



ZWAC Construction & Demolition Recycling Committee Feb. 28, 2017

AGENDA – ZWAC C&D Committee

1. Call to Order: Introductions
2. Citizen Communication
3. Approval of Minutes
4. New Business
 - a. Disaster Debris Management
 - b. Deconstruction
 - c. C&D-derived Scrap Wood Policies
 - d. Mandatory Concrete Recycling
 - e. C&D Recycling Ordinance Metrics

4.a. Disaster Debris Management

Austin Resource Recovery:

- Richard McHale, Interim Assistant Director
- Amy Slagle, Interim Division Director, Litter Abatement/Operations Support

4.b. Deconstruction Programs & Policies

- Kathy Robinson, The Reuse People, Austin
- Adriana Vann, Supply Chain Management, McCombs School of Business, University of Texas

4.c. C&D-derived Scrap Wood Policies

- Quandary
 - Austin Zero Waste
 - C&D Recycling Ordinance
 - Green Building requirements & credits
- Research
 - RCI-certified facilities
 - Other jurisdictions
- Discussion

Austin Zero Waste Goal

- Zero Waste Strategic Plan (12/4/2008)
 - Reduce by 20 percent the per capita solid waste disposed to landfills by 2012,
 - Divert 75 percent of solid waste from landfills and incinerators by 2020, and
 - Divert 90 percent of solid waste from landfills and incinerators by 2040

C&D Recycling Ordinance

§ 15-6-155 QUALIFIED PROCESSOR. A permittee may deliver materials to a qualified processor to meet the rates established in Section 15-6-151 (Project Disposal Rates) or Section 15-6-152 (Project Diversion Rates).

C&D Recycling Ordinance Rules

Average Diversion Rate Validation.

- Certification of Real Rates (CORR) by the *Recycling Certification Institute*, or
- Affidavit from a registered evaluator stating that the processor meets the requirements of this section

RCI's CORR & LEED

Qualified LEED projects that deliver their C&D materials to facilities that meet RCI's CORR Protocol can apply for an additional LEED Pilot Credit point.

LEED Materials and Resources

LEED v4 Prerequisite: Plan, Goal, Strategies

MR Credit:

- 50% or 75% Diversion, or
- < 2.5 lbs/sf generated

Alternative daily cover (ADC) = not diversion

Wood waste converted to fuel = diversion

Austin Energy Green Building 2016 Commercial Rating

Construction Waste Management

Basic Requirement:

- Divert at least 50%, or
- Send commingled C&D material to an ARR-registered Qualified Processor or an RCI-certified facility

Research: Other Jurisdictions

DO NOT count biomass conversion as diversion:

- CalGreen, beginning 1/1/17
- Chicago IL
- Cook County IL
- Los Angeles CA
- Orange County NC
- San Mateo CA
- Santa Monica CA

Research: Other Jurisdictions

Count biomass conversion as diversion

- Austin Energy Green Building
- USGBC – LEED
- Lee County FL
- Madison WI
- San Diego CA
- San Jose CA
- Seattle WA

