

# San Leon Energy: Hydraulic Fracturing in Poland

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**Positive Externalities**

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**Correcting Positive Externalities**

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**What are Externalities?**

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Often times the full cost of a product is not paid by the consumer and these additional costs are not factored into the price. However, these costs will be factored in prices, which means that the price of the good is paid, only the willingness to pay for the additional factor is not. These additional costs are known as externalities. These externalities can be positive or negative.

- Positive Externalities
- Negative Externalities

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**Negative Externalities**

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**Correcting Negative Externalities**

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**Correcting Negative Externalities**

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Coal accounts for roughly one-third of total U.S. energy production, and nearly half of all electricity produced.

**References:**

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- 3. <https://www.federalreserve.gov/>
- 4. <https://www.bls.gov/>
- 5. <https://www.bureauofeconomicanalysis.gov/>
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**References:**  
1. <https://www.epa.gov/energy/energy-efficiency-transportation>  
2. <https://www.eia.gov/energy-factsheets/energy-factsheet.php?id=1>  
3. <https://www.eia.gov/energy-factsheets/energy-factsheet.php?id=2>  
4. <https://www.eia.gov/energy-factsheets/energy-factsheet.php?id=3>

# *What are Externalities?*

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Often times the full cost of a good is not paid by the producer and those hidden costs are also not included in the price. However, that cost is still being paid by others, which means that the price of that good is artificially low and is being subsidized by those “others.” These “external” costs (costs external to the company) are called externalities and can be positive or negative.

**Negative Consumption Externalities**

**Positive Consumption Externalities**

**Negative Production Externalities**

**Positive Production Externalities**

externality is a cost or benefit which  
did not choose to incur that  
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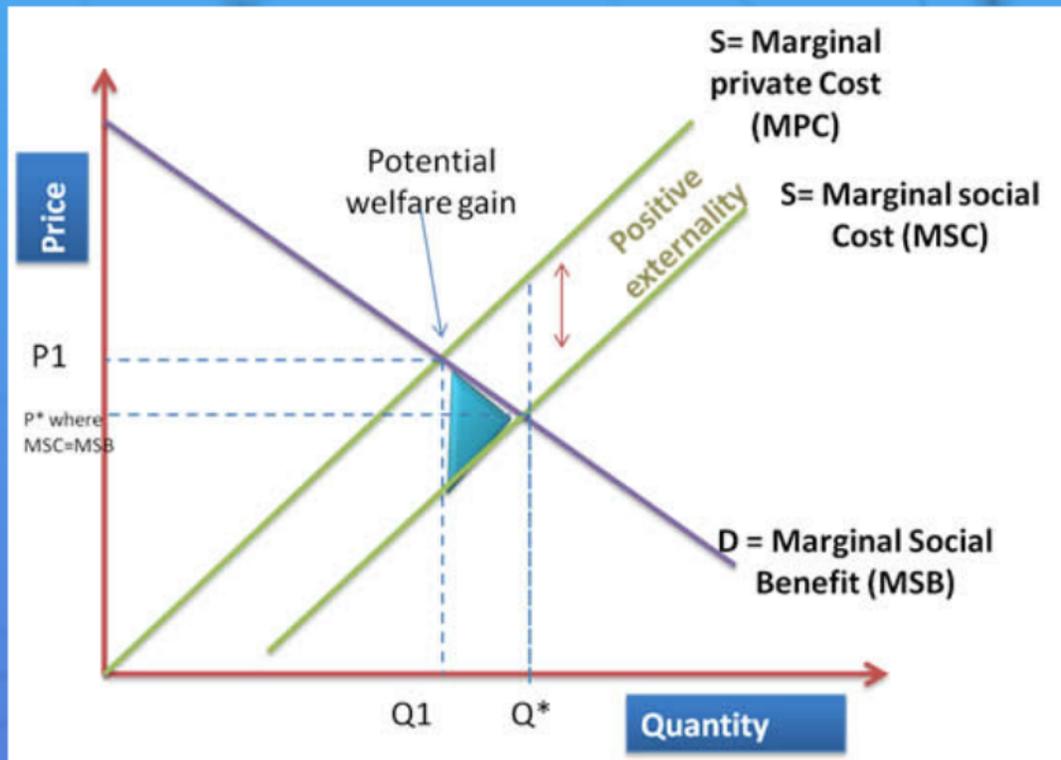
In general, an externality is a cost or benefit which affects a party who did not choose to incur that cost or benefit.

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Externalities in a free market. Cost is less than price. Good should be produced.

# Positive Externalities

Positive externalities create external benefits to those not directly involved. For Example, say there has been a positive externality in production in the form of a new technology. The use of this new technology brings down costs to other producers.



