



BIOGROWTH DEVELOPMENT

Providing insight in
complexity and sustainability of biomass

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EXPERTS IN CHAIN ANALYTICS



CONTENTS

Biomass

- Complexity
- Demand and availability
- Sustainability

BioGrowth Development

- Our services
- Our stakeholders

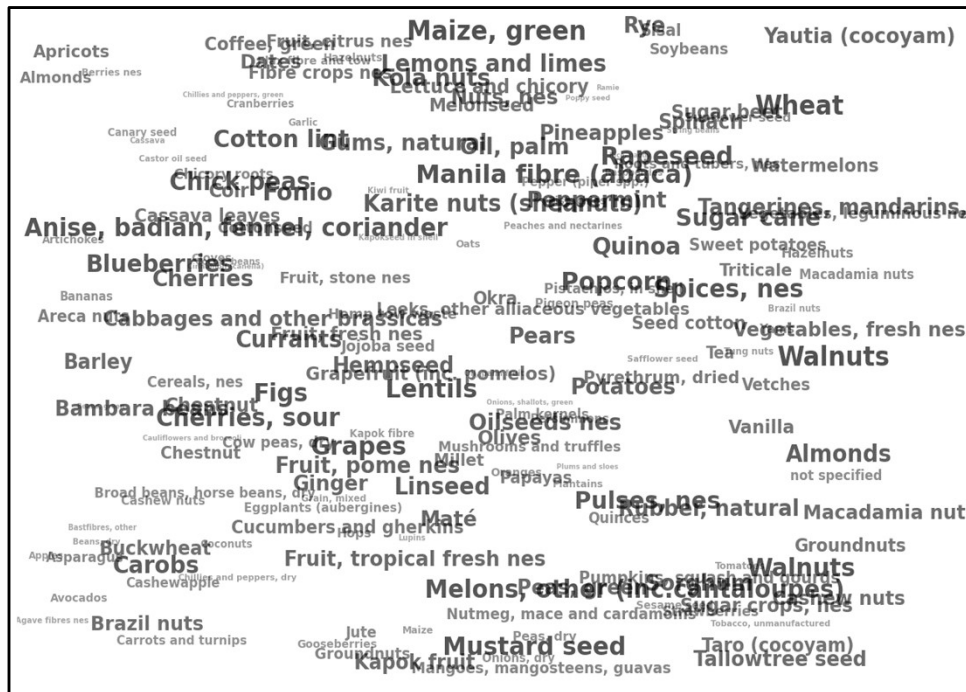
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[Figure 15: Sustainable wood supply potential for energy](#)
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Our terrestrial PLANT BIOMASS spectrum



