

PAPERLESS PLANES for DELTA

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At Delta Airlines, **Sky magazines** are placed in the back pocket of every seat across all flights for a total of **148,000+ magazines per month**. Reducing the number and/or weight of paper magazines, or transitioning to digital copies downloaded in-flight via the free Delta Studio, would reduce weight on planes thus reducing overall fuel consumption.

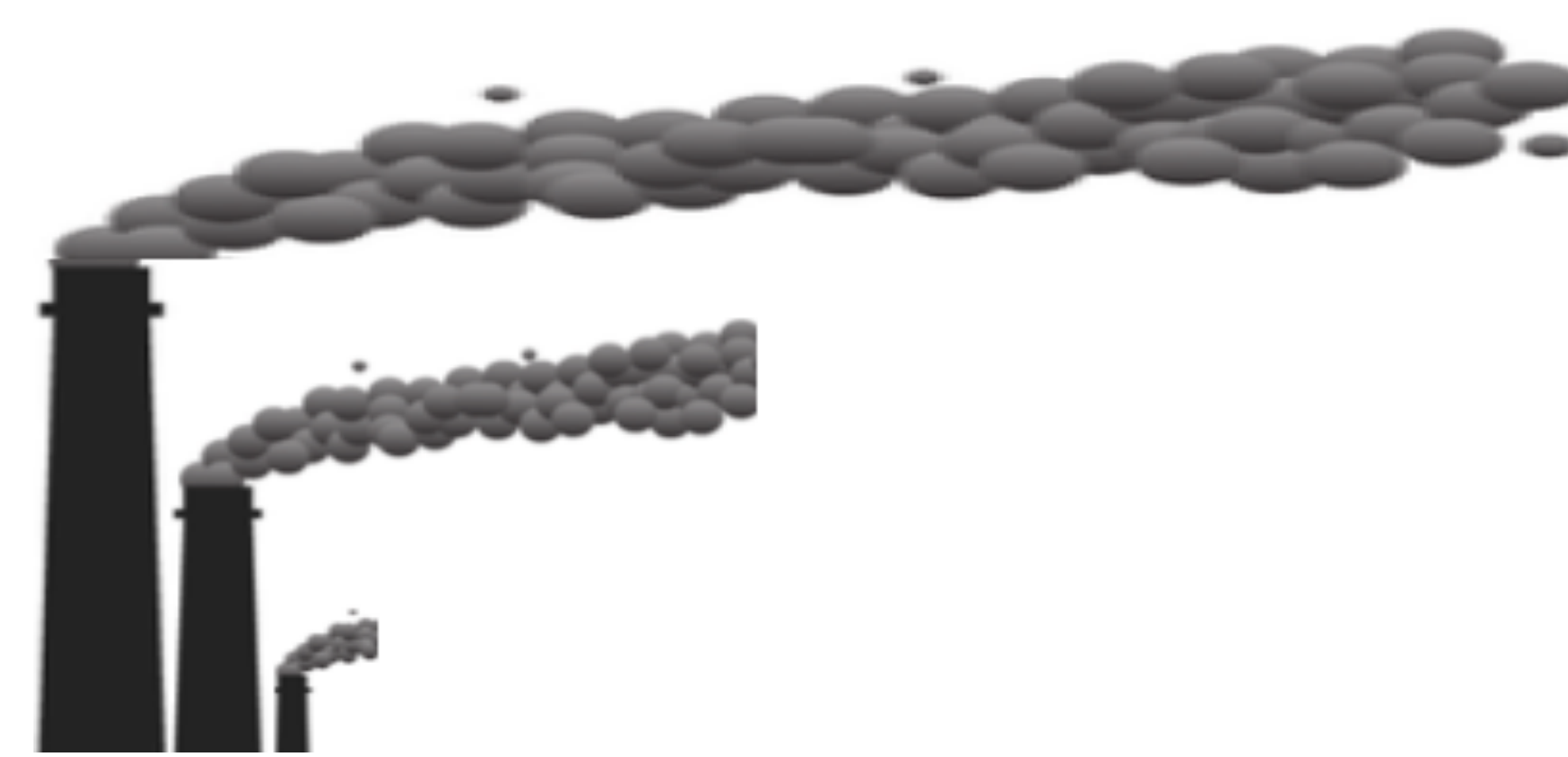
3 Scenarios:

- Remove physical Sky magazines from **ALL** Delta flights
- Reduce the number of magazines by **50%** across all Delta flights (i.e. placing magazines at every other seat)
- Reduce the weight of magazines by **1 oz** (United Airlines strategy)

Carbon Calculations

Savings:

Remove All	27,856,144.72 lbs CO ₂ / yr
Reduce 50%	13,928,072.36 lbs CO ₂ / yr
Reduce 1 oz	2,992,067.10 lbs CO ₂ / yr



Carbon savings of removing all magazines = Carbon emissions of **800** RT flights from ATL – Tokyo
OR
Removing **1,266** Ford Fusions from the roads for a year

Assuming 1 magazine per seat, the total gallon of fuel used to carry Sky magazines on 20 types of aircrafts currently in service. Example below:




Aircraft Type	Fuel to Carry 1 Lbs / 1 aircraft / 1 yr Impact (Gallons)	# aircraft in service	# seats per plane	weight per magazine	Total Fuel (in Gallons) to carry 1 magazine per seat per year
MD-88	13.91	X 108	X 149	X 0.581875	= 259,191.01 gal/yr

The total fuel to carry the magazines across the different aircrafts over a year in terms of CO₂ emissions:

Total Fuel (in Gallons) to carry 1 magazine per seat per year	CO ₂ Emissions Coefficient (lbs CO ₂ per gallon of jet fuel)	Total CO ₂ emissions per year due to magazines
1,513,920.91 gal / yr	X 18.4	= 27,856,144.72 lbs CO ₂ / yr

