

▶ **State of California Paper Choices Workshop:
The Traditional View, with a Twist**

Yalmaz Siddiqui, Director, Environmental Strategy, Office Depot

▶ A CAUTIONARY NOTE

“As soon as we do this I’m sure someone will come up with a reason its not green”

(I’m so confused by this stuff)

Purchasing Director, Top Tier University in North East US

Quote based on discussion on transitioning office supplies delivery from next day to twice a week

▶ THE KEY STAKEHOLDER IS NOT US - TO GROW GREEN
PURCHASING WE DON'T WANT TO CONFUSE THEM

1. End Users

2. Purchasing Directors
3. Environmental Thinkers



▶ WHAT I PROPOSE TO PRESENT

1. The Traditional / Macro View
2. Why I believe we need to build on and reinforce the macro view & better communicate what we want end-users to buy
3. How I believe we can leverage the strengths of LCA at the macro level *without* confusing the marketplace with micro / paper-SKU specific analysis

▶ MY PERSPECTIVE IS FRAMED BY MY BACKGROUND

- **Master of Philosophy from University of Cambridge, 1994**
- **Masters Thesis on Industrial Ecology, Life Cycle Analysis and Biomimicry**
- **Authored first major global study on green purchasing of wood & paper products: “A Greenward Shift in the Market”, 2003, IMPACS**
- **Over three years running Global Environmental Strategy at Office Depot**
- **Delivered over 60 presentations as Office Depot Environmental Director**
- **Learned that end customers are ONLY JUST starting to “get” this stuff, most are only just starting to understand attributes, and related benefits – just as we are getting sick of attributes, the world is getting interested**

▶ AND MY PHILOSOPHY

1. Believe we must focus first on customers, including ones without expertise in this space to grow green purchasing
2. Don't believe in eco-purity as the path to sustainability because nothing is "eco-pure", there will always be impacts
3. Limited tolerance for certification and methodology battles because they keep the dialogue focused within environmental thinkers rather than end-users
4. See Life Cycle Analysis as an *analysis* tool to understand impacts and drive improvements, not a decision-making tool to define "what's greener" (often who funds = who wins)

