

Invenergy Comments on Puget Sound Energy's Integrated Resource Plan Stakeholder Presentation on Social Cost of Carbon on July 21, 2020

Summary of PSE's Proposed Treatment of the Social Cost of Carbon in its 2021 IRP

The Clean Energy Transformation Act (CETA) requires PSE to incorporate the Social Cost of Carbon (SCC) for greenhouse gas (GHG) emissions in its integrated resource plans (IRPs). PSE has described two alternative approaches that it intends to use to apply the SCC in modeling its electric resource portfolio for the 2021 IRP.

PSE's preferred approach is to deliberately exclude the SCC from the variable costs of dispatching its GHG-emitting resources. Under this first approach, PSE's GHG-emitting resources would be allowed to dispatch unconstrained by the SCC, and the resulting GHG emissions would be accumulated on an annual basis. Then the annual GHG emissions would be multiplied by the SCC, and the result would be treated as an annual "fixed cost". This cost would be included in total annual costs for PSE's resource portfolio.

As a second approach, PSE proposes to perform a sensitivity analysis that would treat the SCC as if it were a carbon "tax". Under this approach, the SCC would be included as a variable cost of dispatching its GHG-emitting resources.

Under both of these approaches, it appears that PSE intends to treat the GHG emissions costs as if they are hard-dollar costs, including the costs in its calculations of the revenue requirements associated with its electric resource portfolio.

PSE's Preferred Approach Misapplies the SCC

PSE's first approach is inconsistent with the definition and intended use of the SCC.

The SCC was developed by the federal Interagency Working Group to estimate the *incremental cost* of the *economic damages* that result from the emission of one carbon-dioxide metric ton-equivalent amount of GHG emissions. Because the SCC is an incremental cost, portfolio modeling for IRP should include the SCC in the variable dispatch costs for GHG-emitting resources. PSE's first approach to exclude the SCC from variable dispatch costs is thus inconsistent with the Interagency Working Group's use of the SCC.

In addition, the SCC was specifically designed to enable the economic costs of GHG emissions to be included and reflected in cost-benefit analyses of decisions that would increase or decrease GHG emissions. PSE's IRP is a clear example of this type of cost-benefit analysis. It also seems clear that the intent of CETA is to require utility IRPs portfolio modeling analyses to recognize the SCC as an incremental cost. Thus, PSE's first approach is also inconsistent with the purpose behind SCC.

As a result, PSE's approach of ignoring the SCC when modeling economic dispatching of its resources, and then treating its GHG emissions as an annual fixed cost, conflicts with the purpose and use of the SCC as an incremental cost of economic damages. This approach undermines the intent of CETA as well.

PSE's Integrated Resource Planning Under CETA Should Treat the SCC as an Environmental Externality

PSE has argued that the SCC should not be included in variable dispatching costs for IRP modeling because the SCC is not required to be included in wholesale market prices for electricity. Invenergy

agrees that wholesale market prices for electricity do not currently fully reflect the economic damage costs associated with GHG emissions. However, this fact actually demonstrates why the SCC should be included in variable dispatch costs for GHG-emitting resources for IRP portfolio modeling.

GHG emissions are environmental externalities. This is because GHG emissions create actual, incremental environmental costs that are not borne by the entity that produces the emissions, and the costs are not included in the market price paid by purchasers of electricity.

Since GHG emissions are an environmental externality, they should be treated as such in utility IRPs and RFPs under CETA. Invenenergy supports doing this using generally accepted practices for internalizing externality costs. Specifically, utility IRP and RFP analyses should internalize the incremental environmental damage cost (as represented by the SCC) caused by each incremental decision to emit CO₂, including at the point of each hourly dispatch decision.

Suggesting that the SCC should be treated as a fixed cost because it is not reflected in the so-called "real world" of competitive wholesale markets is a false diversion. GHG emissions are a real-world cost, but because their costs are not fully recognized in the competitive marketplace, they are externalities that can and should be addressed as incremental costs in IRP portfolio modeling. Even if PSE was correct that costs that are not imposed in the "real world" should not be imposed in their IRP modeling, it does not follow that adding those costs after-the-fact as an annual fixed cost somehow comports with the "real world." The "real world" simply does not include these costs, either as fixed or variable, so they should be imposed according to how the costs are incurred and according to the purpose and intent of CETA.

Treating SCC as a "Tax" is Also Inaccurate

As noted above, PSE is offering to perform a sensitivity analysis that treats the SCC as an incremental cost by including it in the variable costs of dispatch for its GHG-emitting resources. PSE has also stated that it intends to treat the resulting SCC emissions costs as a "tax".

However, neither PSE nor its retail electric customers are subject to a dollar-per-ton tax on GHG emissions produced by PSE's electric resources. Thus, PSE's proposed approach to sensitivity analysis of the SCC as a "tax" is also unrealistic.

Invenenergy Recommendations for PSE Analysis of the SCC in the 2021 IRP

Invenenergy encourages PSE to recognize that GHG emissions produced by its electric generating resources are environmental externalities and to treat them as such in the portfolio modeling analyses for the 2021 IRP. Invenenergy encourages PSE to include the SCC in the variable dispatching costs of its GHG-emitting resources when modeling its resource portfolio for the 2021 IRP.

As part of PSE's resource portfolio modeling, Invenenergy encourages PSE to track and report environmental externality costs (i.e., quantities of GHG emissions multiplied by the SCC of its resources' GHG emissions), and to separately track and report the resource portfolio costs that actually go into its revenue requirements. Decisions about PSE's portfolio resource mix should be made on the basis of the sum of revenue requirements plus GHG externality costs. This will be a more realistic method for applying the SCC than either of PSE's proposed approaches. Reporting both of types of costs will also make PSE's analysis more transparent.