

**SCHEMA TECNICA - EMISSION FACTOR 2019**

Fuel	Unit	Calorific value MJ/U	WTT GHG Emissions gCO <sub>2</sub> eq/MJ	Emission Factor gCo <sub>2</sub> eq Fuel Unit
Energia elettrica (Mix EU)	kWh	3,60	141,1	<b>507,96</b>
CNG (Mix EU)	kg	45,10	69,3	<b>3125,43</b>
BioCNG (da rifiuti)	kg	49,20	14,8	<b>728,16</b>
LPG	l	23,00	73,7	<b>1695,10</b>
Benzina	l	32,18	87,1	<b>2803,23</b>

Energia elettrica (Mix EU)	JRC WELL-TO-TANK (WTT) REPORT– APPENDIX Version 4a, APRIL 2014 <a href="http://iet.jrc.ec.europa.eu/about-jec/sites/iet.jrc.ec.europa.eu/about-jec/files/documents/report_2014/wtt_appendix_4_v4a.pdf">http://iet.jrc.ec.europa.eu/about-jec/sites/iet.jrc.ec.europa.eu/about-jec/files/documents/report_2014/wtt_appendix_4_v4a.pdf</a> <a href="http://iet.jrc.ec.europa.eu/about-jec/sites/about-jec/files/documents/report_2014/wtt_appendix_4_v4a_6_electricity.xlsx">http://iet.jrc.ec.europa.eu/about-jec/sites/about-jec/files/documents/report_2014/wtt_appendix_4_v4a_6_electricity.xlsx</a> Riferimento WTT GHG: EMEL2 (EU Mix Mid Voltage 400V) Potere Calorifico MJ/kWh: 3,6
CNG (Mix EU)	JRC WELL-TO-TANK (WTT) REPORT– APPENDIX Version 4a, APRIL 2014 <a href="http://iet.jrc.ec.europa.eu/about-jec/sites/iet.jrc.ec.europa.eu/about-jec/files/documents/report_2014/wtt_appendix_4_v4a.pdf">http://iet.jrc.ec.europa.eu/about-jec/sites/iet.jrc.ec.europa.eu/about-jec/files/documents/report_2014/wtt_appendix_4_v4a.pdf</a> <a href="http://iet.jrc.ec.europa.eu/about-jec/sites/about-jec/files/documents/report_2014/wtt_appendix_4_v4a_1_oil_gas.xlsx">http://iet.jrc.ec.europa.eu/about-jec/sites/about-jec/files/documents/report_2014/wtt_appendix_4_v4a_1_oil_gas.xlsx</a> Riferimento WTT GHG: CMGG1 (EU-mix natural gas supply, transport to EU by pipeline (2500 km), compression to CNG at retail point.) Potere Calorifico MJ/kg: 45,1
BioCNG (da rifiuti)	JRC WELL-TO-TANK (WTT) REPORT– APPENDIX Version 4a, APRIL 2014 <a href="http://iet.jrc.ec.europa.eu/about-jec/sites/iet.jrc.ec.europa.eu/about-jec/files/documents/report_2014/wtt_appendix_4_v4a.pdf">http://iet.jrc.ec.europa.eu/about-jec/sites/iet.jrc.ec.europa.eu/about-jec/files/documents/report_2014/wtt_appendix_4_v4a.pdf</a> <a href="http://iet.jrc.ec.europa.eu/about-jec/sites/about-jec/files/documents/report_2014/wtt_appendix_4_v4a_2_biogas_synthetic_methane.xlsx">http://iet.jrc.ec.europa.eu/about-jec/sites/about-jec/files/documents/report_2014/wtt_appendix_4_v4a_2_biogas_synthetic_methane.xlsx</a> Riferimento WTT GHG: OWCG1 (Upgraded biogas from municipal organic waste as CBG. Closed digestate storage.) Potere Calorifico MJ/kg: 49,2
LPG	JRC WELL-TO-TANK (WTT) REPORT– APPENDIX Version 4a, APRIL 2014 <a href="http://iet.jrc.ec.europa.eu/about-jec/sites/iet.jrc.ec.europa.eu/about-jec/files/documents/report_2014/wtt_appendix_4_v4a.pdf">http://iet.jrc.ec.europa.eu/about-jec/sites/iet.jrc.ec.europa.eu/about-jec/files/documents/report_2014/wtt_appendix_4_v4a.pdf</a> <a href="http://iet.jrc.ec.europa.eu/about-jec/sites/about-jec/files/documents/report_2014/wtt_appendix_4_v4a_1_oil_gas.xlsx">http://iet.jrc.ec.europa.eu/about-jec/sites/about-jec/files/documents/report_2014/wtt_appendix_4_v4a_1_oil_gas.xlsx</a> Riferimento WTT GHG: LRLP1 (LPG from remote natural gas field, long-distance sea transport, distribution by road to retail point.) Potere Calorifico MJ/kg: 46 Densità kg/l: 0,5
Benzina	JRC WELL-TO-TANK (WTT) REPORT– APPENDIX Version 4a, APRIL 2014 <a href="http://iet.jrc.ec.europa.eu/about-jec/sites/iet.jrc.ec.europa.eu/about-jec/files/documents/report_2014/wtt_appendix_4_v4a.pdf">http://iet.jrc.ec.europa.eu/about-jec/sites/iet.jrc.ec.europa.eu/about-jec/files/documents/report_2014/wtt_appendix_4_v4a.pdf</a> <a href="http://iet.jrc.ec.europa.eu/about-jec/sites/about-jec/files/documents/report_2014/wtt_appendix_4_v4a_1_oil_gas.xlsx">http://iet.jrc.ec.europa.eu/about-jec/sites/about-jec/files/documents/report_2014/wtt_appendix_4_v4a_1_oil_gas.xlsx</a> Riferimento WTT GHG: COG1 (Crude oil from typical EU supply, transport by sea, refining in EU, typical EU distribution and retail.) Potere Calorifico MJ/kg: 43,2 Densità kg/m <sup>3</sup> : 0,745