

Cities **4** Forests

Sustainable Wood for Cities

A guide for cities using wood in service of their broader sustainability goals



WOOD at WORK 2020

Elegant Strategies for Architecture, City-Building, and Forest Conservation

Where does sustainable wood come from?



Where can it be used in a city?

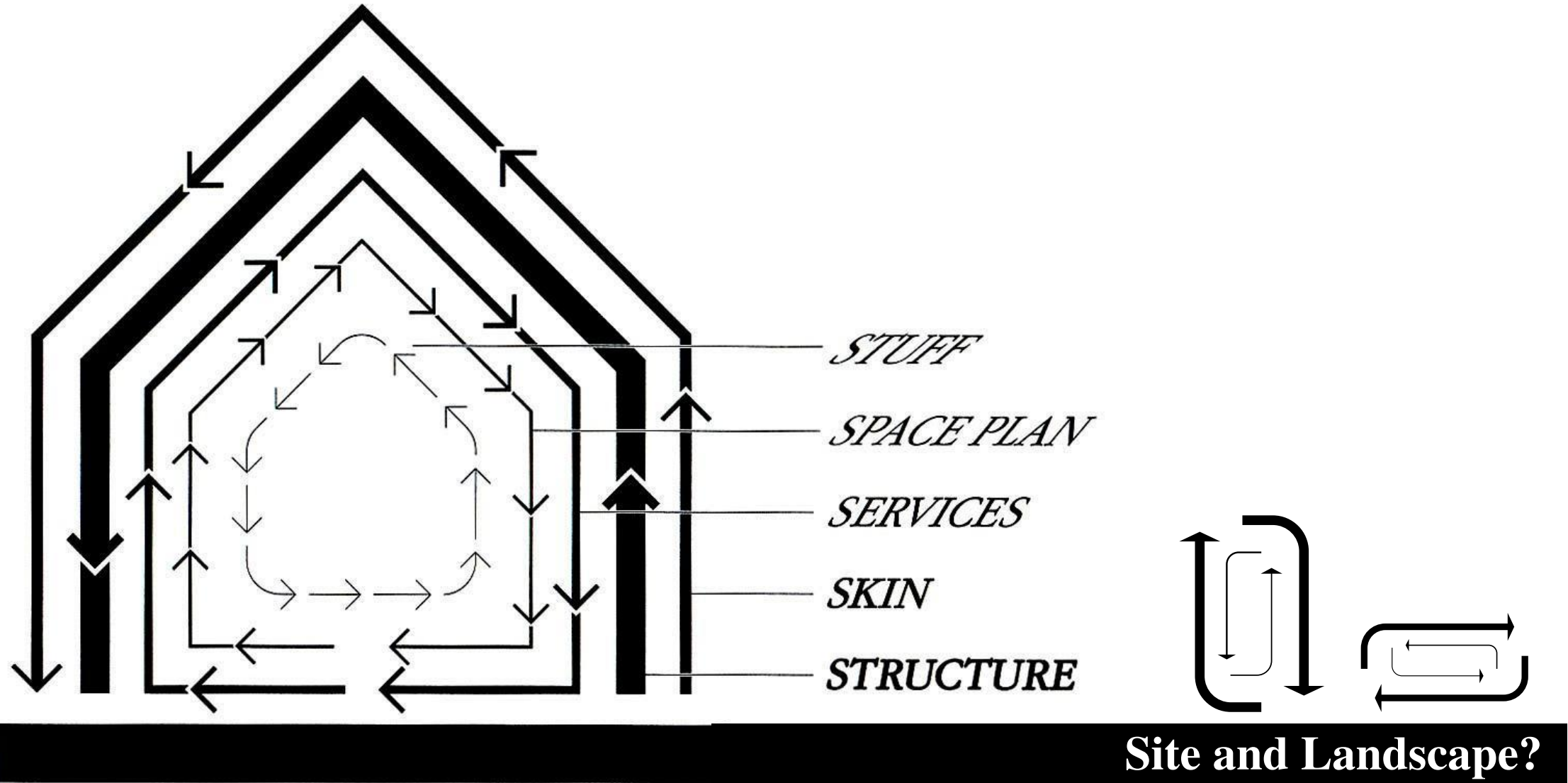


Illustration from *How Buildings Learn*, Stuart Brand

And how and where can cities specify it?



