



# Second Nature

## **Sector Social Cost of Carbon: Higher Education Sector 2025-2035**

### **Introduction**

Second Nature conducted extensive research and networking in 2024 in pursuit of establishing a recommended cost of carbon for the higher education sector. The intent of the sector price is to catalyze internal carbon pricing as a common practice throughout the sector and to assist schools that do not have the internal capacity to set a carbon price in alignment with external guidance to inform decarbonization work. Second Nature is also working to tie the sector cost of carbon to a contribution to mitigation opportunities for campuses, allowing financial disclosures to climate mitigation or environmental justice community organizations to be valued as part of climate action work.

This price accompanies the release of Second Nature's revised and expanded Carbon Markets & Offsets Guidance, which was developed in support of Second Nature's forthcoming update to the Climate Commitments ("Commitments 3.0").

### **Carbon Pricing Considerations:**

Carbon pricing generally happens according to a cost of abatement model (cost to mitigate a certain number of emissions by a certain target date) or a marginal damages model (the social cost of carbon). The cost of abatement model typically results in lower prices per metric ton but are still higher than the market cost of carbon offsets. Marginal damages models produce higher prices per ton, which is in line with the true impacts of emitting or avoiding a ton of CO<sub>2</sub>. Both models are uncertain and change as time passes.

We looked at multiple carbon pricing models:

- Stanford's student-developed program for air travel<sup>1</sup>
- The UC's equity-weighted social cost of carbon<sup>2</sup>

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<sup>1</sup>[https://sustainable.stanford.edu/sites/g/files/sbiybj26701/files/media/file/scope\\_3\\_student\\_working\\_group\\_air\\_travel\\_carbon\\_charge\\_program\\_white\\_paper\\_recommendations.pdf](https://sustainable.stanford.edu/sites/g/files/sbiybj26701/files/media/file/scope_3_student_working_group_air_travel_carbon_charge_program_white_paper_recommendations.pdf)

<sup>2</sup>[https://docs.google.com/document/d/19Cz04iBqAAzGeL4uKTvMO84uoo7Bwwr4fCD\\_xymgje/edit?tab=t.0](https://docs.google.com/document/d/19Cz04iBqAAzGeL4uKTvMO84uoo7Bwwr4fCD_xymgje/edit?tab=t.0)



# Second Nature

- The federal price and the IWG models<sup>3</sup>
- The EPA's social cost of carbon figure<sup>4 5</sup>
- Swarthmore College's carbon charge program<sup>6</sup>
- NY State's recommendations and the research behind them<sup>7</sup>

We also assessed policy frameworks like the City of Boston's BERDO program, received advice from Dr. Alex Barron at Smith College, and worked through thinking with a group of campuses participating in the Carbon Pricing and Social Cost of Carbon Working Group through Second Nature.

Lastly, we read extensively on the topic of carbon pricing mechanisms and approaches to carbon pricing and adjustments to carbon prices over time. Additional resources are linked at the end of this document.

## Our Findings:

Second Nature will recommend two prices for the sector until 2035:

1. A price schools can use if they are thinking about implementing a carbon tax, charging themselves for emissions, and pooling the money to cover mitigation costs.
2. A price that is more useful as a proxy for decision-making but is not associated with a financial obligation or exchange of any money.

### **Sector carbon tax recommendation**

\$50-\$100/ton, with an escalator of 3% + inflation annually

### **Sector proxy carbon price recommendation:**

\$210-\$248/ton, with an escalator of 3% + inflation annually

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<sup>3</sup> As of this writing, the 2nd Trump administration has removed the findings of the Federal IWG on the social cost of carbon. The last interim price used by the Biden administration was \$51/MTCO<sub>2</sub>e. Readers can corroborate this, and the history of the former IWG, with writings done about the Federal IWG by the [Brookings Institute](#), or [Harvard Law Review](#).

