flexible and less arbitrary than that imposed through legislative or judicial means. Some commentators argue that regulatory agencies should have additional responsibilities, such as resolving disputes for contractual agreements. In general, state regulation can be used to further various state policy goals, such as efficiency pricing, integrated resource planning, and universal service. The rate base/rate-of-return method can provide too much incentive for overinvestment and too little for cost control and innovation, but the regulated utilities are not facing the same level of underinvestment and need to find additional revenues now being faced by publicly owned, unregulated utilities.

Maine is an interesting case, as its public utility commission regulates public water utilities, private electricity providers (“competitive electricity providers”), telecommunications providers, gas providers, and ferry operators. It was established as an independent commission by statute and is financed out of tariffs, so it is self-standing. It has broad powers under section 104 of the Public Utility Commission Act:

"The provisions of this Title shall be interpreted and construed liberally to accomplish the purpose of this Title. The commission has all implied and inherent powers under this Title, which are necessary and proper to execute faithfully its express powers and functions specified in this Title."

The commission in Maine has the power to impose administrative penalties on both the private and public entities it is regulating. These are fines up to a maximum of US\$5,000 or 0.25 percent of gross revenue, whichever is lower, in an aggregate annual maximum of the lower of US\$500,000 or 5 percent of annual gross revenue. The team was unable to determine the extent to which this enforcement power had been applied in practice to the public water utilities.

A number of the public utility commissions provide mechanisms for the public and consumers to file complaints against utilities and provide alternative dispute resolution mechanisms.

Finally, decisions of the public utility commissions can be challenged in court, and consumers typically have a statutory right to be consulted on tariff reviews and other decisions.

Table summarizes the advantages and disadvantages of the U.S. model for water sector regulation.

Table Advantages and Disadvantages of the U.S. Model

Advantages

State-level regulator who oversees privately owned providers

Often multi-utility regulator, providing economies of scale

Disadvantages

No national guidance on tariff setting

Public providers with little or no oversight, leading to underinvestment and inconsistency in service provision

Little benchmarking of providers’ performance

Tariff setting with some incentives	No benefit to utility from increased efficiency, which limits incentives
Capacity and support unavailable at municipal level provided by presence of state regulator	Very fragmented sector with limited incentives for aggregation

[1] See Maine Public Utility Commission website at <http://www.maine.gov/mpuc>.

[2] Most recent data available.

Australia

The structure of the water sector in Australia is determined by specific necessities: the country suffers from water shortages and periodic droughts, and urban areas experience high rates of population growth—for instance, in 2009 the population of southeast Queensland was estimated to have increased by 33 percent over the previous twelve years. State governments still provide significant subsidies to the water sector.

Regulatory Framework

Australia is a federal country. Under its constitution, states are responsible for policymaking on water resources, although certain responsibilities are managed by government authorities at the federal level—for instance, the Ministry for Climate Change and Water is responsible for water policies. On some issues, states have agreed to take a national approach to water management; the regulation of the Murray-Darwin Basin, which crosses a number of state borders, is a good example. This approach was formalized in 2004 when the state governments, the local government authorities, and the commonwealth government signed an intergovernmental agreement through the Council of Australian Governments (CoAG) and created the National Water Initiative (NWI), a national forum for dealing with water issues. The goal of NWI is to achieve a nationally compatible market-, regulatory-, and planning-based system to manage surface and groundwater resources for rural and urban use that optimizes economic, social, and environmental outcomes. Under NWI, governments of Australian states have made commitments to do the following:

- Prepare water plans with provision for the environment
- Deal with overallocated or stressed water systems
- Introduce registers of water rights and standards for water accounting
- Expand the trade in water
- Improve pricing for water storage and delivery
- Meet and manage urban water demands

NWI is administered by the National Water Commission, which was established by the National Water Commission Act of 2004 and strengthened in 2011. The National Water Commission is responsible for driving progress toward the sustainable management and use of Australia's water resources under NWI. Established as an independent statutory body, it advises CoAG and the Australian government on national water issues and the progress of the initiative. It can make recommendations but has no power to compel action. NWI has called for the establishment of independent bodies to set or review prices. As noted below, a number of states, such as Victoria, already have such independent bodies for economic regulation. The Water Act of 2007 assigned the commission to audit the effectiveness of the implementation of the Murray-Darling Basin Plan and associated water resource plans. The commission also has an assessment role for National Partnership Payments, a task delegated to it by the CoAG Reform Council.

Economic Regulation in Australia

Approaches to economic regulation of the water sector vary among the Australian states and territories. In parts of Queensland and Tasmania, water services are provided by the local governments. Different municipal service providers and state bulk service providers cover large portions of South Wales, Victoria, and South East Queensland. In South Australia, Western Australia, and the Northern Territory, integrated state-level utilities are in charge of both bulk and retail water supply. There is very little competition in the water sector, and the providers generally act as monopolies. This makes regulation very important in Australia.

With economic regulation of urban water supply the responsibility of individual states and territories, a growing movement is underway to bring economic regulation of utilities to a national level (or at least an eastern seaboard level). The Water Services Association of Australia has called for independent price regulation at a national level using nationally consistent approaches and common principles (WSAA 2009), such as already is the case in the energy sector with the Australian Energy Regulator. Whether such reforms will be implemented is unclear.