AGRICULTURE



FORESTRY

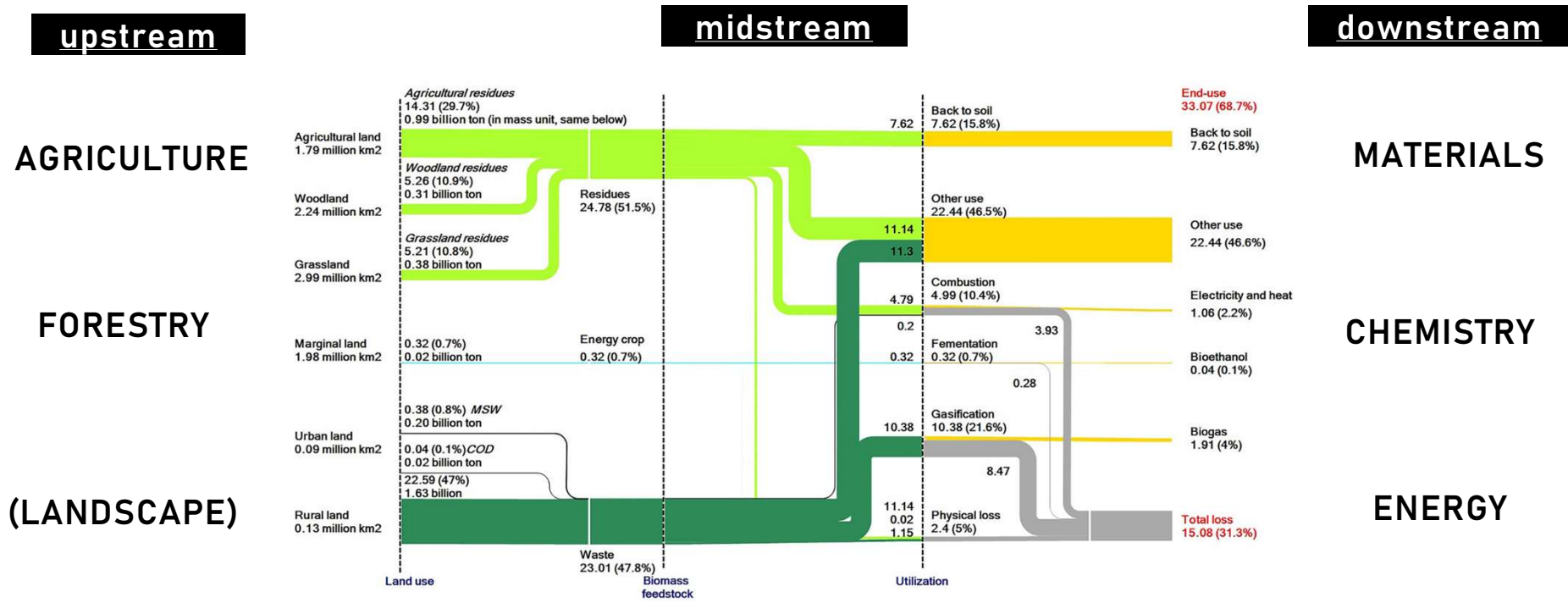
Biomass resources

- empty fruit bunches
- flower head
- fruit stalk
- fruit skin
- hulls, pods
- husks
- kernels
- shells
- seed coats
- seedcake
- bast fibres
- straw
- wood
- sawdust
- grass fiber
- etc.

+ "LANDSCAPE" BIOMASS

huge technical potential

POTENTIAL = F(type, quality, conversion, application)



Technical potential

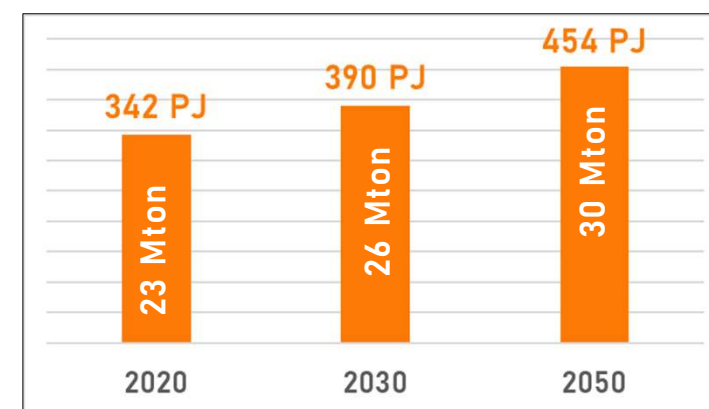
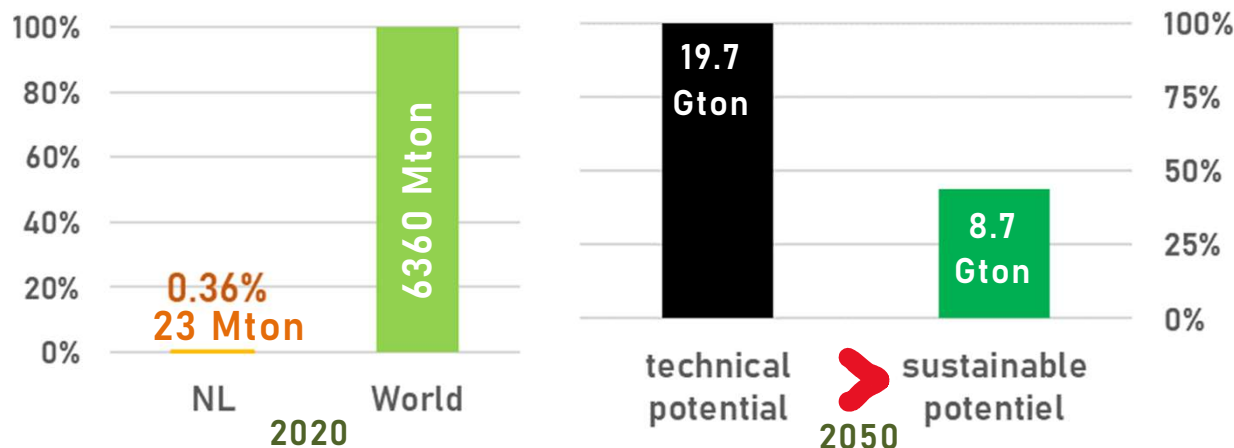
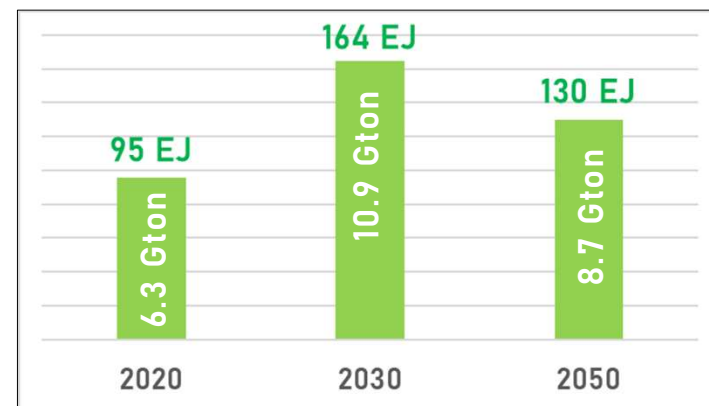
DOI: 10.1111/gcbb.12651