Bikes



Buildings



Boardwalks



Bridges

Pont des Arts, Paris



Boats



Benches

Sustainable Wood for Cities Guide

Providing cities with expert guidance on reducing their impact on global forests through promoting sustainable and responsible wood sourcing and procurement.



Highlights

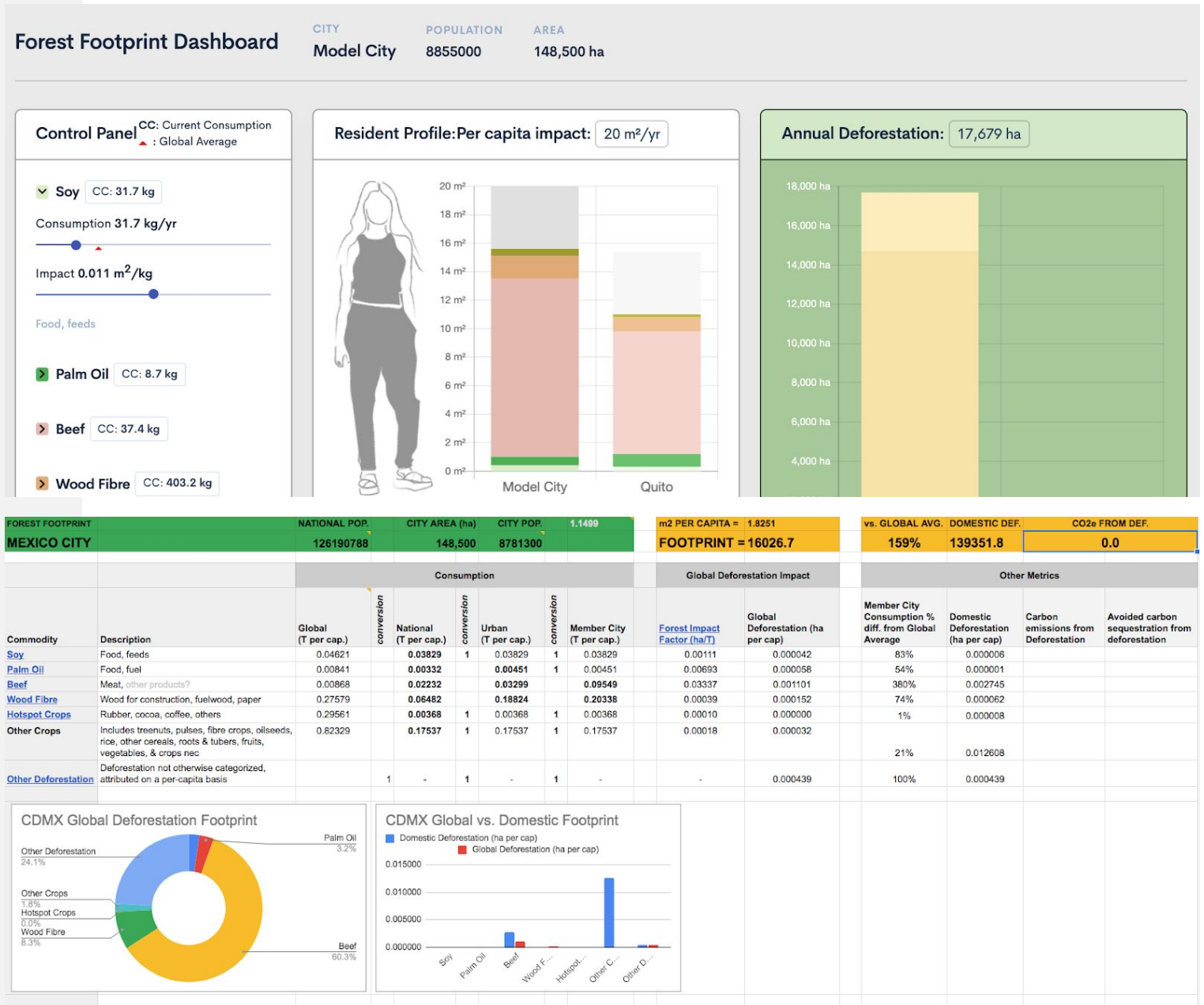
- What cities need to know about sustainable forestry
- Integrating sustainable procurement with competitive bidding processes
- Resources for initiating pilot projects
- International case studies
- And much more!



