

TIMBER v2.0

Innovations in Forest Products

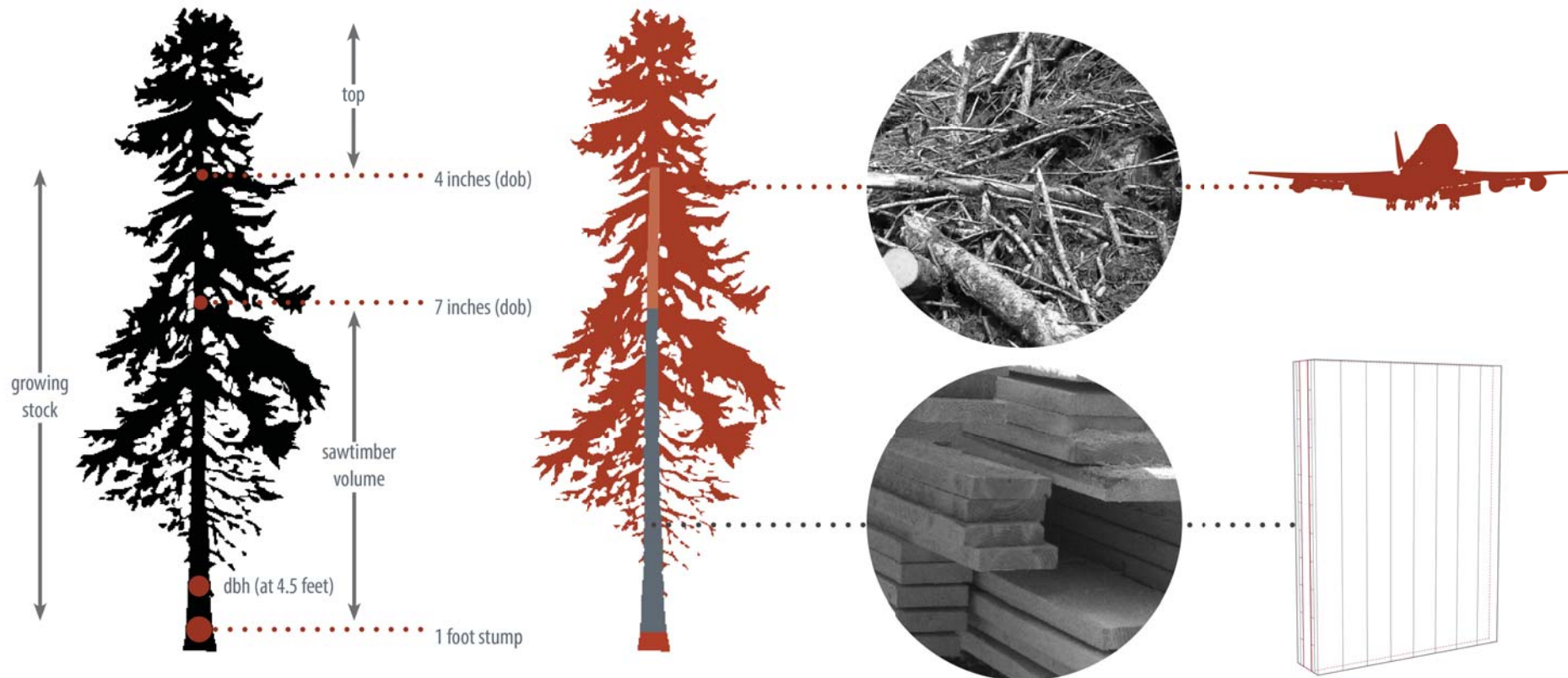
Michael P Wolcott

Regents Professor and
Associate Vice President for Research
Director for the Office of Clean Technology