USE versus AVAILABILITY (“POTENTIAL”)

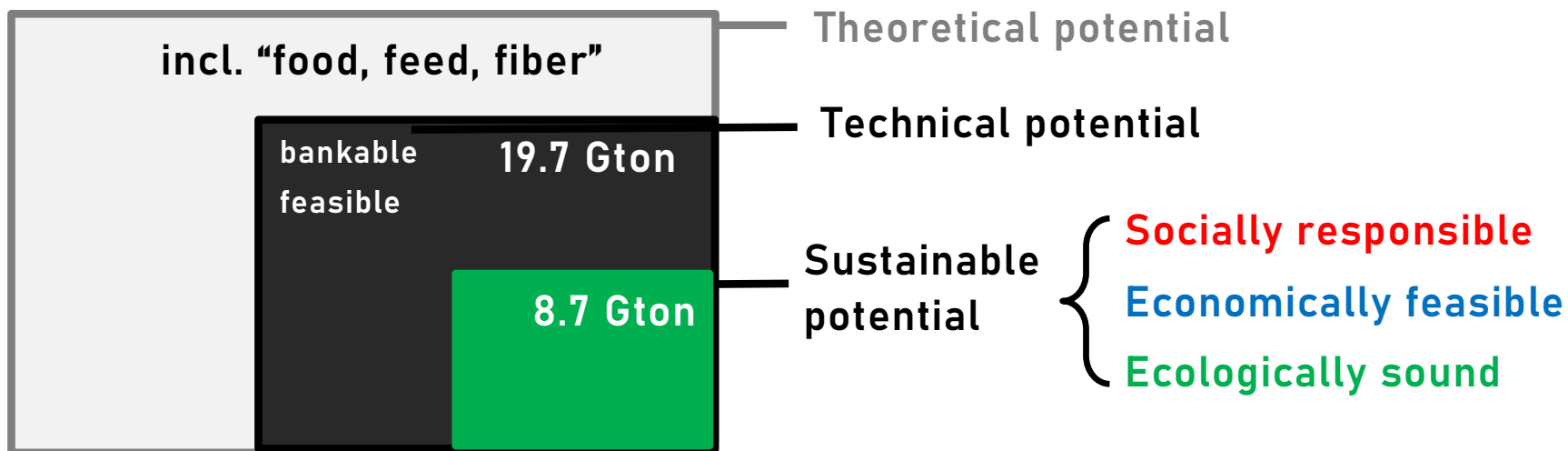
Tabel 1 - Overzichtstabel biomassabeschikbaarheid (mondiaal en EU28 in EJ/jaar, Nederland in PJ/jaar)

Bron: Bio-Scope rapport, CE Delft - 2020		Huidig gebruik	Beschikbaarheid 2030		Beschikbaarheid 2050		Eenheid
			'Duurzaam'	'Technisch-duurzaam'	'Duurzaam'	'Technisch-duurzaam'	
Mondiaal	Landbouw	30	70-105	Nb	82-85	217	EJ/jaar
	Bosbouw	65,4	43,2-59,3	Nb	38-45	78	EJ/jaar
	Totaal	95,4	113,2-164,4	Nb	120-130	295	EJ/jaar
EU28	Landbouw	2,3	6,4-15,5	24,2	5,5	18,9	EJ/jaar
	Bosbouw	7,6	8,5-14,2	16,3	11,8	11,8	EJ/jaar
	Totaal	9,9	14,9-29,7	40,5	17,3	30,7	EJ/jaar
Nederland	Landbouw	272	272-314	Nb	302-369	Nb	PJ/jaar
	Bosbouw	70	70-76	Nb	70-85	Nb	PJ/jaar
	Totaal	342	342-390	Nb	372-454	Nb	PJ/jaar

