

US EPA ARCHIVE DOCUMENT

Pallet Alternatives Cost Calculator



This Cost Calculator is designed to help landscaping companies and other pallet users to estimate the cost of using environmentally preferable pallets made from recycled wood and recycled plastic, rather than conventional pallets manufactured from virgin wood. The Cost Calculator demonstrates that recycled pallets are extremely cost competitive. While initial costs for recycled pallets are often somewhat higher than conventional pallets, this cost differential is quickly offset by savings in replacement and disposal. Average annual costs and 3, 6, and 10 year costs for recycled pallets are a fraction of the cost of common pressed wood pallets.

Based on your company's demand for pallets, the Cost Calculator tab estimates the average annual cost, as well as initial, 3 year, 6 year and 10 year costs for each of the four most common pallet materials (recycled plastic, recycled hardwood, virgin hardwood, virgin pressed wood). To use the Cost Calculator, type the number of pallets in your fleet and the amount of trips each pallet makes annually into the blue "Input" boxes at the top of the worksheet. This is the only information that you need to provide to use the calculator. Note that the data on purchase costs are available for orders of 10 or more for recycled hardwood pallets and five or more for all other types of pallets.

In the Cost Data tab, EPA provides national averages of costs for different quantities of standard 48" x 40" pallets. Cost data collected from sources dated before 2006 are adjusted for inflation. If you prefer to use your own cost data, you can enter it into the green cells underneath the appropriate heading.

The EHS Benefits tab provides a summary of the environmental, health and safety benefits of using recycled pallets rather than virgin wood pallets.

Please direct any questions or comments on this cost calculator to: Jean Schwab, U.S. EPA GreenScapes Program Manager, schwab.jean@epa.gov or 703-308-8669.



Pallet Alternatives Cost Calculator



Input

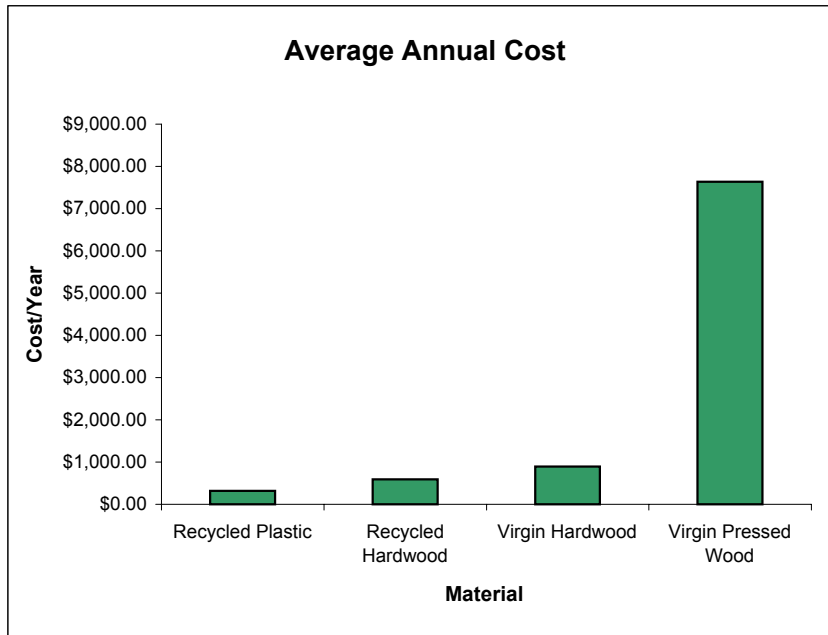
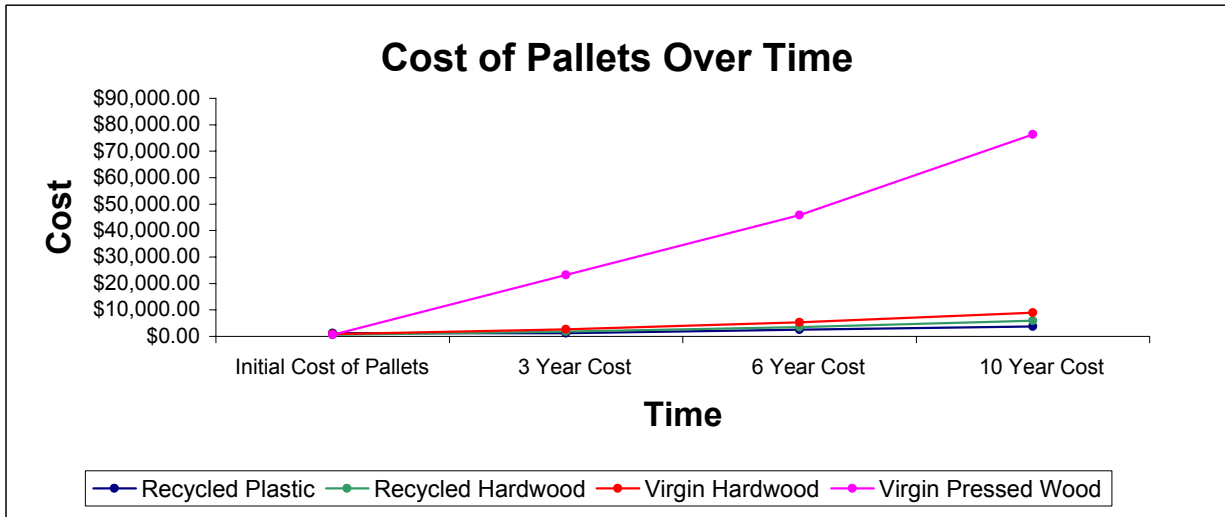
Number of Pallets in Fleet	50
Trips Per Pallet Per Year	25

