

Scenario 1:

Natural gas is delivered to an SMR facility through a boundary meter connected to the gas network. The facility retires recognised zero carbon gas certificates equivalent to the amount of natural gas used as a feedstock and used to generate heat for the process. The CO₂ produced by the process is emitted to the atmosphere. The electricity used for the process and compression is certified zero carbon electricity and associated certificates are retired. The hydrogen certification scheme recognises the zero carbon electricity and gas certificates. Water is sourced from recycled sources. The SMR facility produces certified renewable hydrogen that is compressed and supplied to customers at the facility for transport to other facilities through pipeline and trucks. Carbon emission for hydrogen certification only applies from boundary meter to gate.

Scenario 2:

Natural gas is delivered to an SMR facility through a boundary meter connected to the gas network. The facility retires recognised zero carbon gas certificates equivalent to the amount of natural gas used as a feedstock and used to generate heat for the process. The CO₂ produced by the process is stored through a recognised carbon capture and storage scheme. The electricity used for the process and compression is certified zero carbon electricity and associated certificates are retired. The hydrogen certification scheme recognises the zero carbon electricity and gas certificates. Water is sourced from recycled sources. The SMR facility produces certified carbon-negative hydrogen that is compressed and supplied to customers at the facility for transport to other facilities through pipeline and trucks. Carbon emission for hydrogen certification only applies from boundary meter to gate.

Scenario 3:

Natural gas is delivered to a SMR facility through a boundary meter connected to the gas network. The facility retires recognised Renewable Gas guarantee of origin certificates with specified emissions intensity from well to boundary meter equivalent to the amount of natural gas used as a feedstock and used to generate heat for the process and the facility purchases recognised offsets equivalent to the emissions intensity of Renewable Gas source (up to gCO₂/MJ limit). The CO₂ produced by the process is emitted to the atmosphere. The electricity used for the process and compression is certified zero carbon electricity and associated certificates are retired. The hydrogen certification scheme recognises the zero carbon electricity and gas certificates. Water is sourced from recycled sources. The SMR facility produces certified carbon-negative hydrogen that is compressed and supplied to customers at the facility for transport to other facilities through pipeline and trucks. Carbon emission for hydrogen certification only applies from boundary meter to gate.

Scenario 4:

Natural gas is delivered to an SMR facility through a boundary meter connected to the gas network. The facility does not retire recognised Renewable Gas certificates or guarantee of origin certificates equivalent to the amount of natural gas used as a feedstock and used to generate heat for the process and the facility purchases recognised offsets equivalent to the emissions intensity of natural gas. The CO₂ produced by the process is emitted to the atmosphere. The electricity used for the process and compression is not certified zero carbon electricity and associated certificates are not retired. The hydrogen certification scheme recognises the zero carbon electricity and gas certificates. Water is sourced from recycled sources. The SMR facility produces hydrogen (not certified renewable) that is compressed and supplied to customers at the facility for transport to other facilities through pipeline and trucks. Carbon emission for hydrogen certification only applies from boundary meter to gate.