Research: Other Jurisdictions

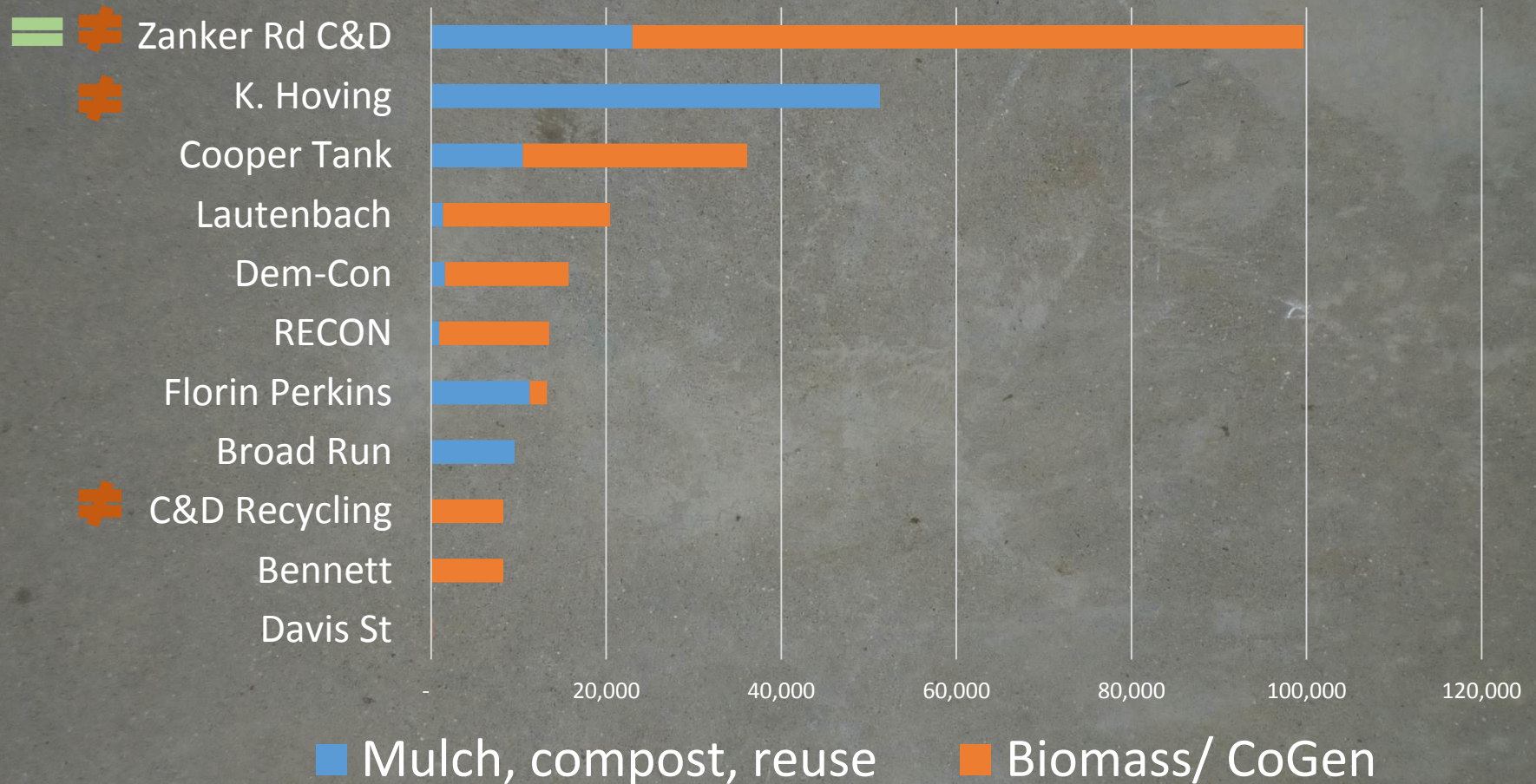
San Francisco & Palo Alto CA conditionally count biomass conversion as diversion:

Recovery rate can include biomass conversion if facility can demonstrate it is the highest and best use and that recycling, mulch, or compost markets for the biomass are not adequate or feasible.

Research: RCI-certified facilities

Mixed C&D Processing Line (City state)	Annualized Tons of Mixed C&D	Annualized Tons of Wood	% Wood	% of Wood used as:	
				Biomass/ CoGen	Mulch, compost, reuse, ...
Zanker Rd (San Jose CA)	257,799	99,512	38.6%	77.0%	23.1%
K. Hoving (West Chicago IL)	152,505	51,260	33.6%	0.0%	100.0%
Cooper Tank (Brooklyn NY)	357,274	36,110	10.1%	71.0%	29.0%
Lautenbach (Mount Vernon WA)	46,407	20,423	44.0%	93.3%	6.7%
Dem-Con (Shakopee MN)	73,718	15,693	21.3%	89.8%	10.2%
RECON (Del Valle TX)	35,721	13,493	37.8%	93.1%	6.9%
Florin Perkins (Sacramento CA)	143,971	13,236	9.2%	14.9%	85.1%
Broad Run (Manassas VA)	110,944	9,532	8.6%	0.0%	100.0%
C&D Recycling (Los Angeles CA)	55,032	8,261	15.0%	100.0%	0.0%
Bennett (Fruitland MD)	23,993	2,135	8.9%	0.0%	100.0%
Davis St (San Leandro CA)	682	165	24.2%	50.2%	49.8%
OVERALL	1,258,046	269,974	21.5%	58.6%	41.4%