TIMBER v2.0

**Tall Timber Buildings
NanoCellulose
Biopolymers, Biocarbon
Bioenergy, Biofuels, Biochemicals**

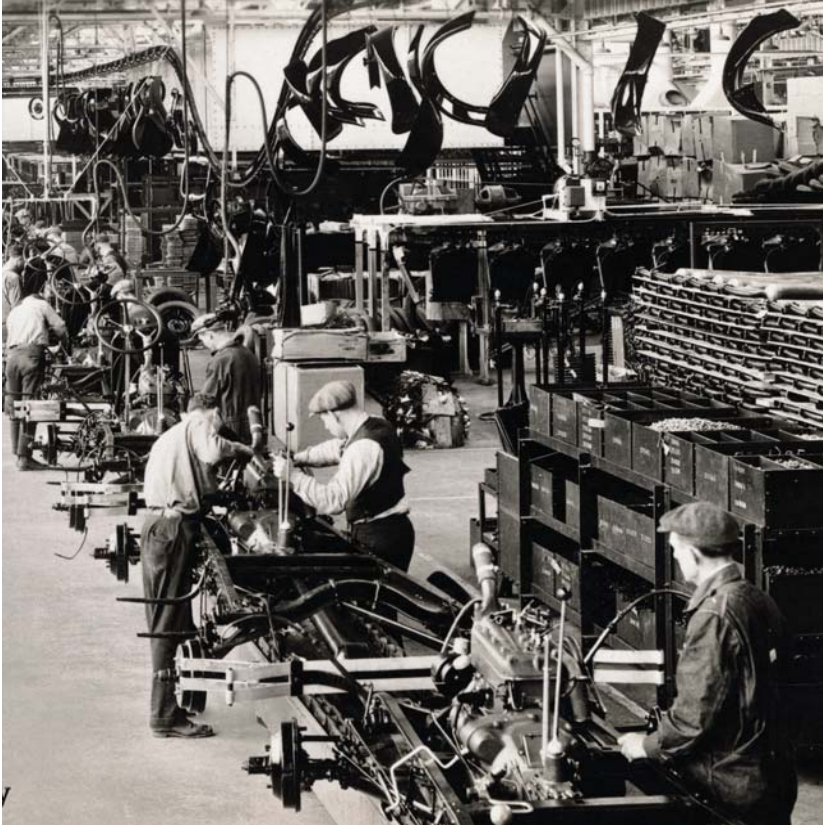
Cong. Derek Kilmer, WA 6th District





Automobile Manufacture – Yesterday & Today

Sustainable Devel. & Circular Econ.
Bozeman, MT - September 21, 2017



Timber Construction – Yesterday & Today

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Bozeman, MT - September 21, 2017



Needs in Higher Density Housing

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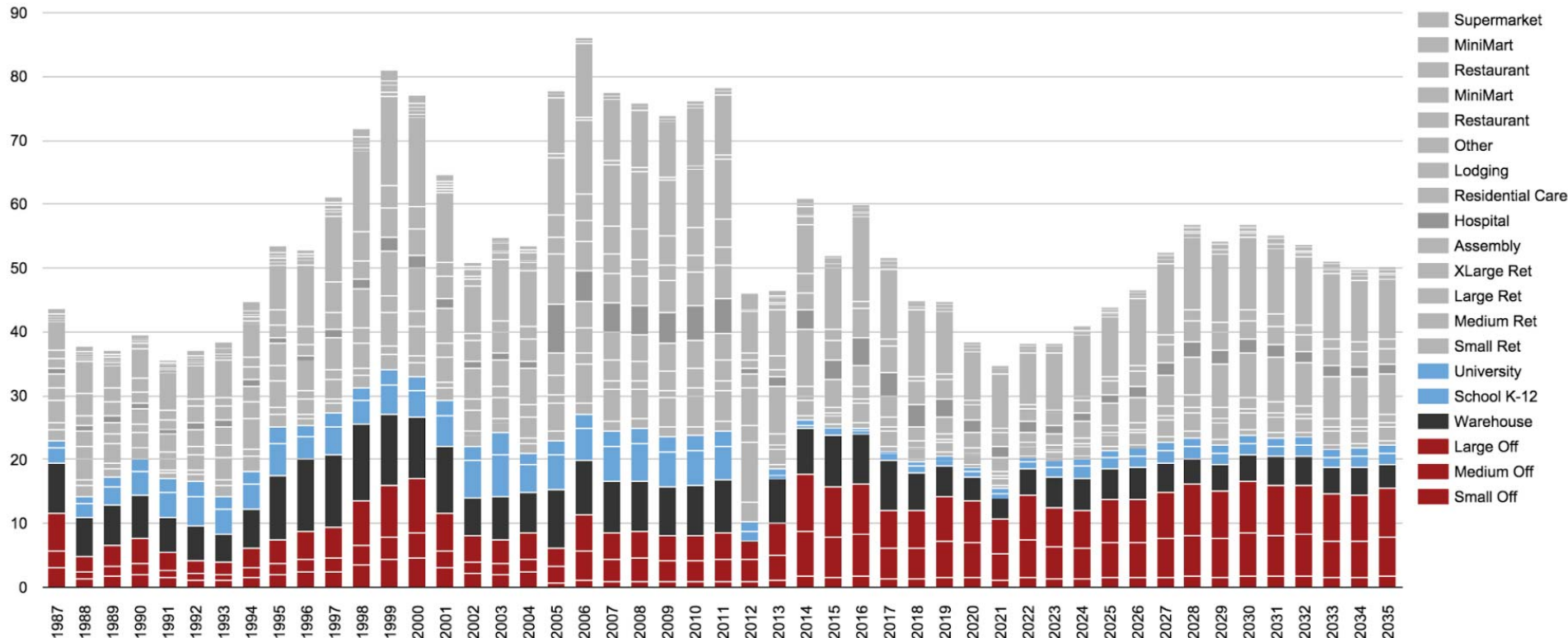