Related initiatives

Forest Footprint For Cities

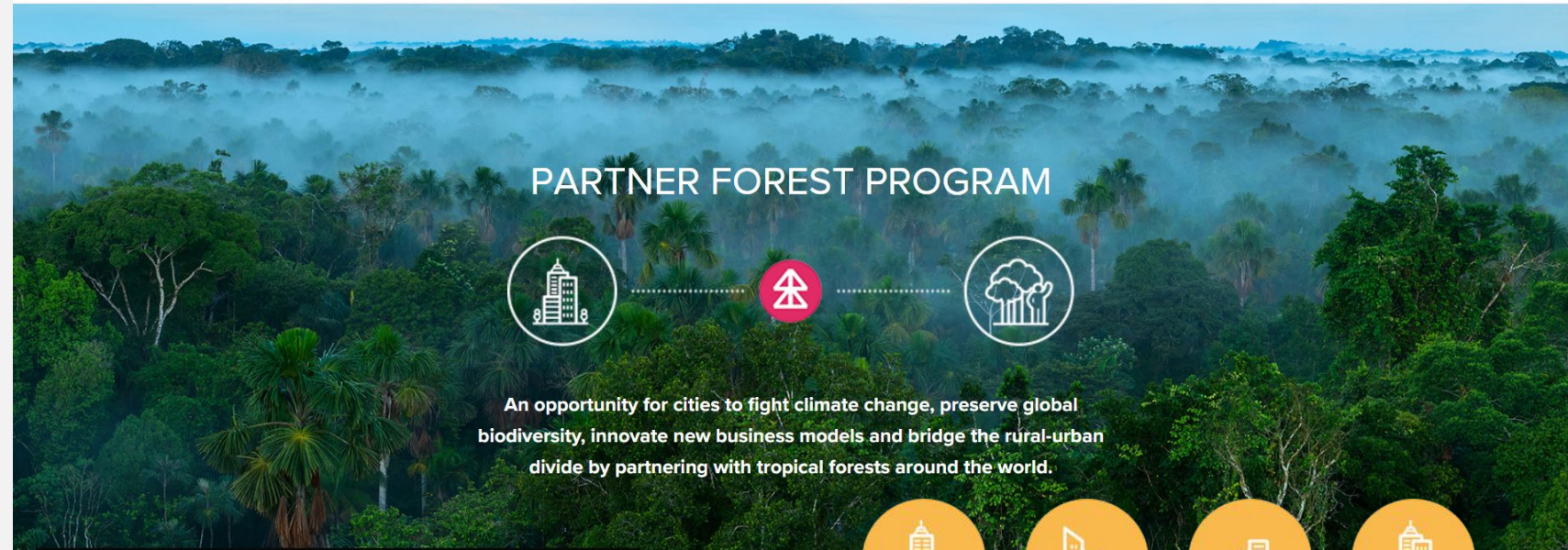
An interface allowing cities and urban residents to estimate the impacts of consumption commodities directly responsible for tropical deforestation.



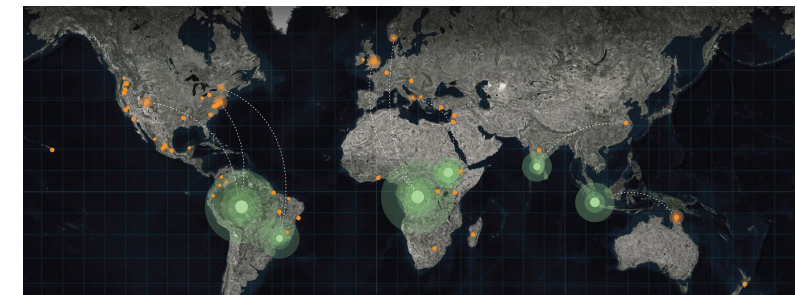
Related initiatives

Partner Forest Program

An opportunity for cities to fight climate change, preserve global biodiversity, innovate new business models and bridge the rural-urban divide by partnering with tropical forests around the world.