Research: RCI-certified facilities



Life Cycle Analysis

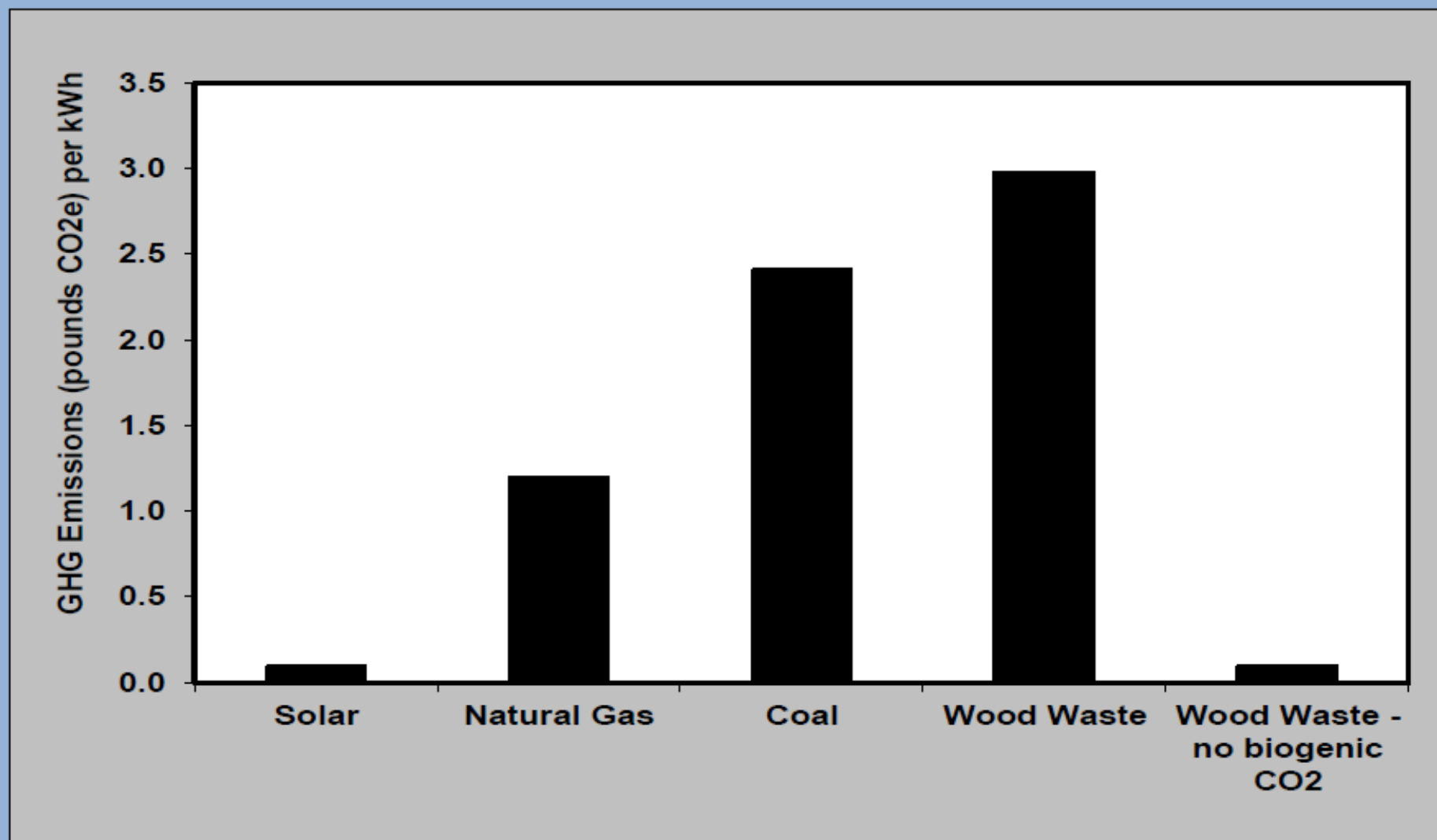
Journal of Industrial Ecology

Recycle, Bury, or Burn Wood Waste Biomass?

LCA Answer Depends on Carbon Accounting, Emissions Controls, Displaced Fuels, and Impact Costs

