



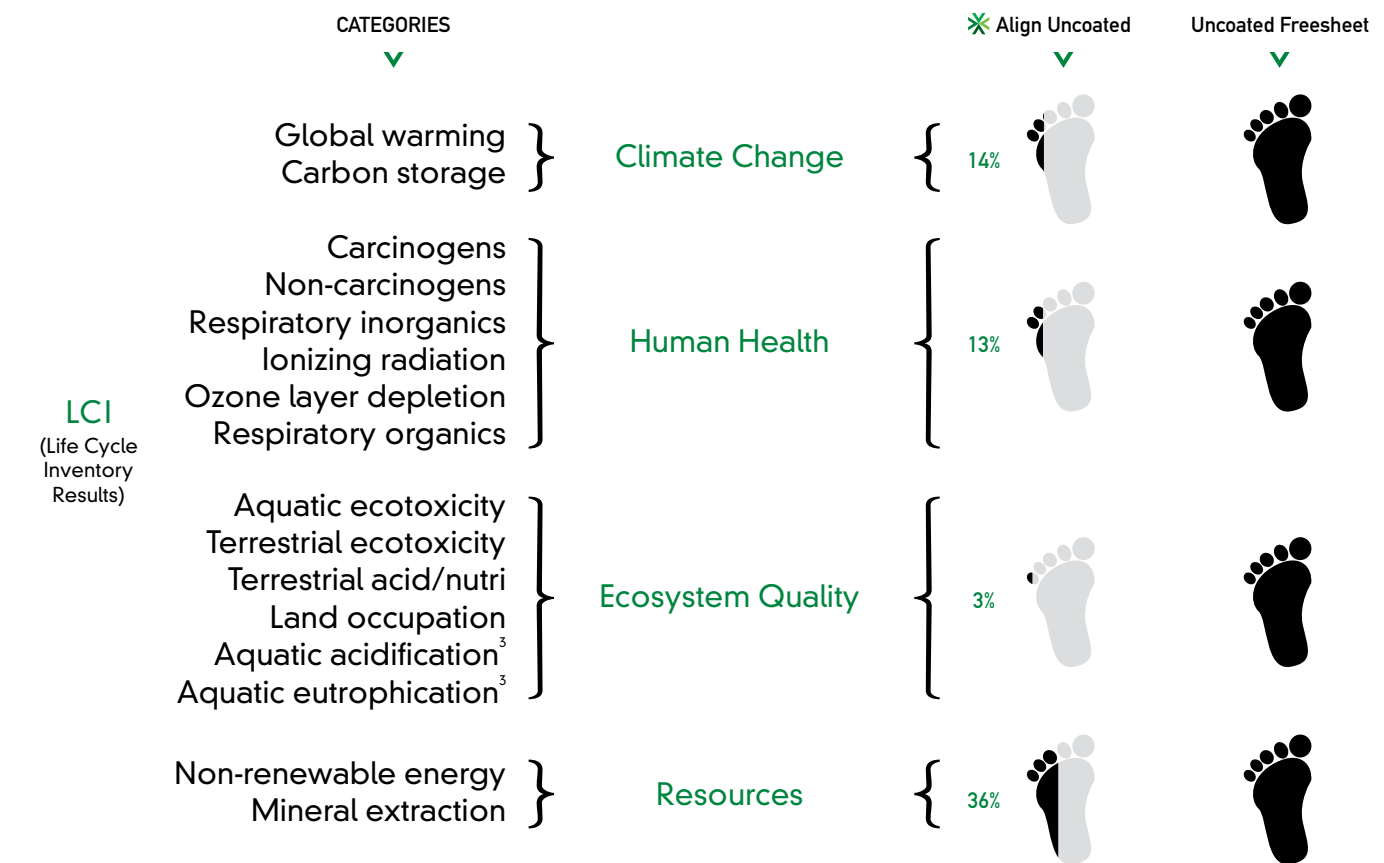
## Align uncoated paper grades have a smaller environmental footprint than uncoated freesheet (UFS) over the product lifecycle.

- ▶ A life cycle assessment (LCA) study commissioned by Resolute Forest Products examined and compared the environmental impacts of the production, transportation, usage and disposal of its Align uncoated grades (Ecopaque Offset, Ecopaque Laser, Ecopaque Jet, Equal Offset, Equal Book, and Alternative Offset) manufactured at Alma, QC, to the average of North American uncoated freesheet (UFS) paper.<sup>1</sup>
- ▶ The LCA found Align uncoated grades to have a smaller environmental impact than UFS over the product lifecycle in 14 of 15 categories examined.

### KEY FINDINGS:

1. Smaller Carbon Footprint
2. Less Energy Used
3. Less Fiber Used

### RELATIVE FOOTPRINT OF ALIGN UNCOATED COMPARED TO UFS: Per ream of paper, over the product life cycle.<sup>2</sup>



### LCA METHODOLOGY

- Resolute's inventory data for the Align uncoated grades came from Resolute Forest Product's mill in Alma, QC
- UFS inventory data came from a "Life Cycle Assessment Of North American Printing And Writing Paper Products, Final Report", published by AF&PA and FPAC, June 18, 2010.
- Inputs included wood fiber, chemicals, fuels and electricity. Outputs included air emissions, liquid effluent, solid wastes and disposal.
- The two products are handled the same way by the customer, resulting in little if any difference in impact from the use phase, therefore no analysis was included for the usage phase.
- This LCA was carried out under contract by Dr. Martin Fairbank, a Resolute employee currently on secondment with a third-party organization. Dr. Fairbank holds a Ph.D. in chemistry and has 26 years of experience in the pulp and paper industry. The study was conducted according to the requirements of ISO 14044 and was peer-reviewed by a panel of three independent experts.
- For details, please refer to the LCA Report to Third Parties and the LCA Executive Summary found at [www.resolutefp.com/LCA](http://www.resolutefp.com/LCA).