1 EJ = 1000 PJ = 10^{18} J = 278 TWh
 (= 67 Mton DM at HHV of 15 GJ/ton)



BIOMASS AVAILABILITY (“POTENTIAL”)



PEOPLE Healthy, fair, equitable, just

PROSPERITY Sustainable energy and processes, fair trade

PLANET Respects biodiversity, climate, soil, water

BIOLOGICAL EN TECHNICAL CYCLES (LCA)



Sustainable processes

RENEWABLE ENERGY
RENEWABLE MATERIALS
CASCADED MATERIAL USE
ZERO EMISSION

END OF LIFE / EINDE LEVENSDUUR

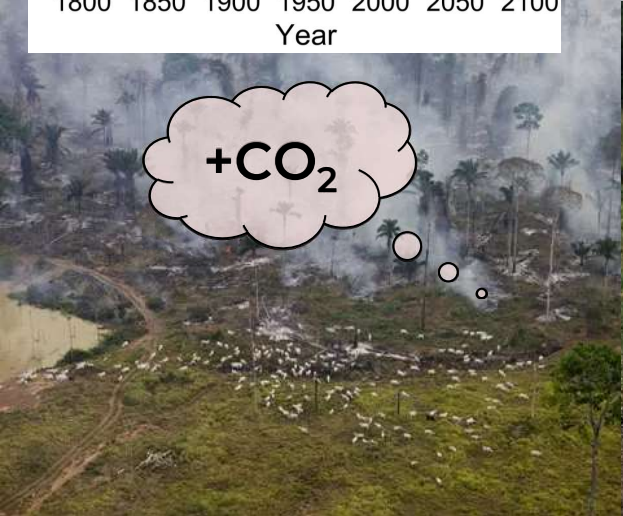
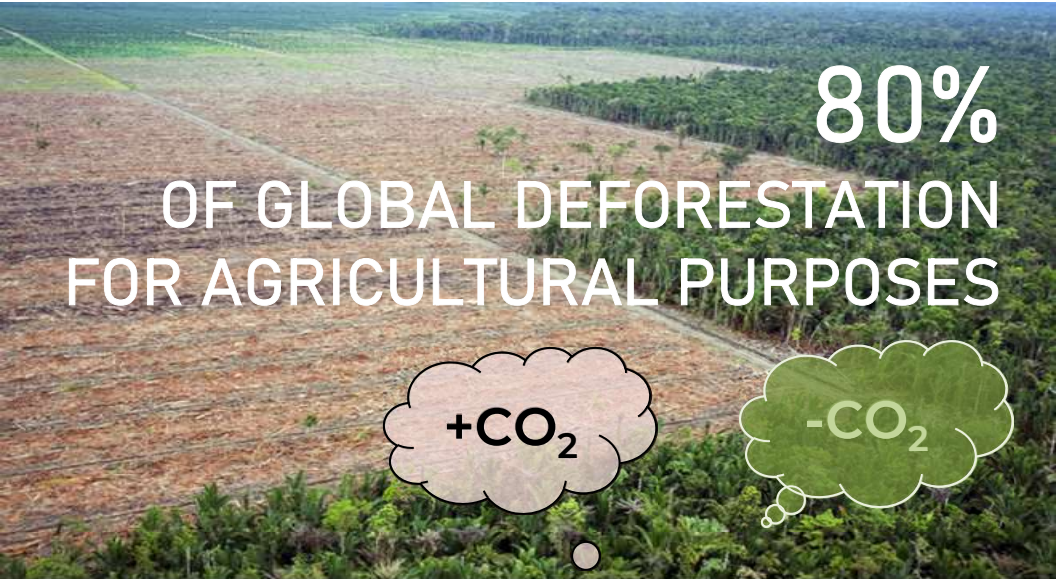
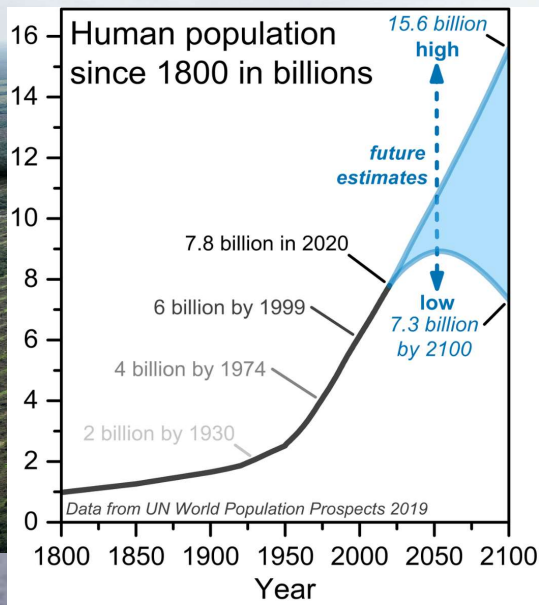
✗	REFUSE / VERMIJDEN
>	REDUCE / VERMINDEREN
↻	REUSE / HERGEBUIKEN
🔧	REPAIR / HERSTELLEN
♻️	RECYCLE, COMPOST / RECYCLEER, COMPOSTEER
⚡	ENERGY RECOVERY - ENERGIE RECUPERATIE
🗑️	LANDFILL - STORTEN