▶ **The Macro View &
Office Depot's Communication Approach**

▶ THE MACRO VIEW

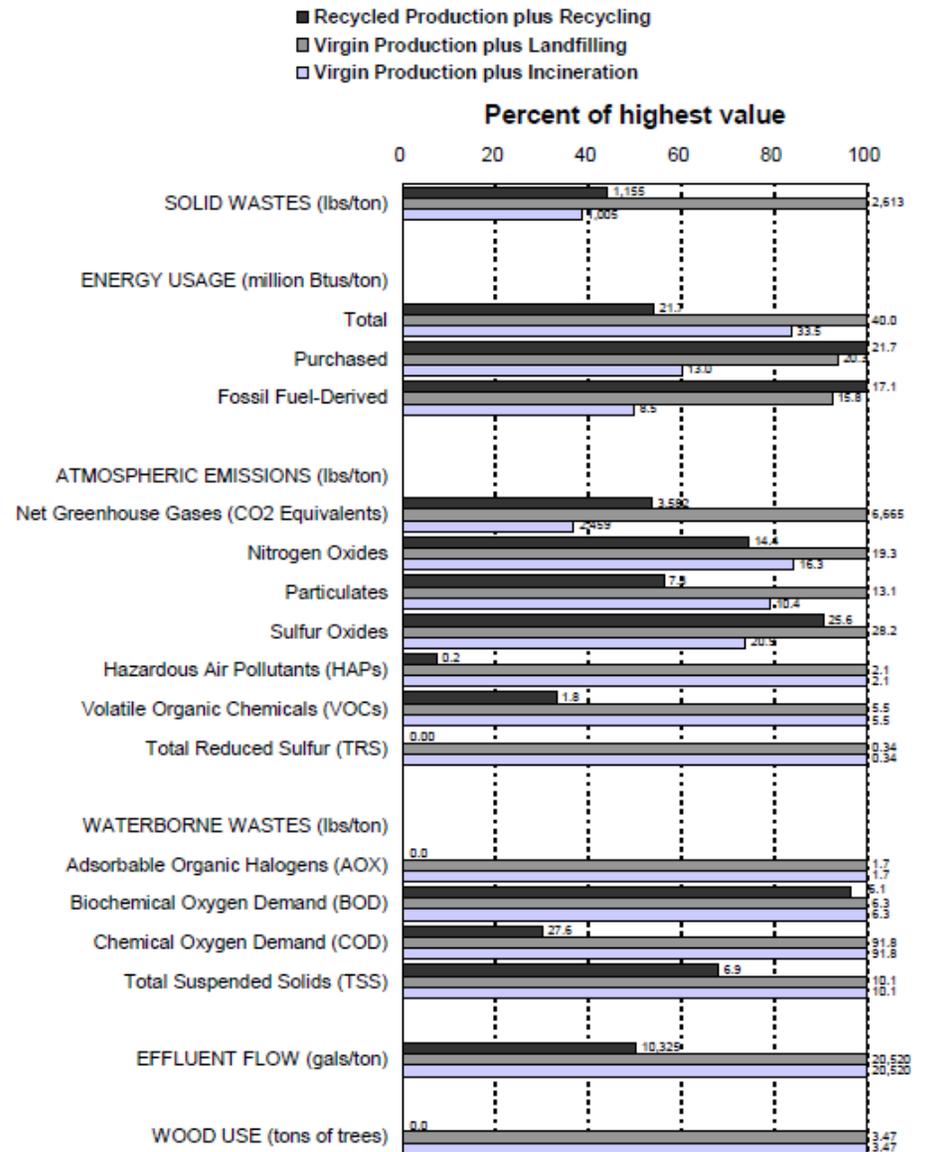
- 100% PCRC is greenest, 30% is green, 0% is less green and the PCRC single attribute is generally indicative of environmental preferability in and of itself
- 100% PCRC generally helps reduce pressure on forests and biodiversity, helps reduce paper waste (and methane) from landfills and at the system-level results in less carbon emissions
- There is a lot of pressure on global forests, including tropical forests that sequester a high proportion of global CO₂ – we need to reduce pressure on natural forests
- FSC certified virgin content is generally greener than SFI which is generally greener than nothing
- TCF/PCF bleaching is generally greener than ECF which is greener than chlorine-bleaching
- Currently accepted LCAs show 100% PCRC is “greener” than 0% PCRC on every dimension of LC environmental preferability

▶ ORIGINAL EDF PAPER TASK FORCE LIFE CYCLE ANALYSIS SHOWS 100% PCRC PAPER AS ENVIRONMENTALLY PREFERABLE IN EVERY MAJOR IMPACT CATEGORY

▶ OTHER LCA'S WILL/HAVE COME TO DIFFERENT CONCLUSIONS DUE TO ASSUMPTIONS, SYSTEM BOUNDARIES, AVAILABLE DATA AND PRODUCT-SPECIFIC INFORMATION

▶ LCA IS NOT CONCLUSIVE

Figure S3. OFFICE PAPER:
Average Lifecycle Energy Use and Environmental Releases



▶ OFFICE DEPOT APPROACH IS TO TAG ALL PRODUCTS, INCLUDING COPY PAPER INTO A SIMPLE HIERARCHY OF “LIGHT GREEN”, “GREEN”, OR “DARK GREEN”. FLEXIBLE. QUICK. ROUGHLY RIGHT.

LIGHT GREEN:
Domtar
EarthChoice™
FSC-Certified
0% PCRC Paper.
Elemental
Chlorine Free
Bleaching

GREEN Recycled:
Office Depot
Green™ 30%
Post Consumer
Recycled;
Elemental Chlorine
Free bleach; Green
Seal Certified; SFI
Certified, moving
to FSC in Q2 2009

GREEN(ER):
Boise Aspen 50%
Post Consumer
Recycled;
Elemental Chlorine
Free bleach; Green
Seal Certified; FSC
certified virgin
content

DARK GREEN:
Office Depot
Green™ 100%
Post Consumer
Recycled, Process
Chlorine Free
bleach FSC
certified for
recycled content
Bleaching,
Carbon-Balanced