## KEY FINDING #1: 85% SMALLER CARBON FOOTPRINT

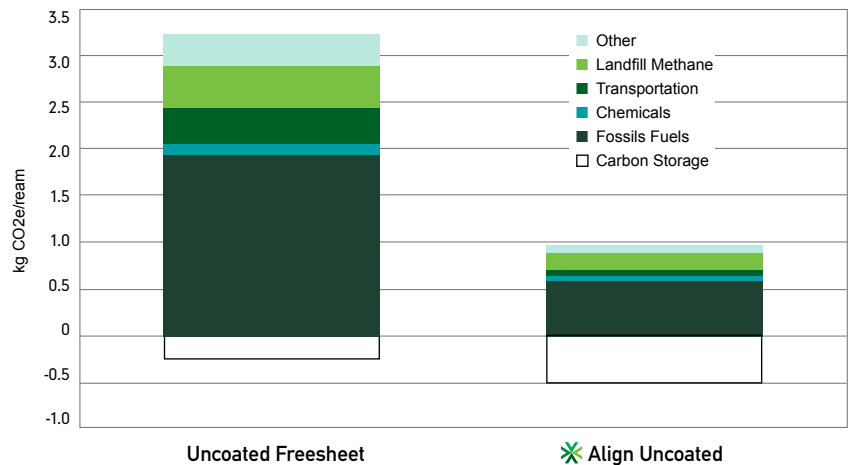
Source: LCA Report to Third Parties

- ▶ Align uncoated grades have a carbon footprint that is an average of 85% less than uncoated freesheet over its life cycle.
- ▶ Every 100 tonnes of Align uncoated used instead of UFS equates to removing the annual greenhouse gas emissions of 22 passenger cars.<sup>4</sup>



As part of our membership in the World Wildlife Fund (WWF) global Climate Savers program, we are committed to helping our customers reduce their greenhouse gas (GHG) emissions by offering them products with a smaller carbon footprint. Resolute Forest Products has committed to a 65% reduction in GHG emissions from Company operations by 2015, compared to 2000 levels. To learn more visit [resolutefp.com/WWF-Climate-Savers.aspx](http://resolutefp.com/WWF-Climate-Savers.aspx)

Carbon Footprint Comparison

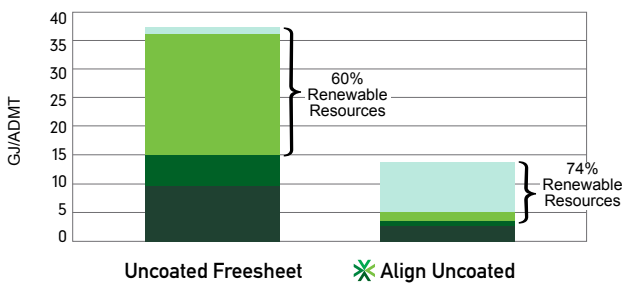


## KEY FINDING #2: 63% LESS ENERGY USE

- ▶ Align uncoated use 25% less energy to produce compared to the average for uncoated freesheet (UFS).<sup>5</sup>
- ▶ For every 100 tonnes of Align uncoated used instead of UFS, the average annual energy use of 63 U.S. households is saved.<sup>6</sup>

- Electricity from renewable sources
- Fuel from renewable sources (biomass)
- Electricity from non-renewable sources
- Fuel from non-renewable sources (fossil fuel)

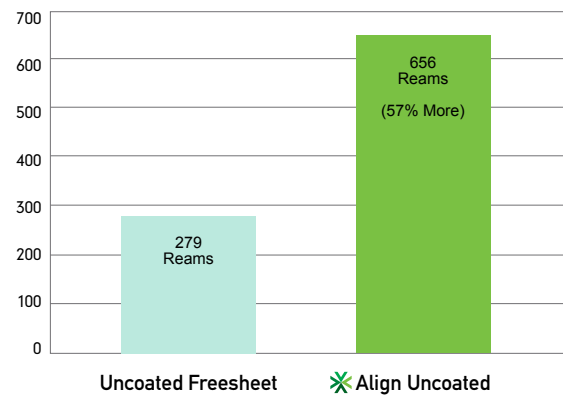
Energy Use Comparison



## KEY FINDING #3: OVER 50% LESS FIBER USED

- ▶ Align uncoated grades require 50% less fiber than UFS.
- ▶ Because Align is bulkier than traditional freesheet, a lighter basis weight can be used, resulting in even more fiber savings.

Fiber Efficiency Comparison  
# of Reams Produced from 1 mt of Fiber



### NOTES

- UFS values used for comparative purposes are industry averages; a specific UFS mill may have values that are higher or lower than the average. Align values are the average for all Align uncoated grades.
- Resolute's Align uncoated grades are at a 45 lb basis weight, UFS is at a 50 lb basis weight.
- The data for aquatic ecotoxicity and aquatic acidification are not included in the Ecosystem quality score as there was no weighting factor available to convert them into the units of the endpoint. Results for these two categories are published in the LCA Report to Third Parties.
- Source: U.S. Environmental Protection Agency <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>
- Energy use data is for mill production only.
- Source: U.S. Department of Energy / US Energy Information Administration <http://205.254.135.7/consumption/residential/data/2005/c&e/summary/pdf/alltables1-15.pdf>

### FOR MORE INFORMATION ON THIS LCA OR ON RESOLUTE FOREST PRODUCTS ALIGN PAPER GRADES:

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