- Timber
- Rubber
- Cacao
- Coffee
- Ecotourism
- Research



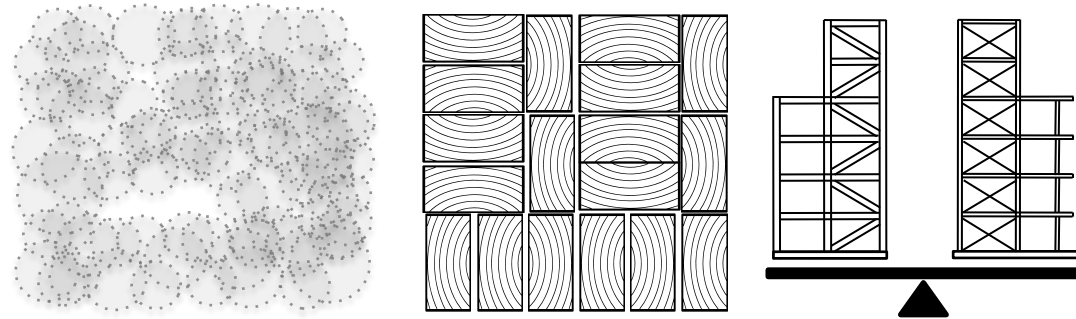
What is the *Sustainable Wood for Cities* Guide?

- **A framework to help city leaders define sustainability** wood on their own terms, with a focus on climate, biodiversity, health, and economic goals.
- **Eight *Pathways* for sustainable wood sourcing** which can combine to form a broader wood sourcing ***Strategy***.
- **A voluntary evaluation system** that can help cities better understand, prioritize and track the benefits and impacts of their sustainable wood strategy.
- **A process for cities and their partners to build internal capacity**, and guide new policies for municipal procurement, specification templates, and contracting requirements.

The three-legged stool of sustainable wood

Three interacting impact systems:

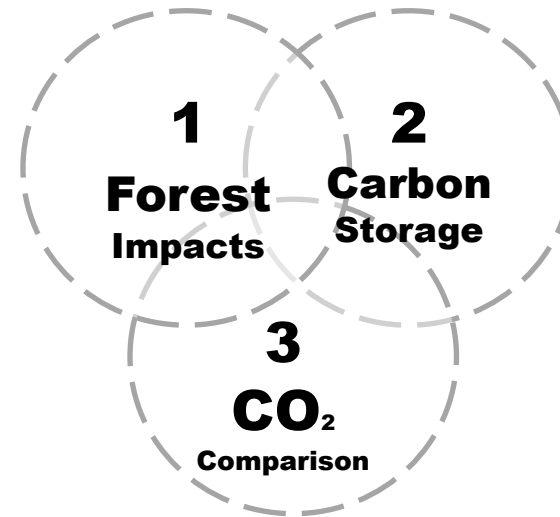
1. Wood that helps conserve forests, mitigate or reverse degradation and deforestation.
2. Wood that sequesters carbon; net negative, with all systems components considered.
3. Wood used in long-life infrastructure that replaces more carbon-intensive materials



1.
Forest
Impacts

2.
Carbon
Storage

3.
CO₂
Comparison



Structure of the Guide

1. **Introduction and Overview** (2 pages)
2. **How to use this guide - Pathways and Strategies** (1 page)
3. **Pathways Handbook** - one pagers (8 pages)
4. **Detailed Sustainable Wood Sourcing Pathways** (~20 pages)
5. Supporting documents and forms (*Not Yet Available*):
 - a. Wood Needs Report - standard template for all projects
 - b. Wood Options Assessment Matrix - standard template for all projects
 - c. Resources and references (*Not Yet Available*):
 - i. Certification schemes: Claims, Benefits, Accessibility
 - ii. Social Forestry: A starter list of global community forest enterprises
 - iii. Wood Species: suggestions, redlists, lesser-known options,
 - iv. Urban Wood Mills: A starter list of local mills and suppliers
 - v. Strategic Geographies Primer, Jurisdictional Approach examples
 - d. Net Carbon Accounting for Wood Products - A Systems Thinking approach

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Sustainable Wood for Cities
 Pathways Handbook

The three-legged stool of sustainable wood. These three interdependent impact systems are vital to understanding the sustainability potentials and pitfalls of wood.