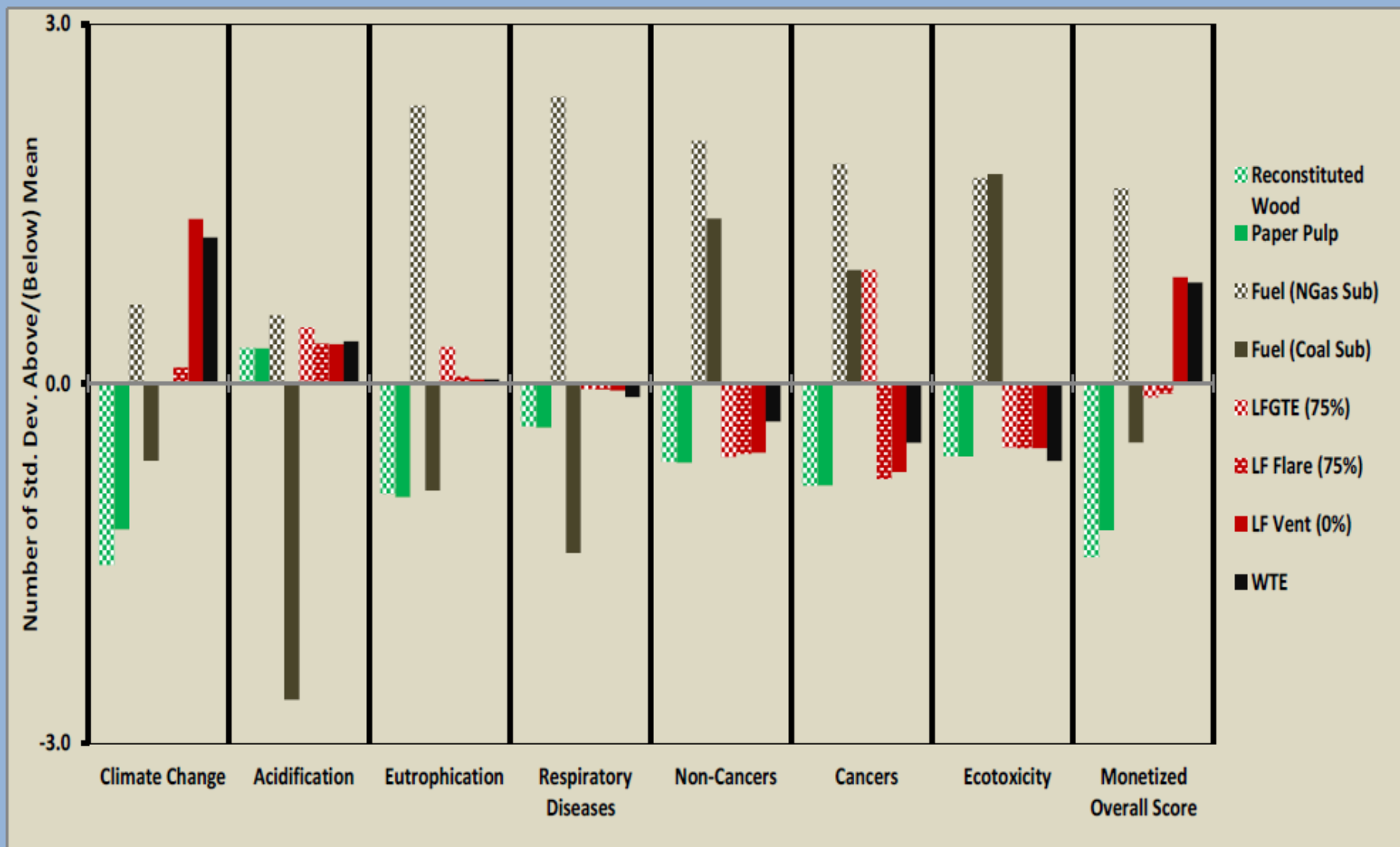
Jeffrey Morris

Carbon Footprints for Electricity Generation



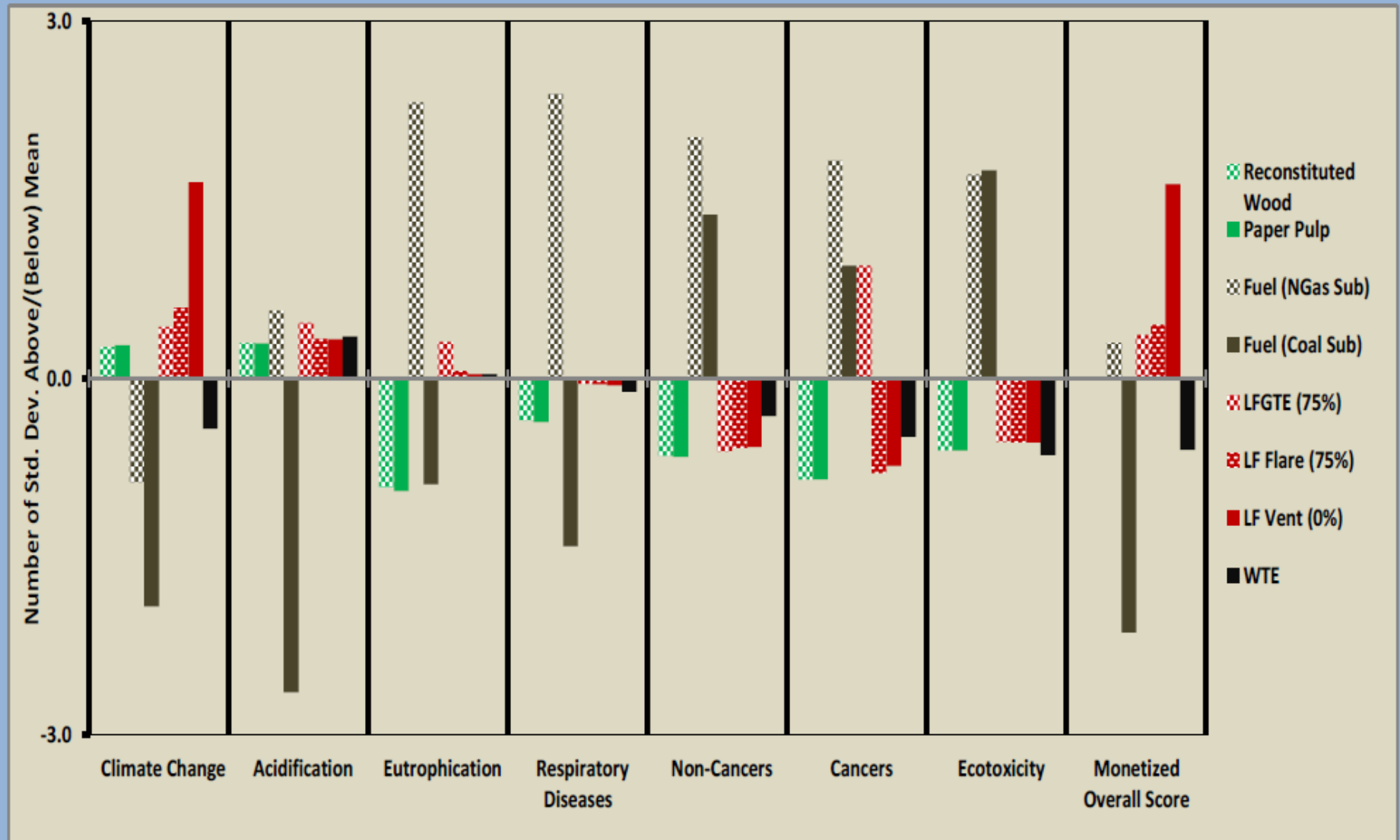
Life Cycle Impacts for Clean Wood

Current Best Carbon Accounting Methodology



Life Cycle Impacts for Clean Wood

No Discounting, No BioCO₂, No Carbon Storage



4.c. C&D-derived Scrap Wood Policies

- Discussion

4.d. Mandatory Concrete Recycling

Sample of cities requiring of concrete recycling:

- Berkeley CA
- Oakland CA
- Palo Alto CA (90% of inerts)
- San Diego CA
- San Leandro CA (100% of inerts)
- Seattle WA

4.d. Mandatory Concrete Recycling

Jurisdiction	Minimum Diversion	Material
Berkeley CA	100%	Concrete and asphalt
	100%	Land clearing waste
	50%	Remaining waste generated
Oakland CA	100%	Asphalt and concrete
	65%	Remaining waste generated
San Diego Co CA	90%	Inert
	75%	Other material
San Leandro CA	100%	Asphalt, concrete and similar material
	50%	Remaining waste generated

Concrete Recycling Ordinances

- San Francisco CA – Registered transporters cannot transport any construction or demolition debris to any landfill.
- Seattle WA – Bans landfilling concrete and other C&D material from landfill disposal

4.e. C&D Ordinance: ~5 months

- Excluded Reroofing projects
- Of 249 permitted projects
 - 14 requested Final Inspections
 - 4 reported
 - 2 received waivers

Oct. 1, 2016 to Feb. 24, 2017	Permits Issued	Final Inspection	Reports	Waivers
New Residential				
Single Family Houses	25			
Two Family Bldgs	8			
Subtotal	33			
New Commercial				
Professional Bldg	4			
Retail	1			
Subtotal	5			
Commercial Finish/Remodel				
Finish Out	41	1		
Remodel	123	13	4	2
Subtotal	164	14	4	2
TOTAL	249	14	4	2



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