"Ladder van Lansink"

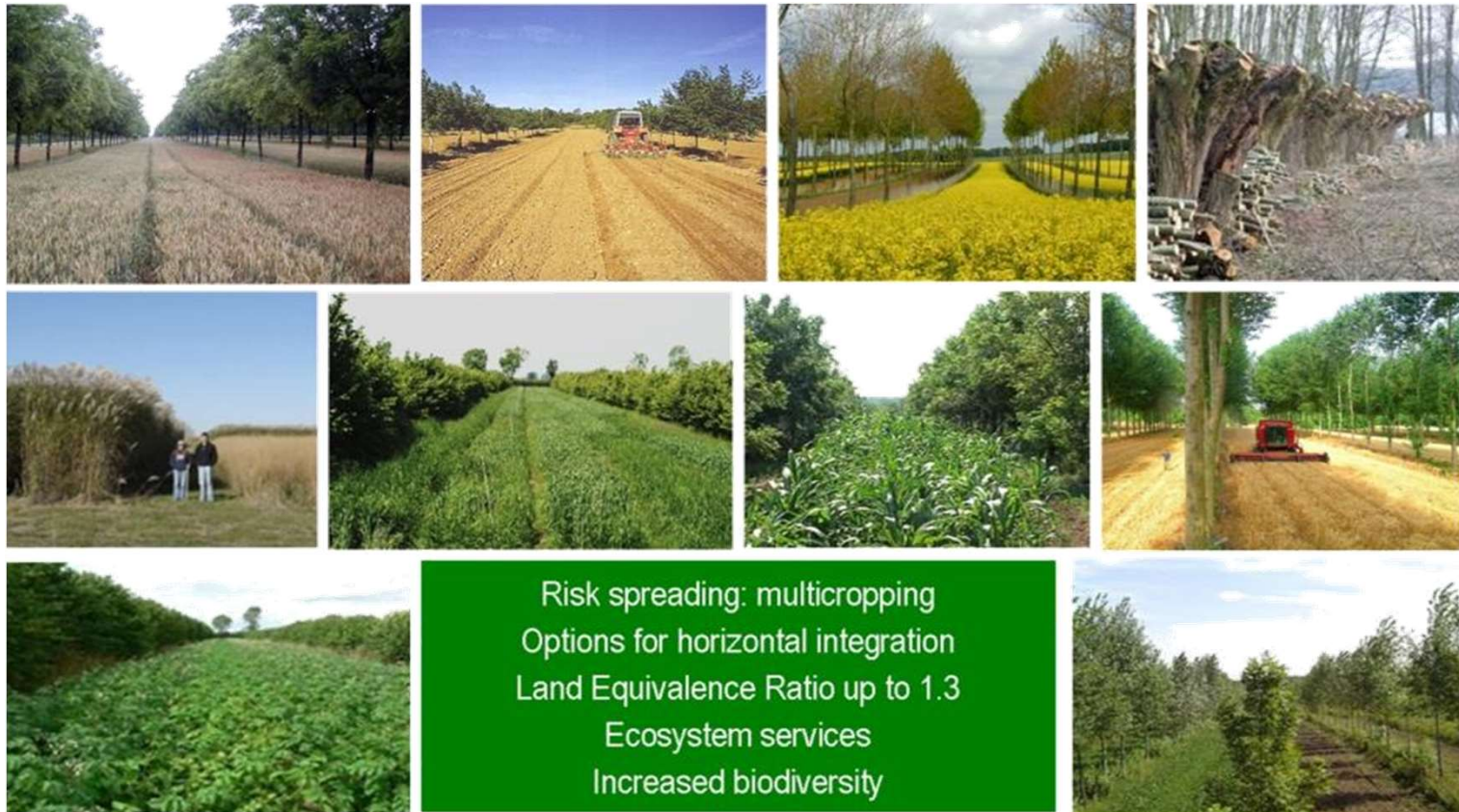


ZERO WASTE
MODULAR
BIODEGRADABLE

SYSTEMIC DESIGN THINKING | BIOBASED | CIRCULAR | C-STORAGE



AGROFORESTRY: land equivalence ratio > 1



diversification - horizontal & vertical integration

OUR SERVICES

3 groups

integrated approach from sustainable land use until bio-based end products



Land use systems

maximize carbon sequestration & natural capital