<sup>4</sup> [https://drive.google.com/file/d/1zQ2vct\\_P0laAMfy1KgKT1P2QDZw4bf-q/view?usp=sharing](https://drive.google.com/file/d/1zQ2vct_P0laAMfy1KgKT1P2QDZw4bf-q/view?usp=sharing)

<sup>5</sup> [https://drive.google.com/file/d/1kuFf\\_zpOtJ3\\_J4XWjdu3Btdfq6q-FUFP/view?usp=sharing](https://drive.google.com/file/d/1kuFf_zpOtJ3_J4XWjdu3Btdfq6q-FUFP/view?usp=sharing)

<sup>6</sup> <https://www.swarthmore.edu/sustainability/swarthmores-carbon-charge-program>

<sup>7</sup> <https://dec.ny.gov/regulatory/guidance-and-policy-documents/climate-change-guidance-documents>



# Second Nature

## Justification

**The Sector Tax Recommendation** is meant to be employed by schools that would like to direct funds toward their climate goals by charging themselves for emissions. We arrived at the price per ton by combining the last available federal interagency working group price with the average-to-high cost of a quality carbon offset. The rationale behind this was to choose a price corroborated by scientific modeling yet accessible to schools' budgets and to choose a price that might encourage schools to consider directing money that might be spent on offsets and instead put it toward their own decarbonization goals. Money from carbon taxing may still be used to purchase offsets to meet Climate Commitments, however, best practice is direct costing of an institution's emissions as a means of budgeting for real mitigation. We note that this price is quite low compared to other modeling and the literature and that a tax truly designed against the impact of emissions and the cost to decarbonize would be more like \$95-\$150/ton in today's dollars, with a similar escalator. However, our synthesis of higher education financial and governance contexts across the network reveals that such a price would face barriers to implementation at a range of institutions. The purpose of the price is to provide an accessible way for a diversity of schools to implement internal carbon pricing and for the price to be implementable in the pursuit of a number of goals, some that we might not yet be able to envision.

**The Sector Proxy Carbon Price Recommendation** is meant to be employed by schools that would like to account for the entire impact of one ton of CO<sub>2</sub> emitted or mitigated when making decisions. It is a shadow price for decision-making, meaning that no money is actually exchanged due to its use. It is set as a range between the EPA's social cost of carbon from 2024-2035. It's important to note that these figures were determined using a 2020 dollar year valuation, so in today's dollars the range would be more like \$250. Institutions wanting to account for the true hidden costs of decisions should use this price to ensure present-day business as usual actions are meaningfully weighed against their climate impacts and to further the likelihood that climate-positive alternatives could be pursued.

## Escalators:

Marginal damages escalators are designed to compensate for the damages to the planet and society as emissions continue to happen over time without decarbonization. Escalation of the carbon price to account for marginal damages and inflation is considered best practice for higher education. For marginal damages estimates, we note that in 2007, the IPCC estimated



# Second Nature

that the true SCC rises at 2 to 4% per year.<sup>8</sup> More recently, a study published in 2019 that used an analysis of current IPCC climate models recommended a growth rate of 3.75% per year.<sup>9</sup> We recommend an increase of a three-percent marginal damages escalator as a median estimate. We pair with the marginal damages escalator an additional note on inflation. Campuses should add the annual rate of inflation to the 3% marginal damages escalator to arrive at the full escalation rate each year.

## Other Implications: Contributions to Mitigation

Second Nature will strive to work with SIMAP to allow for reporting of financial disclosures to both climate mitigation projects and organizations, or climate justice projects and organizations. Then, in public reporting, campus financial contributions would have new meaning relative to the sector social cost of carbon and be disclosed as meaningful parts of campus climate action strategy.

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## Additional References:

[An Emissions Assurance Mechanism: Adding Environmental Certainty to a U.S. Carbon Tax](#) Gilbert E. Metcalf *Review of Environmental Economics and Policy* 2020 14:1, 114-130

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<sup>8</sup> Pachauri, Rajendra K., and Andy Reisinger. "IPCC fourth assessment report." IPCC, Geneva 2007 (2007).

<sup>9</sup> Gollier, Christian. "The cost-efficiency carbon pricing puzzle." Toulouse School of Economics Working Paper 952 (2019).



# Second Nature

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Macaluso N, Tuladhar S, Woollacott J, McFarland JR, Creason J, Cole J. THE IMPACT OF CARBON TAXATION AND REVENUE RECYCLING ON U.S. INDUSTRIES. *Clim Chang Econ (Singap)*. 2018;9(1):10.1142/S2010007818400055. doi: 10.1142/S2010007818400055. PMID: 32123558; PMCID: PMC7050298.

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