**Types of energy**

**Found in Lithosphere**

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|  | **Explanation** | **Positive and Negative** |
| **Fossil fuels**  **Non-renewable**  [ANd9GcT03U0_XF-x6ehez9RKsdj8FVoBSisfaXuxfvm7F97zdR-2hQjeSg](http://www.google.ca/imgres?hl=en&biw=1440&bih=603&tbm=isch&tbnid=2nzyVK1B029XBM:&imgrefurl=http://tiki.oneworld.net/energy/energy3.html&docid=SQ6BpeYt18_4SM&imgurl=http://tiki.oneworld.net/energy/fossil_fuels.png&w=391&h=362&ei=E5exT_ayGMvrggfBpsGxCQ&zoom=1&iact=hc&vpx=286&vpy=136&dur=766&hovh=216&hovw=233&tx=125&ty=125&sig=114948580038072357642&page=1&tbnh=133&tbnw=144&start=0&ndsp=22&ved=1t:429,r:1,s:0,i:71) | - result from the transformation of organic matter to inorganic matter  - humans mine fossil fuels and burn them  - includes coal, natural gas and oil which are compressed over millions of years and formed fossil fuels | -when fossil fuels are burned they produce CO2 and CH4 which are main contributors to global warming  - also produce SO2 and NOx.  - also contributes to acid rain |
| **Uranium**  **(Nuclear)**  **Non**  susquehanna**renewable** | ·natural occurring radioactive element in the earth’s crust.  -splitting the nucleus allows a huge output of energy  -uranium is mined | -waste material and equipment remains radioactive for hundreds of years. It is buried underground.  -risk of accidents is a constant concern (radioactivity)  -one handful provides as much energy as 70 tonnes of coal  - no atmospheric pollutants are released |
| **Geothermal**  [ANd9GcQQXbXwbgN2hZNWWuL9CknhAqEv2usetxmFETjzTUNap-VCd6JL](http://www.google.ca/imgres?hl=en&biw=1440&bih=603&tbm=isch&tbnid=R9LNRokCpoSkEM:&imgrefurl=http://www.surviveclimatechange.com/geothermal-energy.html&docid=V5q-pzbEejykxM&imgurl=http://www.surviveclimatechange.com/images/geothermal_heat_pump.jpg&w=414&h=342&ei=sJexT_iFHcmFgwfKspWqCQ&zoom=1)**Renewable** | - from the internal heat of the Earth where hot magma lies  - a fluid is circulated deep underground, heated, and then returned to surface | - very expensive and difficult to install  - no green gases emitted  - the hot ground water used in the power plants contains sulfur, mercury, hydrogen sulfide and ammonia which can be released in the water supply. |

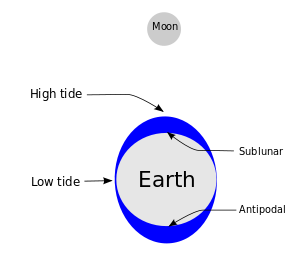
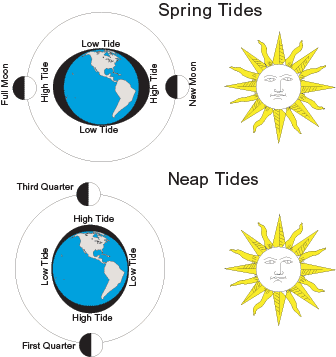
**Found in hydrosphere- All renewable**

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|  | **Explanation** | **Positives and negatives** |
| **Hydroelectric**  [ANd9GcSwPZHjULlrxzQrCGvu95cPpylo-TKJLljuX_or3Ry54DG_cya5](http://www.google.ca/imgres?hl=en&biw=1440&bih=603&tbm=isch&tbnid=qe8ABTBSrUE1-M:&imgrefurl=http://bantrel.com/markets/renewableenergy.aspx&docid=XgCsIMoNw8764M&imgurl=http://bantrel.com/markets/popups/images/Hydroelectric.png&w=600&h=600&ei=5JexT9r9J4Lmggec5O2rCQ&zoom=1&iact=hc&vpx=893&vpy=265&dur=2437&hovh=225&hovw=225&tx=106&ty=158&sig=114948580038072357642&page=1&tbnh=115&tbnw=115&start=0&ndsp=24&ved=1t:429,r:13,s:0,i:162) | - derived from movement of falling water to spin turbines which are located in a dam  - main source of energy in Quebec | - no greenhouse gases emitted  - severe damage to ecosystems and affect many animal and plant species |
| **Wave and**  **ocean current**  [ANd9GcQ1CSzjdiQUk98-lg0RPrq6AGKTcEps7iLScJWfu-3Fcq_Z3DdY0Q](http://www.google.ca/imgres?hl=en&biw=1440&bih=603&tbm=isch&tbnid=e_UwCXZP8cjNeM:&imgrefurl=http://www.kids.esdb.bg/ocean.html&docid=7a0FuL2i3F2I6M&imgurl=http://www.kids.esdb.bg/images/800px-TidalStream_Tidal_Farm_Pic.JPG&w=800&h=600&ei=QJixT9yrNYO2gwe104S9CQ&zoom=1&iact=hc&vpx=760&vpy=280&dur=547&hovh=194&hovw=259&tx=149&ty=138&sig=114948580038072357642&page=1&tbnh=110&tbnw=147&start=0&ndsp=24&ved=1t:429,r:12,s:0,i:160) | -energy obtained from the flow of ocean tides  - ocean currents spin underwater turbines , which are similar to wind turbines | - no pollutants  - not very popular because very expensive and not always reliable  - can affect ecosystem organisms |
| **Tidal**  **Renewable** | -Electricity can be generated from tides when water from a high tide is collected (sometimes using a dam) and then falls through turbines converting mechanical energy into electrical energy. | - a tidal range of 5 cm is necessary to use this technology  - no pollutants  - dams used can affect fish migrations and water flow levels |