[Plant growth analysis and forecasting](#)



[Ecosystem services and impact analyses](#)



[Feedstock availability and quality analysis](#)



Risk assessments of bio-based value chains



[Preparation process for biobased materials certification](#)



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Bio-based value chain efficiency analyses



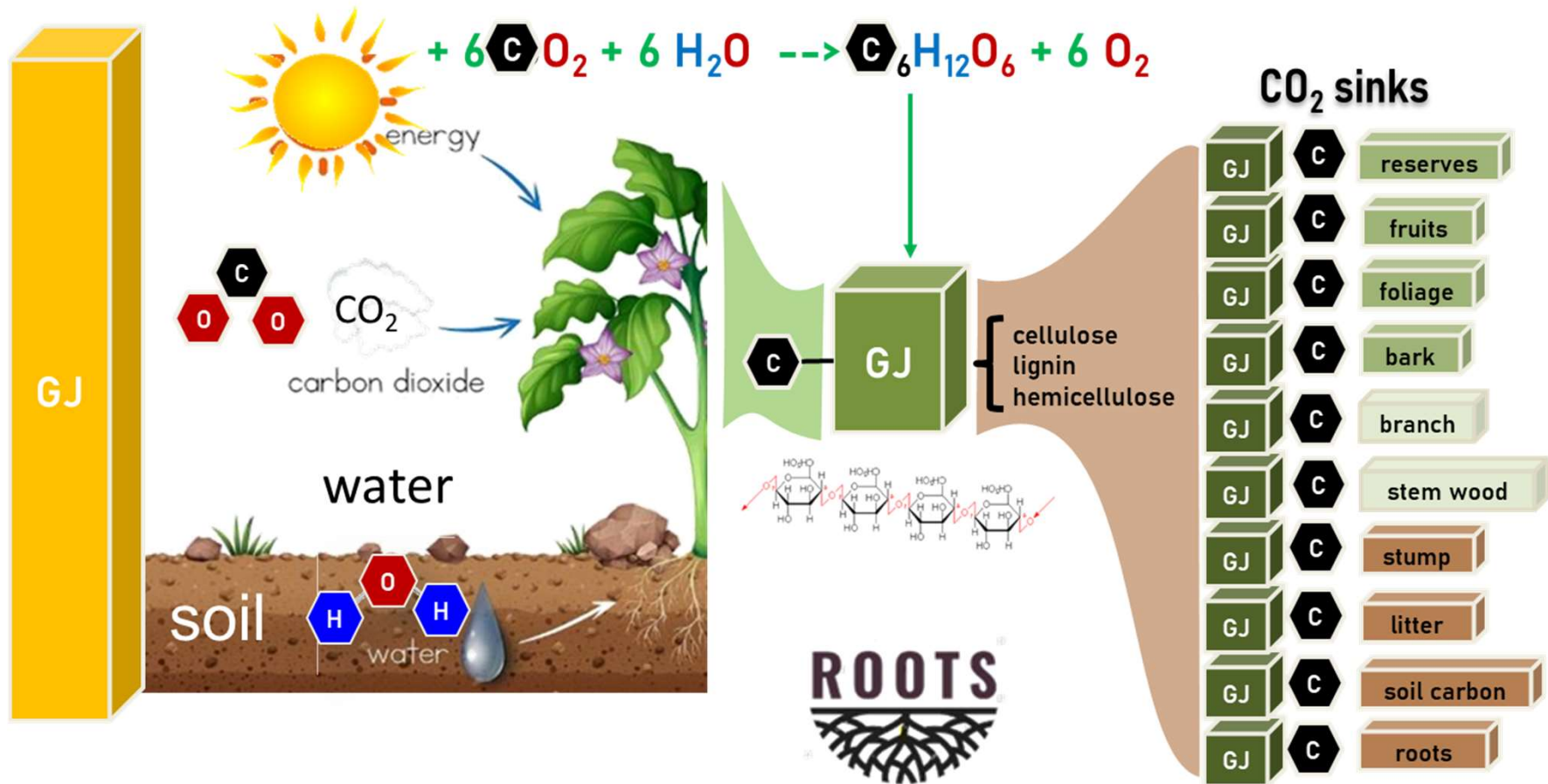
Sustainability assessments for land use and feedstocks