How can wood products protect the environment and mitigate climate change?

1. Wood that helps conserve forests, mitigates or reverses degradation and deforestation.
2. Wood that sequesters carbon (net negative, with all systems components considered).
3. Wood used in long-life infrastructure that replaces more carbon-intensive materials

The following pathways used independently or in synergy can help cities make wood sourcing decisions that match their sustainability and climate goals while building capacity within city agencies to incorporate knowledge, research and experience into policies and planning.

Pathways to sustainable wood	Description
1. Certification / Chain of Custody	Wood that is certified as sustainable by a third-party verifier such as SFI, PEFC, or FSC. Also explains how certification relates to Sustainable Forest Management
2. Social Forestry	Wood and related products that support sustainable community livelihoods and community forest management and conservation. Based on a business model that returns maximum value to the community and encourages local ownership and empowerment.
3. Species and Grade	By understanding and diversifying their choice of wood species and grades, consumers can become active partners in sustainable forest management.
4. Strategic Geography	Sourcing wood from specific places addressing sustainability & legality, i.e. jurisdictional approach and voluntary partnership agreements
5. Local / Urban Wood	Trees and forests inside or near cities can be a source of high value carbon-negative timber while supporting local economies and innovation.
6. Wood Reuse	Specifying wood that has already served a useful purpose, and/or designing wood components that can easily serve a second or third life. Includes recycling or "upcycling", designing wood products for eventual reuse, avoiding single-use products and designs; fasteners, geometry, standards, etc.
7. High Efficiency Production	Using smaller dimension wood components to reduce waste, and increase the percentage wood yield of forest area makes it into a long-life application such as a mass timber building, or long life furniture.
8. Net Carbon Accounting / LCA	Detailed calculation of carbon sequestration and storage using both long and short term models. Where sustainable forest management meets long-life wood products and buildings, mass timber etc.

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Synergies Certification and Chain of Custody; Species Selection; Strategic Geography

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Structure of the Pathways Handbook

- **Description**
- **Examples**
- **Sustainability Benefits**
- **Actions**
- **Challenges**
- **Evaluation/Levels**
- **Policy Options**
- **Synergies**

