

Energy Sector Innovation Credit

The Energy Sector Innovation Credit (ESIC) is a technology-inclusive, flexible investment tax credit (ITC) or production tax credit (PTC) designed to promote innovation across a range of clean energy technologies, including generation, storage, carbon capture, and clean hydrogen production.

Why is this Needed?

ESIC is motivated by the need to rapidly scale and diversify American clean energy technologies through innovation as a means to achieve long-term emissions targets, create jobs, and provide safe and reliable energy. The credit is designed to help nascent technologies overcome the incumbency advantages of established technologies, including suboptimal resource location relative to existing grid infrastructure and lack of economies of scale.

By the Numbers:

Rather than giving Congress or the Executive branch sole authority to identify which specific technologies count as innovative, ESIC groups technologies into categories, or bins, based on input from government agencies, stakeholders, and nonprofits. The bins group technologies that are substantively different from one another. Credits are awarded based on the total market penetration (MP) of all technologies within each bin, according to the following schedule:

Tier	MP	ITC	PTC
1.....	0.0–0.5%	40%	60%
2.....	0.5–1.0%	30%	45%
3.....	1.0–1.5%	20%	30%
4.....	1.5–2.0%	10%	15%

Technology-Inclusive:

The bins span *all* U.S. generation (ITC/PTC flexible), energy storage (ITC only), carbon capture retrofit (ITC only), and clean hydrogen production (PTC only) technologies, but only those below 2% MP earn credits. In addition, fossil fuel generation with carbon capture technologies qualify (as long as it emits at less than roughly 25% of the rate of natural gas).

How it Works:

- ITCs are relative to capital costs, and PTCs are relative to annual gross receipts for electricity generation (to discourage negative bidding), capped according to average wholesale electricity rates. For clean hydrogen production, PTCs are relative to average wholesale rates.
- The credit generosity phases out naturally with MP, which provides an on-ramp for the most innovative technologies to get to market and then compete on their own.
- To provide financial certainty, a facility locks in its tier at commencement construction for either the ITC or PTC (with a production credit period of ten years) and DOE annually publishes public reports on the technologies' respective tier eligibilities.
- Technology bins as a whole are not allowed to backslide up the tiers if MP falls, ensuring credits are targeted only for nascent technologies that prove commercial viability.
- Every five years, there is an expedited-consideration provision for Congress to take up new technology recommendations from DOE, providing flexibility to incorporate unforeseen technologies.