[Preparation process for carbon standard certification](#)

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ROOTS | plant growth forecasting | C-allocation | allometrics



BIOMASS VARIABILITY | PLANT BIODIVERSITY



Mirror > BioGrowth > TreesForAll > Madagascar > TFAresults > TFAfigures

Search TFAfigures

Abrahamia grandieriscatter.png

Abrahamia perrieriscatter.png

Acacia manubensisscatter.png

Acacia rovumaescatter.png

Acridocarpus excelsusscatter.png

Adansonia grandieriscatter.png

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Barleria lupulinascatter.png

Barleria seyriigiscatter.png

Bathiorhamnus reticulatusscatter.png

Baudouinia fluggeiformisscatter.png

Bauhinia greveiscatter.png

Bauhinia morondavensisscatter.png

Berchemia discolorscatter.png

Bismarckia nobiliscatter.png

Bivinia jalbertiscatter.png

Borassus madagascariensscatter.png

Brachylaena microphyllascatter.png

Brandzeia filicifoliascatter.png

Breonia salicinascatter.png

Breonia perrieriscatter.png

Brexia australisscatter.png

Bridelia pervilleanascatter.png

Broussonetia greveanascatter.png

Bussea perrieriscatter.png

Camptolepis hygrophilascatter.png

Canarium madagascariensscatter.png

Capurodendron perrieriscatter.png

Capuronia benoistiiscatter.png

Carissa boivinianascatter.png

Carissa obovatascatter.png

Carissa oleoidesscatter.png

Cassia hippophallusscatter.png

Cathariostachys madagascariensscatter.png

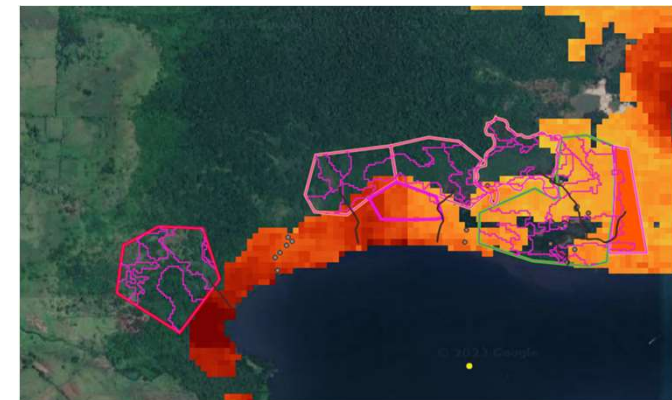
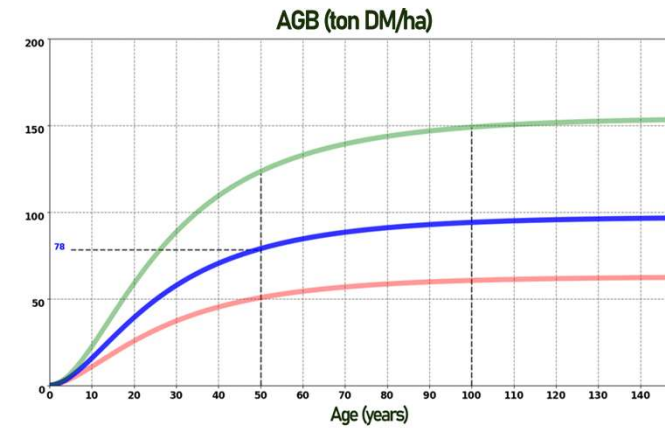
Catunaregam spinosascatter.png