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#1	Certification and Chain of Custody (Cert/CoC)
Description	Certification systems offer a one-stop generalized approach to verifying sustainable forest management and supply chains. Other chain of custody (CoC) approaches involve paper or electronic trails to verify origin. In both cases it is the buyer's responsibility to align the specific claims of verification with their own sustainability goals. What, exactly, is being certified? Where does a chain of custody lead? Cert/CoC may be a good first step to help consumers specify and evaluate their own sustainability goals.
Examples	Forest Stewardship Council (FSC), Programme for the Endorsement of Forest Certification (PEFC)
Sustainability Benefits	<ul style="list-style-type: none"> ○ Cert/CoC builds customer confidence in "paying for" a wide range of claimed sustainability benefits. Certification aims to elevate the market value of sustainably produced wood to offset production costs and incentivize sustainable practices. ○ Certification standards, to varying degrees, promote Sustainable Forest Management practices. ○ Certification of forests can improve conservation, reduce deforestation, and enhance biodiversity. ○ Can protect soil carbon beneath forests through management practices which reduce emissions. ○ Wider usage and familiarity of Cert/CoC systems increase their capacity to transform the market.
Actions:	<ul style="list-style-type: none"> ○ Define project requirements using the <i>Wood Needs Report</i> template. ○ Briefly explore Cert/CoC options (See <i>Databases and References</i> section for more information). ○ Create specification and/or RFP requirements for certified wood or CoC documentation. ○ Work with design teams to incorporate specific alignments between Cert/CoC products and the project potentials and requirements. Match specific wood components (framing, interior elements) to the highest level of sustainability benefits that Cert/CoC can offer.
Challenges	<ul style="list-style-type: none"> ○ Certification can indicate a wide variety of goals, rigor, enforcement and measurable benefits, both between different schemes, and even within a scheme such as FSC. ○ Certification claims and benefits tend to be generalized and may not provide strong connections between the goals of consumers and the specific forest landscapes or communities impacted. ○ Certification has been criticized for failing to deliver on its promises due to poor enforcement, lack of transparency, corruption, leakage and unrecoverable costs to producers. ○ Chain of Custody does not necessarily address the environmental and social impacts at the site of production (note that this differs from most Certification). It is the responsibility of the consumer to understand local conditions in order to make effective use of CoC information.
Evaluation / Levels	<p>Level One: All wood products sourced for a given project are certified, and/or CoC is verified through paperwork. In both cases, certificates (CoC or Certification) are filed with project documentation.</p> <p>Level Two: Particular certification scheme(s) chosen to align with City's sustainability goals. And/or, Chain of custody is chosen to verify legality and source to match with City's sustainability goals. Rationale and certificates are filed with project documentation.</p> <p>Level Three: Direct contact is established with the certifier (and/or CoC links) and/or third party, to verify particular benefits in the supply chain as they relate to the specific wood purchase. Environmental Benefits Report is filed with the rationale and certificates in the project documentation.</p>
Policy Options	<ol style="list-style-type: none"> 1A. Establish requirement or preference of certified wood in public procurement. 1B. Require chain of custody certificates for all wood products procured. 1C. Specify preference or establish requirements for certification standards that deliver benefits of social and environmental sustainability.
Synergies	Social Forestry; Strategic Geography

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#2	Social Forestry
Description	Social Forestry (SF) incentivizes local management groups to protect valuable forests from degradation and from conversion to other land uses. SF channels the purchase of wood and other forest products into sustainable support for community forest management/conservation by directly supporting the livelihoods of the people who are closest to the ground in forest frontiers. SF business models are designed to provide smallholders and communities with a fair price, encourage local ownership, and empower local management and participation. Social Forestry models include community forest concessions, co-ops, locally owned and/or managed businesses, Indigenous and/or minority owned land and/or businesses.
Examples	BC Community Forest Association , Uaxactun Management and Conservation Organization , Union of Zapotec-Chinantec Forest Producer Communities (UZACHI) , Sundari community forest group (CFUG)
Sustainability Benefits	<p>If done well, Social Forestry can offer some of the highest sustainability benefits per unit of wood, owing to the often "high conservation value" of these managed forests. SF typically requires intensive forest management planning, oversight and partnerships with established NGOs. SF systems work to prevent poaching, fires, land grabs, and corruption by engaging and empowering committed communities who receive livelihood or other social benefits from the forest. Measurable benefits of social forestry include:</p> <ul style="list-style-type: none"> ○ High forest carbon value per unit of wood purchased, due to attributed forest conservation. ○ High biodiversity protection per unit of wood purchased, due to attributed forest conservation. ○ Long term social benefits may include: education, job training, reduced out-migration, standard of living increase, and improved food security.
Actions:	<ul style="list-style-type: none"> ○ Create a "wood needs report" that outlines the anticipated demands of the project. ○ Contact SF suppliers and their key partners (NGOs), to deepen understanding of the benefits, costs, timing and any challenges to doing business with SF suppliers. ○ Where feasible, create a shortlist of SF producers to bid on the wood supply subcontract. Inventory the benefits these suppliers offer with their wood products.
Challenges	Social Forestry enterprises can be remotely located and may not have full access to markets, and/or supply chain partners. Language barriers and distances may slow down communication. Products may have quality control issues, which can be managed by supply chain partners (distributors, shippers, local reps, where applicable).
Evaluation / Levels	<p>Level One: Project RFP/tender includes wood sourcing criteria that a SF enterprise is most likely to be able to fulfill, such as social inclusion, community benefits, sustainable management, conservation plan.</p> <p>Level Two: Selection of a SF producer(s) is featured prominently in the sustainability narratives of the project and/or city. Awareness of climate benefits of SF is increased through project communications.</p> <p>Level Three: Direct contact is established with Social Forest enterprise to deepen the understanding of sustainability benefits. Sole sourcing and/or partnership is established that increases the value of the transaction for the city and the SF enterprise.</p>
Policy Options	<ol style="list-style-type: none"> 2A. Establish sustainable or green public procurement criteria that acknowledges and can give preference to social sustainability of wood products. 2B. Establish partnership with NGO (or international programs such as REDD+) in promoting SF (such as Community Forest Management/Enterprises) in local and regional forest areas. 2C. Encourage policy development and supplier registries that can promote wider demand for wood and products of regional and international CFM, CFE, and SMEs.