THE PAPER INDUSTRY IS DYNAMIC – SKU'S CHANGE PROFILE



Green Business Review

#	Unique SKUs	Type of Paper "Shades of Green Product System®"	Dollar Spend by Shade of Green	% by \$ value	Main Green Attribute	PCRC	FSC/ SFI/ PEFC	Bleach	Comments
1	711021	PAPER,COPY,RECYCLED,3HP,8.5	\$ 20,023	22.9%	Recycled	30%	SFI	ECF	Moving to FSC in Q3 09
2	348037	PAPER,COPY,8.5X11,104 BRT,BO	\$ 18,324	20.9%	Virgin Resp. Forestry		SFI	ECF	Some may move to FSC
3	940650	PAPER,CPY,RCY,8.5X11,20#,104E	\$ 12,140	13.9%	Recycled	30%	SFI	ECF	Moving to FSC in Q3 09
4	343454	PAPER,COPY,8.5X11,28#,COLOR	\$ 11,626	13.3%	Virgin Resp. Forestry		SFI	ECF	Some may move to FSC
5	495200	PAPER,COPY,8.5X11,3HP,104BR	\$ 4,636	5.3%	Virgin Resp. Forestry		SFI	ECF	Some may move to FSC
6	680017	PAPER,LTR,20#,RECY,MULTI	\$ 3,014	3.4%	Recycled	30%	SFI	ECF	Moving to FSC in Q3 09
7	940668	PPR,COPY,RECY,8.5X14,20#,	\$ 2,897	3.3%	Recycled	30%	SFI	ECF	Moving to FSC in Q3 09
8	275474	PAPER,COPY,XEROX,8.5X11,10/C	\$ 2,713	3.1%	Virgin Unknown			ECF	Likely SFI , to obtain certificates
9	727641	PAPER,COLOR COPY,11",8RM	\$ 2,264	2.6%	Recycled	20%	SFI	ECF	Moving to FSC in Q3 09
10	521980	PAPER,COPY, 100% RECYCLED...	\$ 1,770	2.0%	Recycled	100%	FSC	PCF	Also carbon-balanced
		Etc.							

▶ LCA IS NOT PERFECT, NEITHER ARE ATTRIBUTES, BUT ATTRIBUTES ARE “ROUGHLY RIGHT” AT THE SYSTEM LEVEL BUT ARE MUCH SIMPLER TO COMMUNICATE TO END-USERS

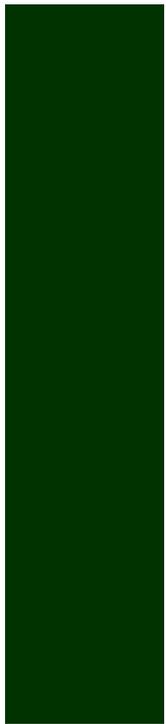
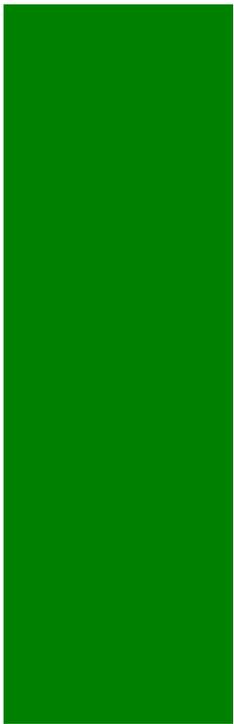
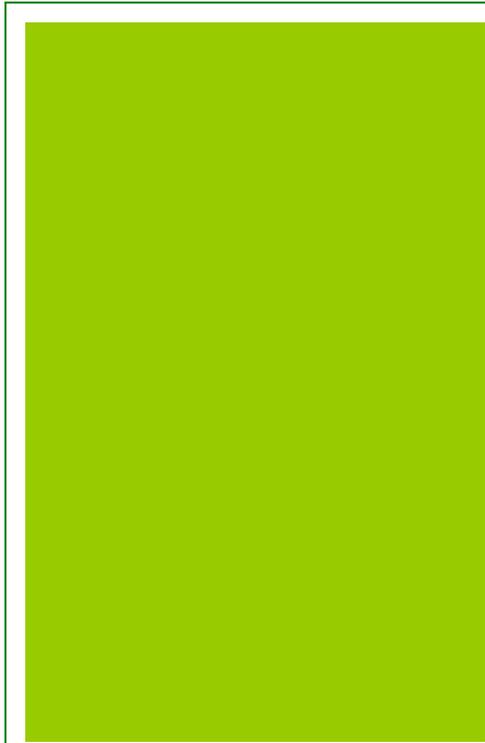
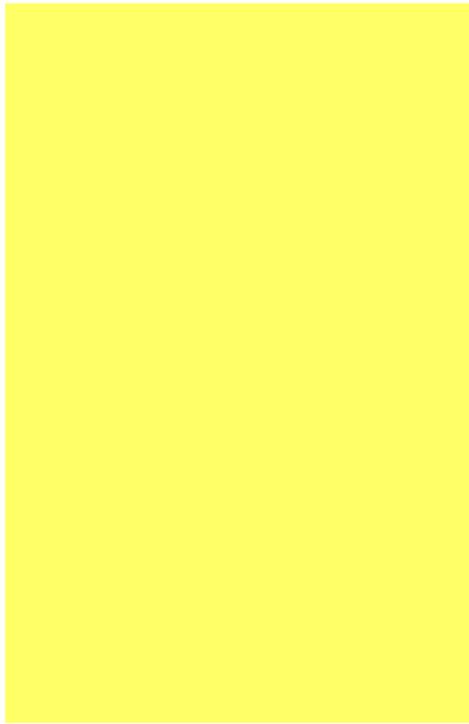
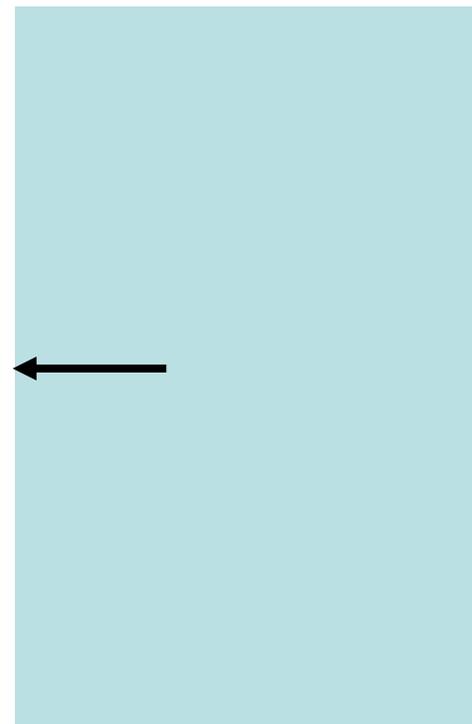
e.g. No Forest Certification, Chlorine bleached & 0% PC Recycled Content