State of Victoria

In the state of Victoria, the water sector is regulated by the following laws:

- The Water Act of 1989 regulates the allocation and management of the state's water resources and the responsibilities of most of its water businesses.
- The Water Industry Act of 1994 establishes a framework regulating three Melbourne water retailers.
- The Financial Management Act of 1994 allows the treasurer to issue financial reporting guidelines to public sector bodies, including water businesses.
- The Safe Drinking Water Act of 2003 requires water businesses to comply with standards for drinking water, disclose relevant water quality information, and so forth.
- The Essential Services Commission Act of 2001 covers economic regulation of essential services sectors, including the water sector.

In Victoria, the water sector is managed by nineteen state-owned businesses that report to the state's government^[1] and provide water and sanitation services to customers within their service areas. Ten catchment management authorities are responsible for coordinated catchment management in their regions, according to the Catchment and Land Protection Act of 1994. They are also responsible for the maintenance and improvement of river health and the minimization of flood risks and costs while preserving natural features of the floodplain (Victorian Government 2011).

Water businesses are state-owned companies that are responsible for their own management and performance. Each has a board of directors, which appoints a managing director responsible for day-to-day activities. The board reports regularly to the Victoria Minister for Water via the Victoria Department of Sustainability and Environment. The minister reports in turn to the state Parliament regarding the performance of each water business and is supported by the Office of Water, which is a part of the Department of Sustainability and Environment. The Office of Water is responsible for the following:

- Providing advice on policy, performance, and compliance
- Providing a link between the minister and each water company
- Reviewing annual reports, corporate plans, and other key documents
- Implementing government policies

The Department of Sustainability and Environment is headed by a secretary whose responsibility is to provide a link between the minister and the Office of Water. Water issues are directly regulated by five key units:

- *The Sustainable Water, Environment, and Innovation Division* manages the policy and investment framework with respect to improving the state of Victoria's rivers, floodplains, and estuaries.

- *The Water Entitlements and Strategies Division* is responsible for water resource policy issues, issues related to licensing, and water register and irrigation programs.
- *The Policy Division* is responsible for developing a comprehensive water policy for Victoria and conducting market analysis and analysis of trading, pricing, and industry regulation.
- *The Water Industry Division* is responsible for oversight of issues related to implementation of water policies, strategies, and programs in the sector.
- *An intergovernmental group* coordinates different governmental bodies responsible for water issues.

Economic regulation is carried out by the Victoria Essential Services Commission (ESC). An independent multi-sector regulator of Victoria's prescribed essential utility services supplied by the electricity, gas, port, and rail freight industries, the commission commenced operations on January 1, 2002. In January 2004, its role was extended to include regulation of Victoria's water and sewerage services.

The commission was established by the Essential Services Commission Act, passed by the Victoria Parliament in 2001. It has superseded the Office of the Regulator-General, on whose regulatory foundation its work builds. The commission promotes the community's interests by making regulatory arrangements for the continued oversight of Victoria's essential services sector. Its role encompasses regulation of prices as well as monitoring of service standards and market conduct. Its relationship with the different water operators is through licenses, the fees from which provide its funding.

The commission is a corporate body and is independent, according to section 12 of 2001 act: "Subject to the provisions of the Act and any other act, the Commission is not subject to the direction or control of the Minister." The chair of the commission is appointed by the governor in council (the head of state of Victoria) for a five-year term and can only be removed early from office if both houses of the state Parliament declare it should happen (section 19). The governor in council may also appoint additional commissioners.

ESC carries out price reviews every five years. It is responsible for regulating prices for regulated water and sewerage services provided by Victoria water businesses. It also publishes codes and guidelines that set performance indicators and standards for water businesses and establish the terms of the licenses with the regulated entities, and it monitors performance. Determinations of the commission are binding on regulated entities (section 35). It has the power to impose penalties for contraventions of determinations (section 53) and can apply to the Supreme Court for an injunction or declaration to enforce such a penalty (section 54). Water businesses have a right of appeal against ESC price determinations (section 55), to be heard by an appeal panel appointed by the registrar of the state that can confirm, change, or set aside a determination of the commission (section 55), and the commission must take whatever action is necessary to effect its decision (section 56[12]).

ESC has a number of memoranda of understanding (MoUs) with other agencies (both at state and national levels) that seek to ensure regulated decision-making processes of the different agencies are integrated, to avoid overlap or conflicts of regulatory schemes, and to share information and consult on issues among the bodies.^[2]

The state of Victoria, therefore, has full, independent economic regulation of public sector water utilities, focused on tariff setting and performance standards. Policymaking and resource management functions are mainly at the state ministry level. Other states, territories in Australia, New South Wales, and the Australian Capital Territory take a similar approach. In Queensland, the Competition Authority has new price monitoring roles but has not until now undertaken an urban water price review. In Tasmania, the government still makes pricing decisions. In South Australia, the Minister for the Murray River and Water Security oversees the operations of South Australia Water, and the treasurer monitors its financial standing; thus, state government determines all prices (this approach is supposed to be changing with a proposed move to independent economic regulation in South Australia in the near future).

The approach to economic regulation in Australia, then, is currently determined at the state level and varies from state to state, with a developing trend toward more independent regulation. Some have called for

regulation to be coordinated at a national level. It is interesting to see an example of a multi-sector regulator that seems to be functioning well, similar to those in the United States, and that ESC has entered into a number of MoUs with other agencies to ensure that the different regulatory bodies are coordinated with one another, that regulation is consistent, and that information is shared.

[1] This includes submitting annual reports and corporate plans (which describe a statement of corporate intent, expected activities, and a financial forecast for the next five years). In addition, water plans must be submitted every five years and include details about the proposed revenue requirements and tariff and pricing structures.

[2] See Essential Services Commission website at www.esc.vic.gov.au.

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