Cedrelopsis gracilisscatter.png

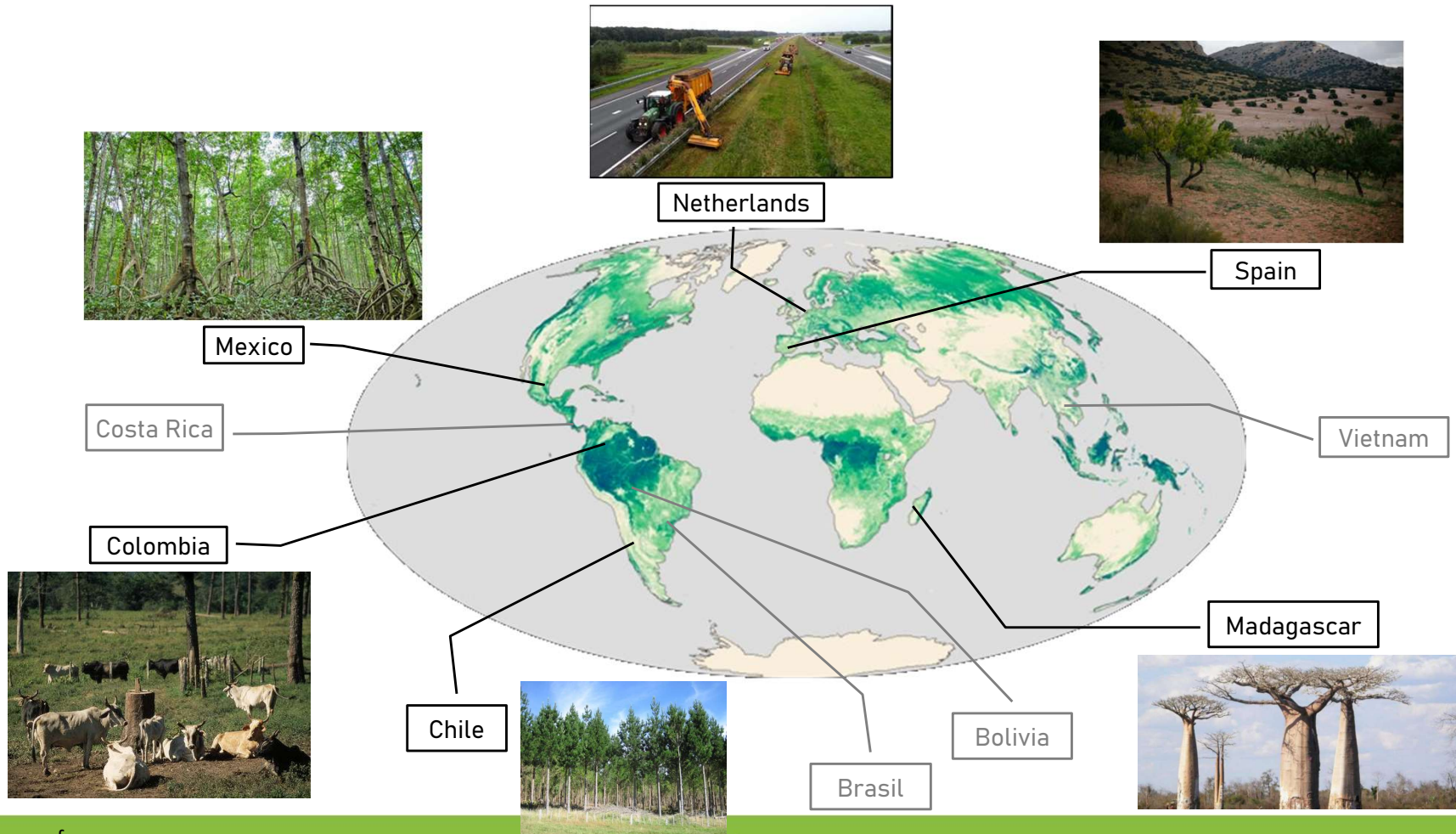
Investigate

Notes

54%



BIOGROWTH DEVELOPMENT biomass and C-related projects



GET TO KNOW US

OUR TEAM



Kristiaan Tetteroo

CEO

Business development consultant and project manager with 15 years experience in consultancy and project management.



Rodrigo O'Ryan Blaitt

CEO BioGrowth LATAM

Involved in the forestry sector since 2003 in Chile and Uruguay, focused on the pulp wood and biomass sector and with recognition of the main forestry companies and traders around the world.



Dries Vansteenkiste

Chief Technology Officer

Bioscience Engineer holding a PhD in forestry sciences and wood technology with a +25 years track record in tree growth modelling, feedstock quality assessments and biomaterial R&D.



Arjen Bouterse

Operational Manager

Expert in sustainable technologies, project management, organisational management and information technology systems with +25 years of experience.



LET'S WORK TOGETHER !
SUSTAINABLE LAND-USE and MOBILIZATION OF BIOMATERIAL RESOURCES

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REACH US

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