**Types of energy**

**Found in Lithosphere**

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|  | **Explanation** | **Positive and Negative** |
| **Fossil fuels****Non-renewable**ANd9GcT03U0_XF-x6ehez9RKsdj8FVoBSisfaXuxfvm7F97zdR-2hQjeSg | - 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**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 | - 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 | -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 |



