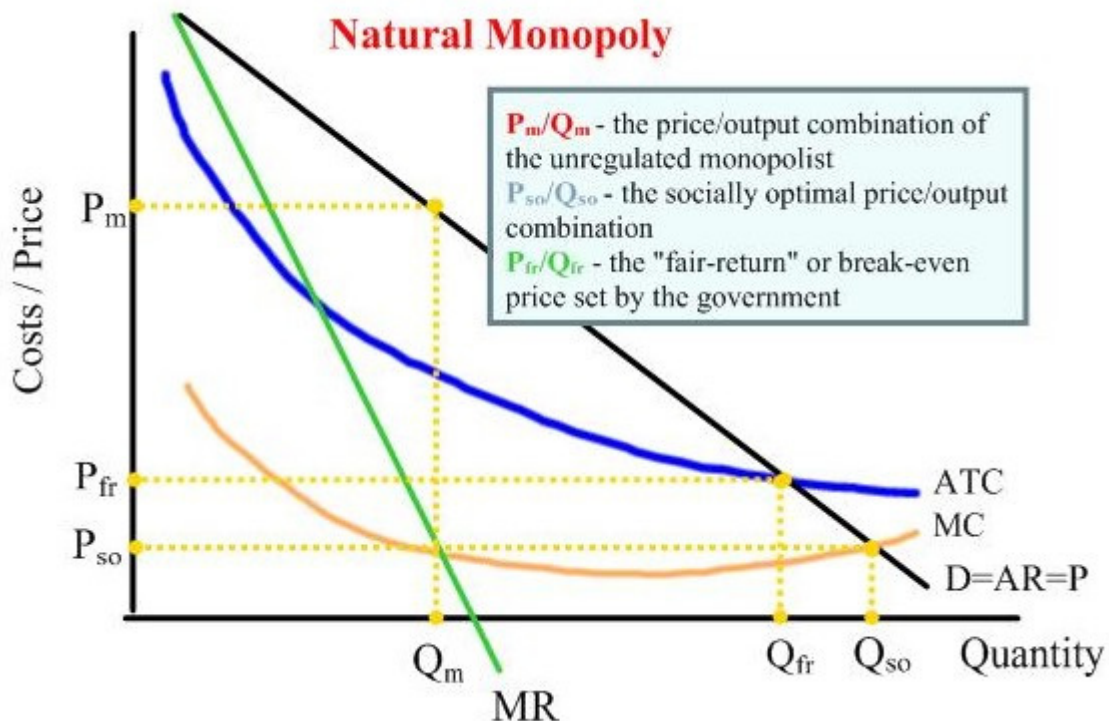




## Worksheet 9.1

### Monopoly prices, to regulate or not to regulate

The problem with monopolies is that a monopolistic firm, left to its own accord, will most likely choose to produce at an output level that is much lower and provide their product at a price that is much higher than would result from a purely competitive industry.



A monopolist will produce where its price is greater than its marginal cost, indicating an under-allocation of resources towards the product. By restricting output and raising its price, the monopolist is assured maximum profits, but at the cost to society of less overall consumer surplus or welfare.

Unfortunately, in some industries, because of the wide range of output over which economies of scale are experienced, it sometimes makes the most sense for only one firm to participate. Such markets are called ‘**natural monopolies**’ and some examples are cable television, utilities, natural gas, and other industries that have large economies of scale.

Government regulators face a dilemma in dealing with natural monopolistic industries such as the electricity industry. A electricity company with a monopoly in a particular market will base its price and output decision on the profit maximization rule that all unregulated firms will produce at the level where their **marginal revenue is equal to their marginal cost**. The problem is, for a **monopolist its marginal revenue is less than the price** it has to charge, which means that at the profit maximizing



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level of output (where  $MR=MC$ ), **marginal cost will be less than price**: evidence of **allocative inefficiency** (i.e. not enough electricity will be produced and the price will be too high for some consumers to afford).

Here arises the need for government regulation. A government concerned with getting the right amount of electricity to the right number of people (allocative efficiency) may choose to set a price ceiling for electricity at the level where the price equals the firm's marginal cost. This, however, will likely be below the firm's average total cost (remember, ATC declines over a WIDE RANGE of output), a scenario which would result in losses for the firm, and may lead it to shut down altogether. So what most governments have done in the past is set a price ceiling where the price is equal to the firm's average total cost, meaning the firm will 'break even', earning only a 'normal profit'; essentially just enough to keep the firm in business; this is known as the 'fair-return price'.

In [this video](#), Economics teacher Jacob Clifford illustrates and explains this regulatory dilemma. Watch the video and see how he shows the effect of the two price control options on the firm's output and the price in the market.

[This article](#) examines the differences in the price of electricity in states which regulate their electricity prices and states that have adopted 'market' or unregulated pricing, in which firms are free to produce at the  $MR=MC$  level: read paragraphs three and four.

The idea of deregulation of electricity markets was that removing price ceilings would lead to greater economic profits for the firms, which would subsequently attract new firms into the market. More competitive markets should then drive prices down towards the socially-optimal price, benefiting consumers and producers by forcing them to be more productively efficient in order to compete. It appears, however, that higher prices have not, as hoped, led to lower prices: read paragraphs six, seven and sixteen from the article linked to above.

That \$48 billion represents higher costs of production for other firms that require large inputs of energy in their own production, higher electricity bills for cash-strapped households, and greater profits and shareholder dividends for the powerful firms that provide the power. On the bright side, higher prices for electricity should lead to more careful and conservative use of power, reducing Americans' impact on global warming (since the vast majority of the country's power is generated using fossil fuels).

Here arises another question? Should we be opposed to higher profits for powerful electricity firms if their profits result in much needed energy conservation and a reduction in greenhouse gas emissions? An environmental economist might argue that if customers are to pay higher prices for their energy, it might as well be in the form of a carbon tax, which rather than increasing profits for a monopolistic firm would generate revenue for the government. In theory tax revenue could be used to subsidize or otherwise promote the development and use of 'green energies'.

Whether customers paying higher prices for traditionally under-priced electricity is a good or bad thing depends on your views of conservation. But whether higher profits for a powerful electricity company are more desirable than increased tax revenue for the government are beneficial for society or not seems clear. If we're paying higher prices, the resulting revenue is more likely to be put towards



socially desirable uses if it's in the government's hands rather than in the pockets of shareholders of fossil fuel burning electricity monopolies.

## Questions:

1. Why do governments regulate the prices in industries such as natural gas and electricity?
2. Why would a state government think that de-regulation of the electricity industry might eventually result in *lower* prices in the long-run?
3. How does economic theory support the view that a more competitive natural gas industry might lead to higher costs and therefore higher prices for consumers?
4. Give an example of a government policy that would increase efficiency in the market for natural gas, and one that would decrease efficiency in the market for natural gas. Draw a monopoly market diagram to illustrate the effects of both the policies you examined.