**Tides**: levels changing due to its attraction to the sun and moon and the earth’s rotation

- there are 2 high tides and 2 low tides per day

- when closest or furthest from the moon = high tide

- when the earth, moon and sun are aligned Spring tides are created which are the highest tides.

**Found in atmosphere + other**

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|  | **Explanation** | **Positives and negatives** |
| **Wind**  **Renewable** | - energy that can be drawn from the wind  - as blades turn, they activate an electric generator | - cannot be stored so needs to be used with another source of energy  - no pollutants, but does create sound pollution  - disturbs ecosystem and can kill birds  - very expensive |
| **Solar (other)**  **Renewable** | - energy that comes from the sun in the form of radiation  - solar energy causes electrons to flow creating current electricity | - no pollutants  - very expensive  - must rely on other forms of energy also |

[](http://www.google.ca/imgres?hl=en&biw=1440&bih=603&tbm=isch&tbnid=5AGHVPiJVvDMLM:&imgrefurl=http://www.treehugger.com/renewable-energy/ontario-will-launch-a-wind-forecasting-service-in-2010-to-help-wind-power-producers.html&docid=2P8wZQYvOZfWIM&imgurl=http://media.treehugger.com/assets/images/2011/10/wind-farm-canada-photo1.jpg&w=468&h=351&ei=ZZixT-GbGMSCgAeo7OTKCQ&zoom=1&iact=hc&vpx=509&vpy=2&dur=812&hovh=194&hovw=259&tx=156&ty=83&sig=114948580038072357642&page=2&tbnh=125&tbnw=160&start=25&ndsp=28&ved=1t:429,r:2,s:25,i:194)[](http://www.google.ca/imgres?hl=en&biw=1440&bih=603&tbm=isch&tbnid=izPIwOtNtUQc-M:&imgrefurl=http://isiria.wordpress.com/2011/02/09/why-dont-we-get-it-australia-is-drenched-in-sunlight-but-we-dont-use-its-energy/&docid=GBfI95qQy2yAHM&imgurl=http://isiria.files.wordpress.com/2011/02/solar_panels_on_a_roof2.jpg&w=415&h=307&ei=ppixT8iUGo_tggfCjcTDCQ&zoom=1&iact=hc&vpx=164&vpy=294&dur=1016&hovh=193&hovw=261&tx=125&ty=97&sig=114948580038072357642&page=1&tbnh=113&tbnw=153&start=0&ndsp=24&ved=1t:429,r:8,s:0,i:152)[](http://www.google.ca/imgres?hl=en&biw=1440&bih=603&tbm=isch&tbnid=naDTA2czYKJIMM:&imgrefurl=http://googleblog.blogspot.com/2011/04/investing-in-worlds-largest-solar-power.html&docid=GzBcjvqmsdMNyM&imgurl=http://4.bp.blogspot.com/-xYhetg7o4ZE/TaMypeoBe4I/AAAAAAAAH20/MVxaJVVipbM/s1600/BSE%E2%80%99s%2BSolar%2BEnergy%2BDevelopment%2BCenter..jpg&w=1600&h=1067&ei=ppixT8iUGo_tggfCjcTDCQ&zoom=1&iact=hc&vpx=360&vpy=177&dur=2312&hovh=183&hovw=275&tx=149&ty=98&sig=114948580038072357642&page=3&tbnh=135&tbnw=179&start=52&ndsp=28&ved=1t:429,r:22,s:52,i:296)