e.g. ECF, Sustainable Forestry Initiative Certified Virgin Paper

e.g. FSC certified Virgin paper and / or 10-29% PCRC (with certification = bonus)

e.g. 30-89% PCRC

e.g. 90-100 PCRC



**not green/
unknown**

eco-expectation

light green

green

**dark
green**

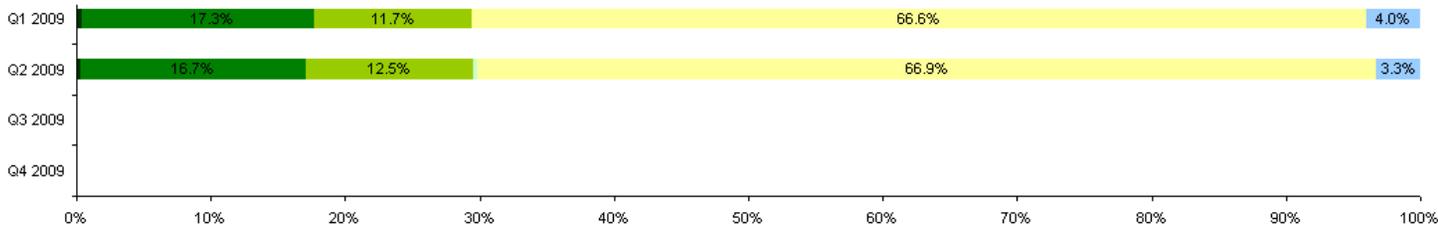
Reporting helps visually illustrate a customers spend patterns and presents a forward looking view of "where to go" in the future

Office DEPOT.