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Sustainable Wood Sourcing Pathways and Strategies

Pathways + impact levels:







Strategies

1. Certification / Chain of Custody				
2. Social Forestry				
3. Species and Grade				
4. Strategic Geography				
5. Local /Urban Wood				
6. Wood Reuse				
7. Production Efficiency				
8. Net Carbon Accounting /LCA				

Sustainable Wood Sourcing Pathways and Strategies

Pathways + impact levels:   

Strategies

	Local emphasis			
1. Certification / Chain of Custody				
2. Social Forestry	⋮			
3. Species and Grade				
4. Strategic Geography	⋮			
5. Local /Urban Wood				
6. Wood Reuse				
7. Production Efficiency				
8. Net Carbon Accounting /LCA				

Sustainable Wood Sourcing Pathways and Strategies

Pathways + impact levels: 1 2 3

	<i>Strategies</i>			
	Local emphasis	Rainforest conservation	Lesser-known species	Mass timber
1. Certification / Chain of Custody	1	3		3
2. Social Forestry		3	2	
3. Species and Grade	1	2	3	1
4. Strategic Geography		3	3	1
5. Local /Urban Wood	3			
6. Wood Reuse	2			
7. Production Efficiency	2	1	3	3
8. Net Carbon Accounting /LCA	1	1	3	2

Breakout Activity: Testing the SW4C Guide

Instructions (Please make sure to provide feedback at the end of document or with comments feature)

1. Quick round of introductions of group members.
2. Read your group's starting Pathway definition with the group.
3. Define project requirements using the Wood Needs Report and Assessment Matrix tables.
4. Consider the eight *Sustainable Sourcing Pathways* to see if there are other obvious matches for the project. Keep in mind that some pathways may follow the lead of another.
5. Create an integrated *Strategy* using multiple *Pathways* to serve the project, and the sustainability goals of the city.

Breakout Group: Auckland

Project: Reading Room

Scenario: Auckland is adding a new reading room to their main library, including bookshelves and furniture. They do not yet have a wood procurement policy incorporated into their Low Carbon Action Plan.

Starting Pathway: Strategic Geography

Instructions (Please make sure to provide feedback at the end of document or with comments feature)

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3. Define project requirements using the Wood Needs Report and Assessment Matrix tables.
4. Consider the eight *Sustainable Sourcing Pathways* to see if there are other obvious matches for the project. Keep in mind that some pathways may follow the lead of another.
5. Create an integrated *Strategy* using multiple *Pathways* to serve the project, and the sustainability goals of the city.

Wood Needs Report - Types and quantities of wood required. May adapt with *strategy*. (Use table or not!)

Wood/Sourcing Options	Use	Needs	Limitations
			many

Assessment Matrix - Consider options, sustainability benefits and cost benefit analysis. (feel free to use this table or not!)

Wood/Sourcing Options	Sustainability Benefits	Costs/Cons	Notes

Design Concept Notes - Special features, components and relationships considered.

Project Strategy - Create a multi-pathway approach with synergies and benefit multiplication.

Pathways	Level	Notes
1. Certification / Chain of Custody		
2. Social Forestry		
3. Species and Grade		