Financial Calculations

Fuel Cost Savings annually:

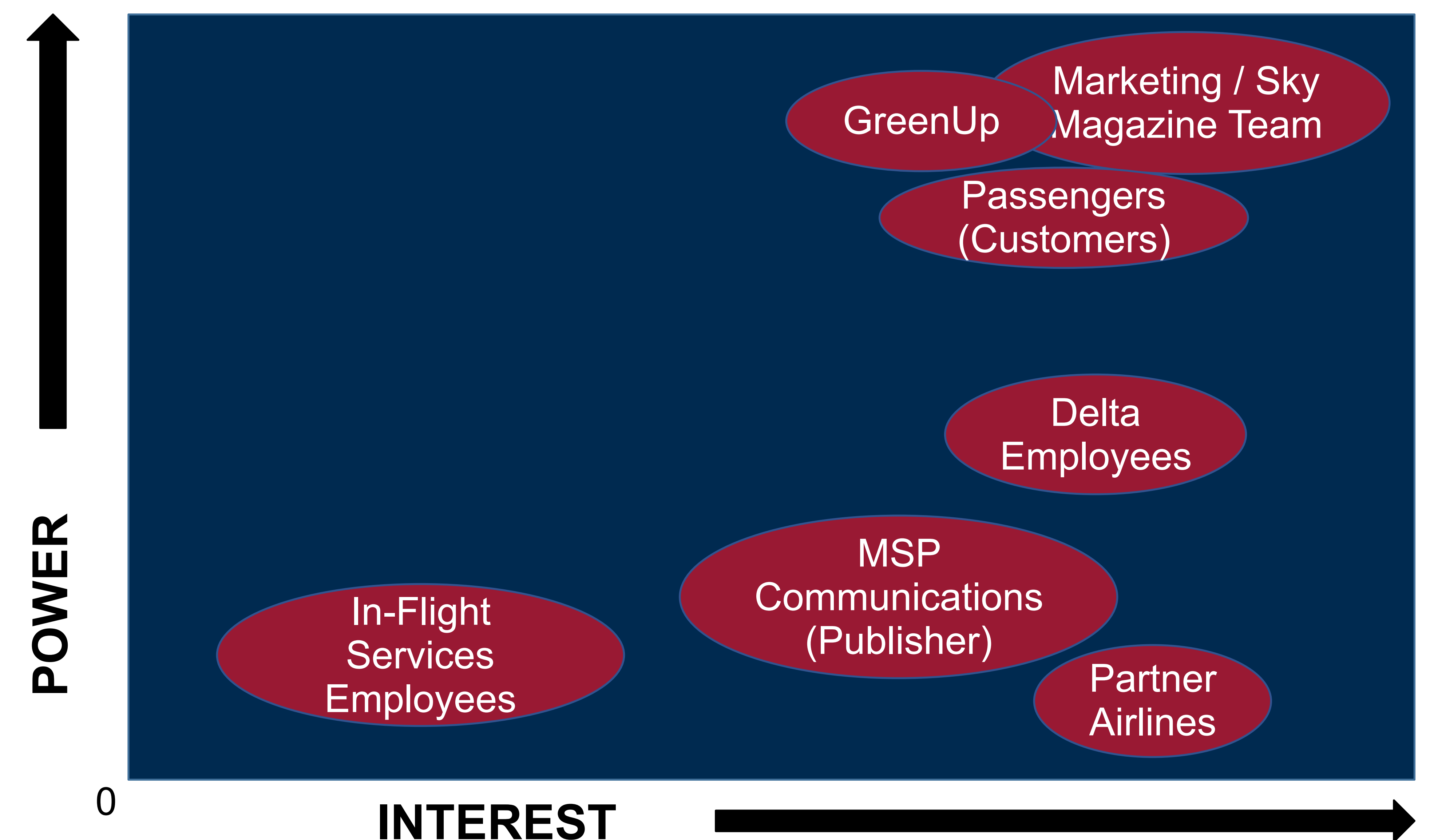
Remove All	\$3,012,702.61	
Reduce 50%	\$1,506,351.30	
Reduce 1 oz	\$323,598.56	

Cost savings of removing all magazines = Carbon of **1,581** RT Flights between ATL - Tokyo

Considerations:

- Current fuel prices are \$1.99/gal. With prices fluctuating and on the current rise, this estimate is conservative.
- For Delta, magazine production costs are considered inconsequential due to guaranteed shared revenue agreement with partner
- Little to no change in advertisement revenue would mean NPV = fuel cost savings listed above

Stakeholder Analysis





Co-Benefits

- Digital can be translated into more languages + text to audio conversion + archive accessibility = increased readership
- Hyperlink clickability allows users to go straight to other articles or advertisers of interest
- Immediate purchasing power through Delta Studio offers convenience for customers and additional revenue stream for advertisers
- Less waste generated by paper magazine's end-of-life → Scope 3 emissions

Current Status

- Fuel savings in terms of carbon emissions and cost have been calculated.
- Met with stakeholders from Marketing/Sky magazine team & GreenUp business resource group
- Gathered information about potential pain points and pushback on the project (i.e. loss of guaranteed revenue, negative effect on customer experience, cost to go digital, etc.)

Next Steps

- Gather more data about current ad revenue, and potential increase/decrease from move to digital format
- Try to get more information from Delta about cost per magazine: distribution costs (transportation via Delta Cargo), any production costs
- Meet with Delta Studio team to determine costs/development involved in uploading Sky magazine to the Studio every month

Special thanks to the Delta Green Up and Sky magazine team for their aid with scoping the project and providing the necessary resources to carry out the analysis. Additionally, thanks to Beril Toktay and Kim Cobb for their guidance and encouragement.