Sample Company
Account Number
Q1 2009 - Q2 2009

Cut Sheet Paper Spend by "Office Depot Shades of Green®"

Summary Graph



Detailed Chart

Type of Paper	Q1 2009		Q2 2009		Q3 2009		Q4 2009	
	Est. Dollar Spend	Est. % by \$ value	Est. Dollar Spend	Est. % by \$ value	Est. Dollar Spend	Est. % by \$ value	Est. Dollar Spend	Est. % by \$ value
"Office Depot Shades of Green Product System®"								
Unknown / Uncertified / Virgin Paper [Not Necessarily Green]	\$ 6,351	4.0%	\$ 5,296	3.3%	\$ -	-	\$ -	-
SFI Certified Virgin Paper [Eco Expectation - Responsible Forestry]	\$ 105,758	66.6%	\$ 108,808	66.9%	\$ -	-	\$ -	-
FSC Certified Virgin Paper [Light Green - Responsible Forestry]	\$ 38	0.0%	\$ 527	0.3%	\$ -	-	\$ -	-
10%-29% Post Consumer Recycled [Light Green - Recycled]	\$ 18,554	11.7%	\$ 20,251	12.5%	\$ -	-	\$ -	-
30%-89% Post Consumer Recycled [Green - Recycled]	\$ 27,442	17.3%	\$ 27,209	16.7%	\$ -	-	\$ -	-
90%-100% Post Consumer Recycled [Dark Green - Recycled]	\$ 728	0.5%	\$ 520	0.3%	\$ -	-	\$ -	-

Total Paper Green Spend & Percent:	\$ 46,763	29.4%	48,508	29.5%
Total Paper Overall Spend & Percent:	\$ 158,871	100%	\$162,612	100%

Top SKU purchased by weight:		SKU	Spend	Qty	% spend	lbs.	% weight	Attribute
Q4 2008	PAPER_COPY.8.5X11,104 BRT,BOND	348037	\$ 59,718	1972	37.6%	102,209	46.9%	SFI Responsible Forestry
Q1 2009	PAPER_COPY.8.5X11,104 BRT,BOND	348037	\$ 63,618	2101	39.1%	108,895	48.0%	SFI Responsible Forestry
Q2 2009								
Q3 2009								

Forest Certifications: SFI - Sustainable Forestry Initiative, FSC - Forest Stewardship Council, PEFC - Program for Endorsement of Forest Certification

Important Note: Office Depot maintains a database of environmental attributes, specifications and certifications based on vendor responses to information requests. The spend tables shown are fully reliant on this vendor information.

Est. over \$114K, 70.2%, outside of Shades of Green

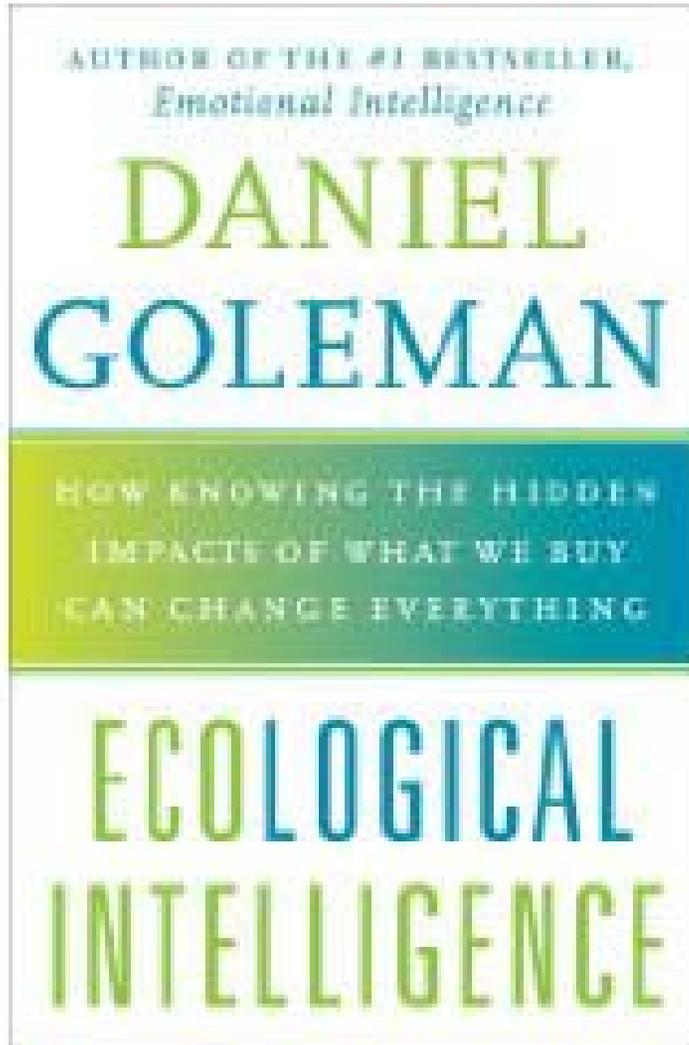
SKU 348037 represented 39.1% of cut sheet paper spend.