Recycled Plastic	
Initial Cost of Pallets	\$1,250.00
Fleet Replacements Per Year	0.25
Disposal Cost Per Replacement	\$12.84
<i>Average Annual Cost</i>	<i>\$315.71</i>
<i>3 Year Cost</i>	<i>\$1,250.00</i>
<i>6 Year Cost</i>	<i>\$2,512.84</i>
<i>10 Year Cost</i>	<i>\$3,775.68</i>

Recycled Hardwood	
Initial Cost of Pallets	\$547.50
Fleet Replacements Per Year	1
Disposal Cost Per Replacement	\$41.28
<i>Average Annual Cost</i>	<i>\$588.78</i>
<i>3 Year Cost</i>	<i>\$1,766.33</i>
<i>6 Year Cost</i>	<i>\$3,532.66</i>
<i>10 Year Cost</i>	<i>\$5,887.77</i>

Virgin Hardwood	
Initial Cost of Pallets	\$850.00
Fleet Replacements Per Year	1
Disposal Cost Per Replacement	\$45.86
<i>Average Annual Cost</i>	<i>\$895.86</i>
<i>3 Year Cost</i>	<i>\$2,687.59</i>
<i>6 Year Cost</i>	<i>\$5,375.18</i>
<i>10 Year Cost</i>	<i>\$8,958.63</i>

Virgin Pressed Wood	
Initial Cost of Pallets	\$575.00
Fleet Replacements Per Year	12.5
Disposal Cost Per Replacement	\$35.77
<i>Average Annual Cost</i>	<i>\$7,634.66</i>
<i>3 Year Cost</i>	<i>\$23,173.60</i>
<i>6 Year Cost</i>	<i>\$45,807.98</i>
<i>10 Year Cost</i>	<i>\$76,346.63</i>



Pallet Alternatives Cost Data



Recycled Plastic					
# of pallets	1 to 4	5 to 9	10 to 19	>19	Sources
Cost per pallet	N/A	\$27.00	\$26.00	\$25.00	<i>Economy Plastic Pallets</i> . 2006. Uline. 19 May 2006. < http://www.uline.com/Browse_Listing_8202.asp?desc=Plastic+Pallets >
Trips until replacement	100	100	100	100	"Are You Wasting Pallets and Money?" . Minnesota Office of Environmental Assistance. 19 May 2006. < http://www.moea.state.mn.us/berc/pallets.cfm >
Disposal Cost Per Pallet	\$0.26	\$0.26	\$0.26	\$0.26	See F8 and F9. The disposal cost is based on the weight of the pallets and the national average landfill tipping fee per ton.
Weight Per Pallet (Pounds)	14	14	14	14	<i>Economy Plastic Pallets</i> . 2006. Uline. 19 May 2006. < http://www.uline.com/Browse_Listing_8202.asp?desc=Plastic+Pallets >
Average Landfill Per Ton Tipping Fee	\$36.69	\$36.69	\$36.69	\$36.69	Repa, Edward W. <i>NSWMA's 2005 Tip Fee Survey</i> . March 2005. < http://wastec.isproductions.net/webmodules/webarticles/articlefiles/438-Tipping%20Fee%20Bulletin%202005.pdf >

Recycled Hardwood					
# of pallets	1 to 4	5 to 9	10 to 19	>19	Sources
Cost per pallet	N/A	N/A	\$12.50	\$10.95	<i>Hardwood Pallets</i> . 2006. Uline. 19 June 2006. < http://www.uline.com/Browse_Listing_8201.asp?desc=Hardwood+Pallets >
Trips until replacement	25	25	25	25	"Are You Wasting Pallets and Money?" . Minnesota Office of Environmental Assistance. 19 May 2006. < http://www.moea.state.mn.us/berc/pallets.cfm >
Disposal Cost Per Pallet	\$0.83	\$0.83	\$0.83	\$0.83	See F16 and F17. The disposal cost is based on the weight of the pallets and the national average landfill tipping fee per ton.
Weight Per Pallet (Pounds)	45	45	45	45	<i>Hardwood Pallets</i> . 2006. Uline. 19 June 2006. < http://www.uline.com/Browse_Listing_8201.asp?desc=Hardwood+Pallets >
Average Landfill Per Ton Tipping Fee	\$36.69	\$36.69	\$36.69	\$36.69	Repa, Edward W. <i>NSWMA's 2005 Tip Fee Survey</i> . March 2005. < http://wastec.isproductions.net/webmodules/webarticles/articlefiles/438-Tipping%20Fee%20Bulletin%202005.pdf >

