



Using pricing as a tool to achieve carbon neutrality: Implications for the United States Postal Service

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Purpose

- ▶ Continually worsening effects of climate change require immediate, strong action (IPCC AR6, 2022).
- ▶ Post and delivery sector is somewhat carbon intensive and therefore has an opportunity for emissions mitigation.
 - ▶ Pricing can be used as a tool to send signals about desired behavior.

NOTE: The views presented in this paper are those of the authors, and do not necessarily represent those of any organization or employer.



Past Literature (a.k.a. the wordiest slide)

- ▶ Carbon intensity of mail and package delivery:
 - ▶ Depending on basis of calculation, mail and package delivery accounts for <1% of global GHG emissions, but part of wider transportation sector.
 - ▶ Home package delivery is marginally less emissions intensive than in-store shopping, but depends on many factors (i.e. “trip chaining,” transport method).
 - ▶ Home delivery of mail is more emissions intensive than alternatives, but those alternatives are generally less effective and emissions from them are growing.
- ▶ Past sustainability research in postal and delivery industry:
 - ▶ Buc and Soyka (2009) – Offsetting emissions from mail is more cost effective for mailers than eliminating the use of mail.
 - ▶ Boldron et al. (2011) – There is a tradeoff between environmental sustainability and universal service.
 - ▶ Nieto and Houck (2013) – There is some climate benefit to the decline in mail volumes, but not as much as most expect.
 - ▶ Borsenberger and Joram (2021) – Many posts are already engaged in emissions reductions to mitigate climate impacts.



Demand for Green and Carbon-Neutral Products

- ▶ Consumer demand:

- ▶ Extensive evidence of consumer willingness to pay for emissions reduction in postal and other sectors.
- ▶ 50% – 70% of consumers surveyed willing to pay more for “green” products.

- ▶ Commercial risk as a demand factor:

- ▶ Voluntary emission reductions by firms could preempt, delay, or avoid government regulation.
- ▶ In April 2022, U.S. Securities and Exchange Commission created new rules requiring emissions to be a part of annual financial filings.

The Big Idea?

- Postal policy and sustainability/climate change policy are inextricably linked.



USPS Current Emissions and Mitigation Approach

	2011	2012	2013	2014	2015	2020
MTCO₂ eq (millions)	12.15	12.06	11.77	11.5	11.71	13.31
Mail Pieces (billions)	168.3	159.84	158.22	155.38	154.2	129.17

Scope 1

Includes: stationary combustion including building heating (natural gas, fuel oil and propane) and generators, mobile combustion including owned fleet vehicles and small equipment, and fugitive emissions such as refrigerants.

2.24 MtCO₂e

Scope 2

Includes: purchased electricity and purchased steam.

1.71 MtCO₂e


Scope 3

Includes: employee business travel, employee commuting, contract transportation, contracted solid waste disposal and wastewater treatment, buildings with fully serviced leases, and transmission and distribution losses from electricity purchases.

9.37 MtCO₂e



Approaches to Emissions Mitigation in Postal and Delivery Sector

- Emissions Accounting and Reporting
 - Emissions Offsetting
 - Decarbonization
- 

Potential Pricing and Product Development Strategies for USPS (1/3)

► *All-in Approach*

- Advantages: Simple, limited impact on customer, largest and most immediate impact on emissions, dominant approach in postal sector.
- Challenges: Customer has no choice (particularly in market dominant mail), USPS currently does not cover all existing costs, making this approach financially and politically infeasible.



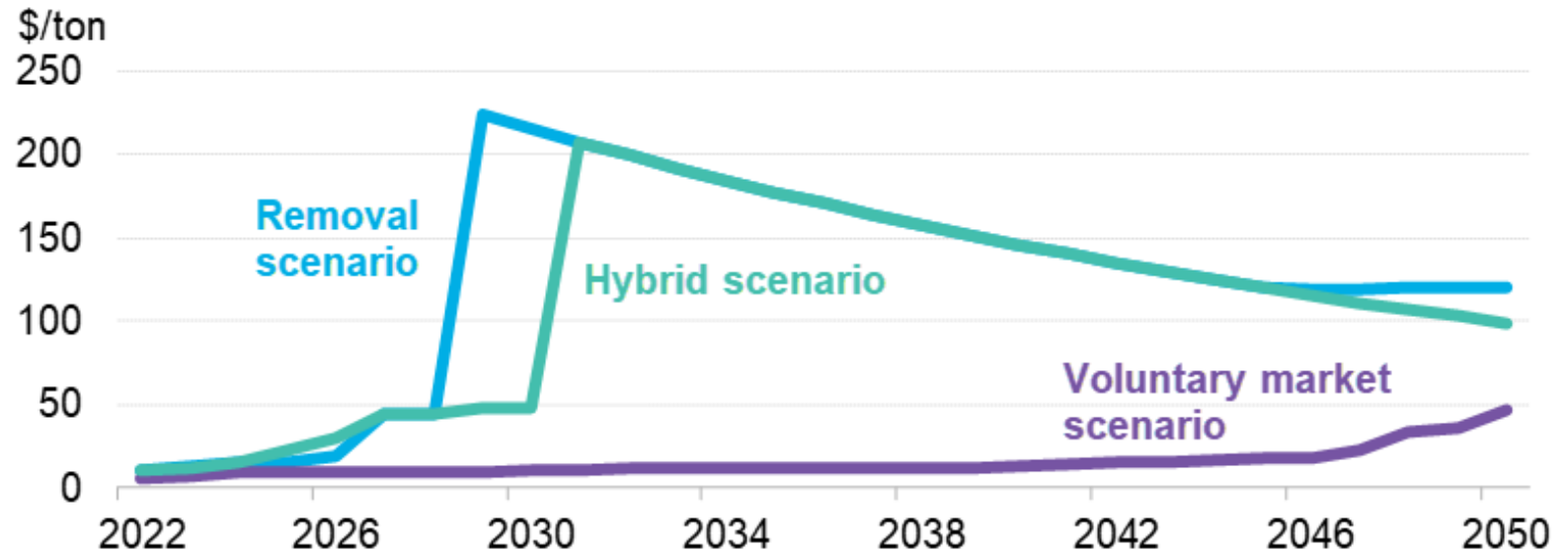
Potential Pricing and Product Development Strategies for USPS (2/3)



► *Premium Pricing*

- **Advantages:** Consumer has a choice, demand research indicates a willingness to pay a premium among a significant set of consumers, provides additional income that could be used for capital investments.
- **Challenges:** Consumer demand likely lower than surveys indicate, lower amount of emissions reduced (at least in short term), regulatory challenges.

Offsetting vs. “Insetting”



Source: Bloomberg NEF, 2022.

Potential Pricing and Product Development Strategies for USPS (3/3)

➤ *Discount Pricing*

- **Advantages:** Price acts as a signal for desired behavior, affects emissions beyond USPS direct control, follows “polluter pays” principle, more flexibility in pricing decisions due to expanded price cap.
- **Challenges:** Enforcement, raises prices on some consumers, pricing is complex and market dominant prices are still constrained by price cap, not immediately clear whether USPS could keep average revenue from declining.





Conclusions and Next Steps

- ▶ This work is a preliminary exploration of approaches, not an attempt to recommend any specific approach. Opportunities exist for USPS to do more to reduce its own emissions and incentivize reductions in the industry.
- ▶ Legal and regulatory reform may not be necessary to attempt these approaches, but could likely be helpful.
- ▶ Future work can strive for a deeper comparison of the options, such as anticipated financial costs and benefits from each approach,

Average Global Price of Carbon Offsets, 2012 – 2022 (\$/tCO₂e)