▶ BENEFITS OF REINFORCING THE MACRO VIEW

1. End users can understand this hierarchy 0% less good, 100% good
2. End users will be confused by interjection of a message such as *“For years we’ve told you recycled content is good, and the more PCRC the better...but now we are telling you it isn’t so good. Trust us.”*
3. The macro view can help us achieve system-wide environmental goals, even if LCA may indicate higher impacts (even higher carbon impacts) in some specific cases
4. We can leverage the strengths of LCA to reduce actual paper impacts regionally and nationally, for virgin and recycled paper *without* confusing the marketplace with an awkward message to end users that *could* come out of this workshop

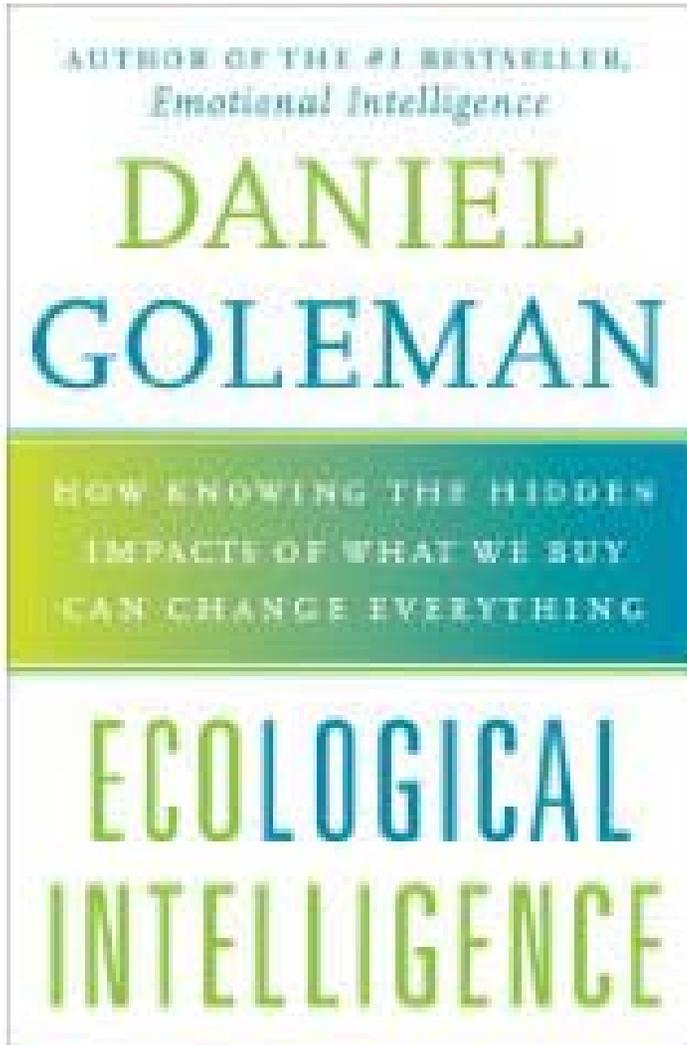
▶ **LCA STRENGTHS AND WEAKNESSES**

► HIGH LEVEL STRENGTHS



1. Comprehensive
2. Helps identify the “phase” during which most LC impacts occur e.g. car = use phase; bamboo clothing = conversion phase etc.
3. Uncovers unpredicted impacts that can be mitigated in production
4. Rigorous

► HIGH LEVEL WEAKNESSES



1. Complex and expensive
2. Takes a lot of time to present an “answer”: LCA may not be completed on a rapid enough basis to address the pace of change. By the time the LCA is done based on existing assumptions on a SKU, some parameters may have changed
3. Difficult to communicate “what do you buy” end users

