






| | DIRECT PLASMA ARC GASIFICATION | PLASMA GAS-OFF | CONVENTIONAL GASIFICATION | PYROLYSIS GASIFICATION | INCINERATION |
|--|--|---|--|--|--|
| OPERATION TEMPERATURE |  >7.000 °C |  >4.000 °C |  > 750°C |  400°C- 900°C |  850 °C– 1.100 °C |
| SOLID RESIDUES | Solid Vitrified (by-product) | Unreacted Carbon | Incomplete combustion, Tar | Liquid and oil char | Fly and bottom ash |
| PRODUCT (GAS) OBTAINED in the THERMAL TREATMENT STAGE | Syngas (High heating value content) N ₂ < 10% | Syngas N ₂ > 40% | Syngas | Syngas | Flue gas |
| EMISSIONS (THERMAL TREATMENT STAGE) | None | None | Dioxines and furans, NO _x , COV | Dioxines and furans, NO _x , COV | CO, CO ₂ and acid gases, dioxines and furans, COV ³ |
| EMISSIONS (VALORISATION STAGE) | CO ₂ | CO ₂ | CO ₂ | CO ₂ | CO ₂ ² |
| THERMAL EFFICIENCY | 90% | 80% | 72% | 75% | 70% |