State the advantages and disadvantages of **direct electricity generation** (photovoltaic and fuel cells) compared to using steam turbines.

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|  | **Advantages** | **Disadvantages** |
| **Photovoltaic cells** | Produce no pollution (such as greenhouse gases) during operation.Renewable (requires no ongoing fuel).Low maintenance costs. | Cost (expensive to produce).Unreliable (depends on sunlight). |
| **Fuel cells** | Little-to-no pollution during operation.High energy efficiency.No moving parts (therefore silent operation and minimal maintenance). | Cost (expensive catalysts and high purity fuels required).May require hazardous fuels (explosive or corrosive).New technology lacks infrastructure to support its use (e.g. refuelling points for hydrogen cars). |