Photos: Lend Lease

Projected Building Needs in PNW

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PNW Annual Commercial Building Forecast (1,000,000 sq ft floor area)



Ref: Seventh NW Power Plan

<https://www.nwcouncil.org/energy/powerplan/7/plan/>

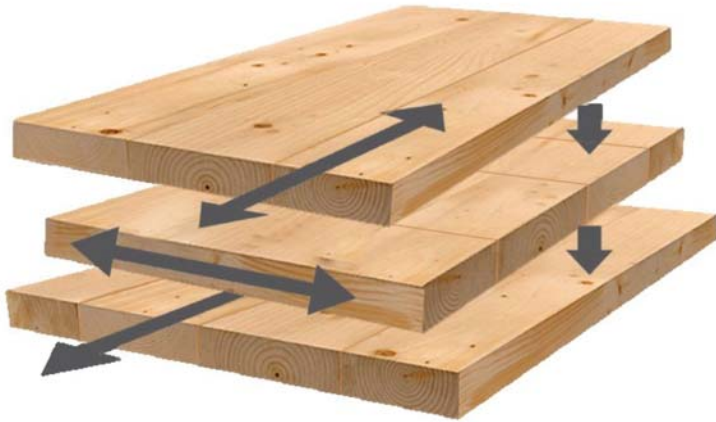


Photo: Salzburg FH

Maria F. L. Mallo, MS Thesis, University of Minnesota,
Minneapolis, MN, 2014



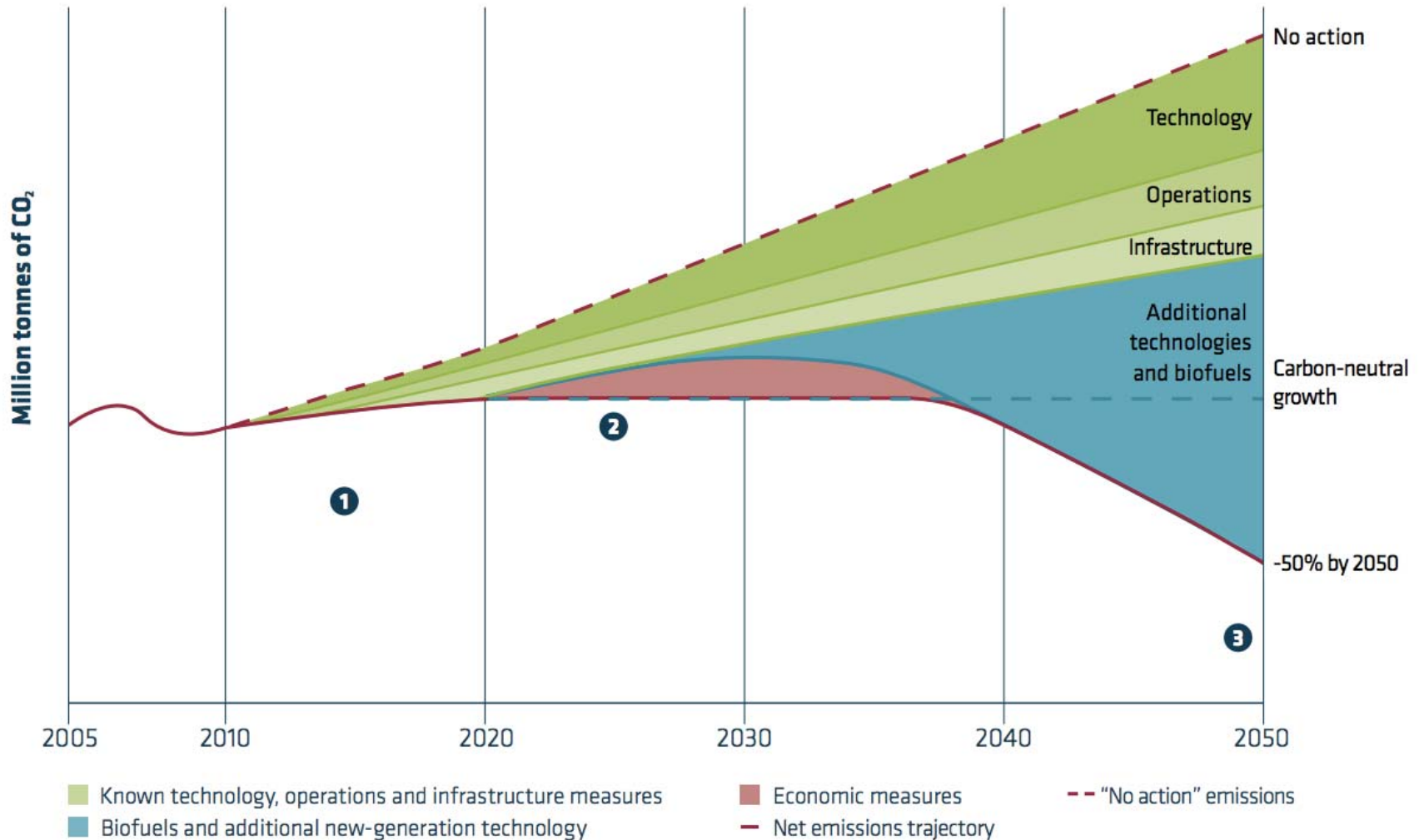




World First
Commercial Cellulosic
Biofuels Flight

CO2 Goals and Targeted Reductions

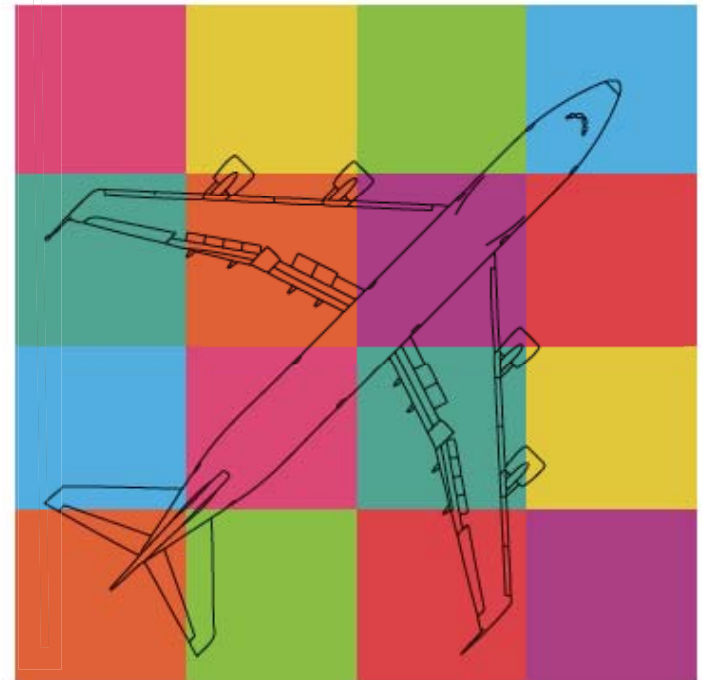
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Anonymous. 2013. Reducing Emissions from Aviation through Carbon Neutral Growth from 2020. A Position Paper Presented by the Global Aviation Industry. 38th ICAO Assembly. <https://goo.gl/ChTV9Y>



ON BOARD A SUSTAINABLE FUTURE



2016 ENVIRONMENTAL
REPORT

Commitment Being Implemented – ICAO CAEP

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We believe that our commitments to work in partnership with governments, other industries and civil society will deliver an efficient aviation sector, fit to meet the needs and provide the services required by the world economy.

We strongly encourage others to join us in this endeavour.

Signed on Thursday 22 March 2012, at Geneva, Switzerland by:

 Angela Giffens Director General		 Paul Riems Chairman of the Executive Committee		 Tony Tyler Director General and CEO	
 Marion C. Blakey Chair		 Thomas Enders President and CEO		 Jim Albaugh President and CEO	
 Filippo Bagnato Chief Executive Officer		 Guy Hachey President and COO Bombardier Aerospace		 Jean-Paul Ebanga President and CEO	
 Paulo Cesar de Souza e Silva President Commercial Aviation		 David Joyce President and CEO GE Aviation		 Tim Mahoney President and CEO Honeywell Aerospace	
 John Saabas President Pratt & Whitney Canada		 Eric Schulz President - Civil Large Engine Programmes		 Paul Steele Executive Director	

6th Aviation & Environment Summit, 22 March 2012

www.atag.org



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**Jobs, Jobs, Jobs
Rural Communities
Environmental Benefits**

Cong. Derek Kilmer, WA 6th District

QUESTIONS