Virgin Hardwood					
# of pallets	1 to 4	5 to 9	10 to 19	>19	Sources
Cost per pallet	N/A	\$19.00	\$18.00	\$17.00	<i>Hardwood Pallets</i> . 2006. Uline. 19 May 2006. < http://www.uline.com/Browse_Listing_8201.asp?desc=Hardwood+Pallets >
Trips until replacement	25	25	25	25	"Are You Wasting Pallets and Money?" . Minnesota Office of Environmental Assistance. 19 May 2006. < http://www.moea.state.mn.us/berc/pallets.cfm >
Disposal Cost Per Pallet	\$0.92	\$0.92	\$0.92	\$0.92	See F24 and F25. The disposal cost is based on the weight of the pallets and the national average landfill tipping fee per ton.
Weight Per Pallet (Pounds)	50	50	50	50	<i>Hardwood Pallets</i> . 2006. Uline. 19 May 2006. < http://www.uline.com/Browse_Listing_8201.asp?desc=Hardwood+Pallets >
Average Landfill Per Ton Tipping Fee	\$36.69	\$36.69	\$36.69	\$36.69	Repa, Edward W. <i>NSWMA's 2005 Tip Fee Survey</i> . March 2005. < http://wastec.isproductions.net/webmodules/webarticles/articlefiles/438-Tipping%20Fee%20Bulletin%202005.pdf >

Virgin Pressed Wood					
# of pallets	1 to 4	5 to 9	10 to 19	>19	Sources
Cost per pallet	N/A	\$12.00	\$11.75	\$11.50	<i>Pressed Wood Pallets</i> . 2006. Uline. 19 June 2006. < http://www.uline.com/Browse_Listing_8203.asp?desc=Pressed+Wood+Pallets >
Trips until replacement	2	2	2	2	"Are You Wasting Pallets and Money?" . Minnesota Office of Environmental Assistance. 19 May 2006. < http://www.moea.state.mn.us/berc/pallets.cfm >
Disposal Cost Per Pallet	\$0.72	\$0.72	\$0.72	\$0.72	See F32 and F33. The disposal cost is based on the weight of the pallets and the national average landfill tipping fee per ton.
Weight Per Pallet (Pounds)	39	39	39	39	<i>Pressed Wood Pallets</i> . 2006. Uline. 19 June 2006. < http://www.uline.com/Browse_Listing_8203.asp?desc=Pressed+Wood+Pallets >
Average Landfill Per Ton Tipping Fee	\$36.69	\$36.69	\$36.69	\$36.69	Repa, Edward W. <i>NSWMA's 2005 Tip Fee Survey</i> . March 2005. < http://wastec.isproductions.net/webmodules/webarticles/articlefiles/438-Tipping%20Fee%20Bulletin%202005.pdf >

Inflation Adjustment Table	
One Dollar in...	Equals this many 2006 Dollars
2004	\$1.07
2005	\$1.04

Source: *CPI Inflation Calculator*. <<http://data.bls.gov/cgi-bin/cpicalc.pl>>

Pallet Alternatives Environmental, Health and Safety Benefits

Using recycled plastic or recycled hardwood pallets instead of virgin wooden pallets makes environmental and economic sense.

Using recycled pallets:

Conserves timber because using recycled pallets reduces this demand for timber. Half of all timber resources are harvested to manufacture new wooden pallets.

Reuses waste materials by reusing plastic or wood waste.

Reduces waste and demand for landfill space because using recycled plastic pallets reduces plastic waste streams, while using recycled wooden pallets reduces wood waste streams. Reducing these waste streams reduces pressures to build more landfills. Where recycled plastic pallets are used, far less waste is generated due to the long lifespan of plastic pallets.

Conserves local ecology because using recycled pallets instead of virgin wood pallets reduces demand for timber. This abates deforestation pressures and supports healthy forest ecology.

Preserves or restores wildlife habitat because using recycled pallets instead of virgin wood pallets reduces demand for timber. This abates deforestation pressures and supports healthy forest habitats.

Helps fight climate change because using recycled plastic or recycled wood instead of virgin wood reduces demand for timber and deforestation pressures, and forests filter carbon dioxide, a key greenhouse gas responsible for global climate change (This process is known as carbon sequestration). EPA has developed several tools for calculating the greenhouse gas impacts of purchasing, waste management, and manufacturing activities, available at:

<http://epa.gov/climatechange/wycd/waste/tools.html>

Conserves fossil fuels because using recycled plastic for pallets reduces petroleum demand (specific to plastic pallets).

Protects worker or user safety because wood can break down over time and splinter, potentially causing injuries (specific to plastic pallets).



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Environmentally Beneficial Landscaping