▶ ASSUMPTIONS AND ISSUES THAT MAY DRIVE THE LCA IMPACT PROFILE

LCA ASSUMPTIONS

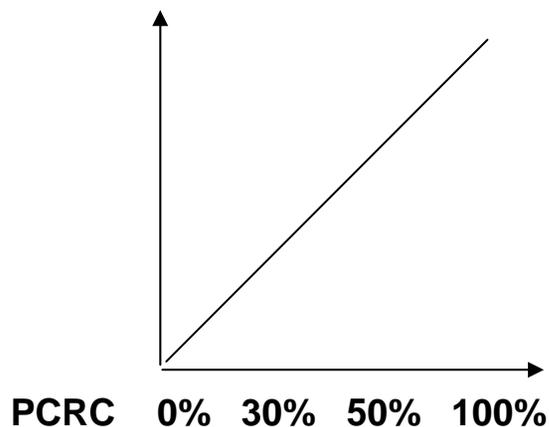
- We can create an accurate Standard Impact Profile as the baseline
- We can complete a LCA at the pace of change in paper specifications
- On recovery, GHG from shipping collected paper to e.g. China at end of life CAUSES short term GHG from shipping
- Stored paper sequesters CO₂ therefore the end of life = low carbon
- Assumptions can be “normalized” in a standardized LCA, especially at the “local level”

ISSUE WITH ASSUMPTION

- There is no “fixed standard”, the paper system is dynamic e.g. changes in cert'n; energy, harvest cycles, sources, biodiversity issues, species impacts
- Things change including energy mix, certification, harvest cycles, sources
- Shipping of recovered paper is generally on ships that were going back empty therefore high % of the GHG impact would have occurred anyway
- Est. High proportion of end-of-life paper currently ends up in landfill = potent methane emissions
- Assumptions hugely influence the impact profile, even in “standardized” LCA, even at the “local level”

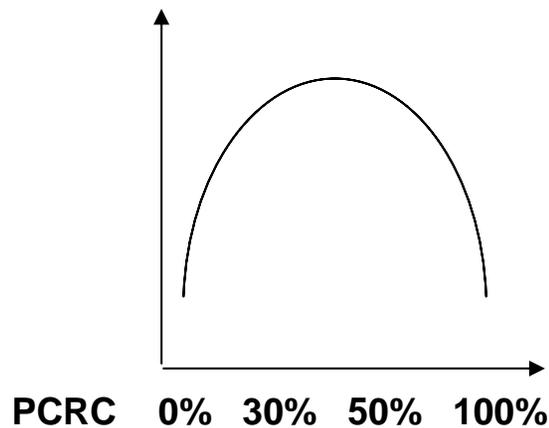
▶ DIFFERENT LCA'S LOOKING AT THE SAME PRODUCTS CAN DELIVER VERY DIFFERENT IMPACT PROFILES – ASSUMPTIONS AND FUNDERS CAN DRIVE DIFFERENT RESULTS

**Net
Environmental
Benefits**



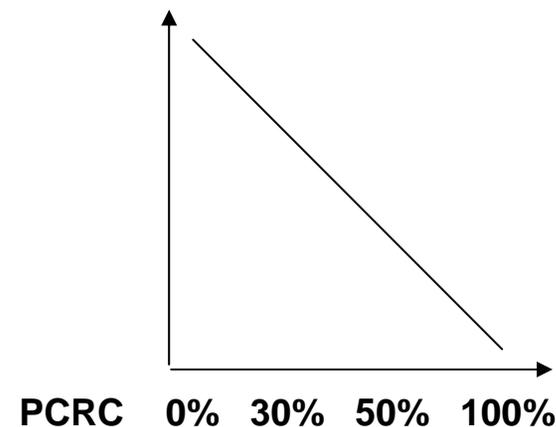
**Traditional View:
Paper Task Force
System-Wide
Analysis**

**Net
Environmental
Benefits**



**SCS View:
Regional / Paper-
Specific Analysis**

**Net
Environmental
Benefits**



**Potential
Industry View:
Paper-Specific
Analysis**

▶ A SUGGESTION

1. Let's stick with the macro view and message a hierarchy that is “roughly right”, even if LCA shows the hierarchy is not fully correct for some paper SKUs
2. Let's use SCS 002 LCA to understand:
 1. Where the key issues are in virgin paper production at site-specific levels, and mitigating them
 2. Where the key issues are in recycled paper production at site-specific levels, and mitigating them
3. Let's use these insights to model the optimal system for 100% PCRC paper production, purchase and end-of-life management
4. Let's invest in creating the optimal system by creating the best sources for production of 100% PCRC paper and THEN driving increased purchase of 100% PCRC paper