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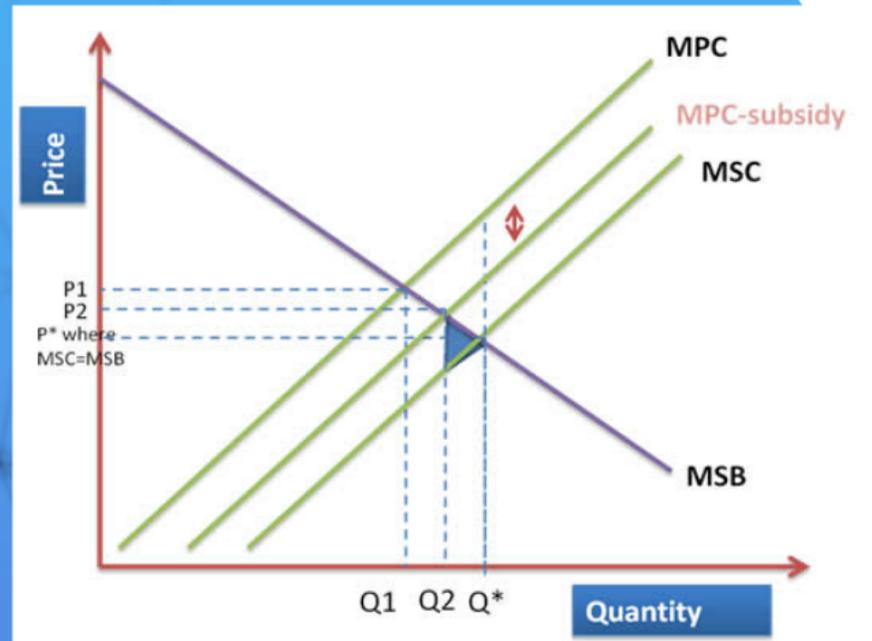
Positive externalities in production means that social cost is less than private cost, and more of the good should be produced than will occur in a free market.

Positive Ex

Positive externalities create  
involved. For Example  
in production in the  
new techn

## Correcting Positive Externalities

Subsidies can be provided to firms which produce these goods. The effect will be the lowering of MPC and thus the MPC will move downward to MSC. This will increase the output to a level  $Q_2$  near to the socially optimal level  $Q^*$ . The price will also fall from  $P_1$  to  $P_2$ .



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Externalities lead to an inefficient quantity of production and consumption. The price of an energy source should reflect its impact on health, natural resources, and aesthetics, not just its production costs. Science and economics need to trump politics and irrational fears when it comes to our nations energy needs, both renewable and non-renewable

Positive  
ies

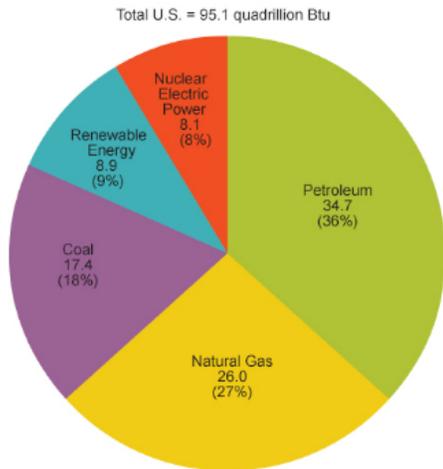
MPC

MPC-subsidy

MSC

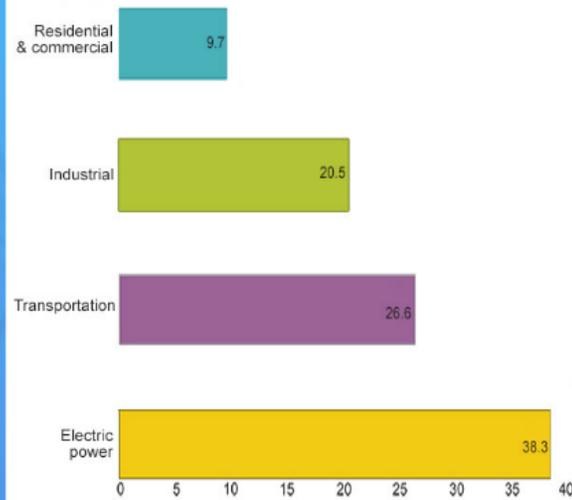


Primary energy use by source, 2012  
quadrillion Btu and percent of total<sup>1</sup>



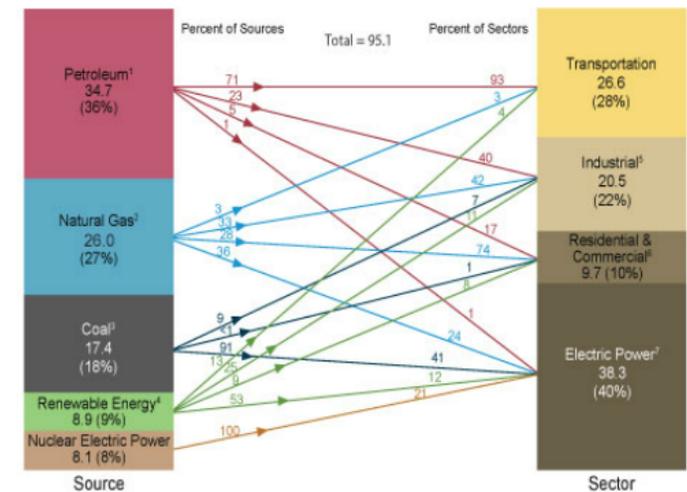
<sup>1</sup>Does not add to 100 due to independent rounding.  
Source: U.S. Energy Information Administration, *Monthly Energy Review*, Table 1.3 (April 2013), preliminary 2012 data.

Primary energy use by sector, 2012  
quadrillion Btu



Source: U.S. Energy Information Administration, *Monthly Energy Review*, Table 2.1 (April 2013), preliminary 2012 data.

Primary energy consumption by source and sector, 2012  
quadrillion BTU



In 2012, total U.S. energy use was approximately 95 quadrillion Btu. Primary energy is used in residential and commercial buildings, in transportation, by industry, and to generate electricity. Primary energy includes petroleum, natural gas, coal, nuclear fuel, and renewable energy. Electricity is a secondary energy source that is generated from these primary forms of energy. The bar chart shows the amount of primary energy used in each of these sectors. As you can see, electric power generation is the largest user of primary energy, followed by transportation.

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