

BioLPG

Outlook for Latin America

Eric Johnson

22 March 2019

AIGLP Congress, Lima

Atlantic Consulting

It will never happen!




Agenda for today

- Why BioLPG?
- What is BioLPG?
- Producers
- Consumers
- Outlook for BioLPG production
- How can you buy/sell BioLPG?

Climate change is real



President Trump on dire economic forecast of climate change report: 'I don't believe it'

 U.S. Global Change
Research Program

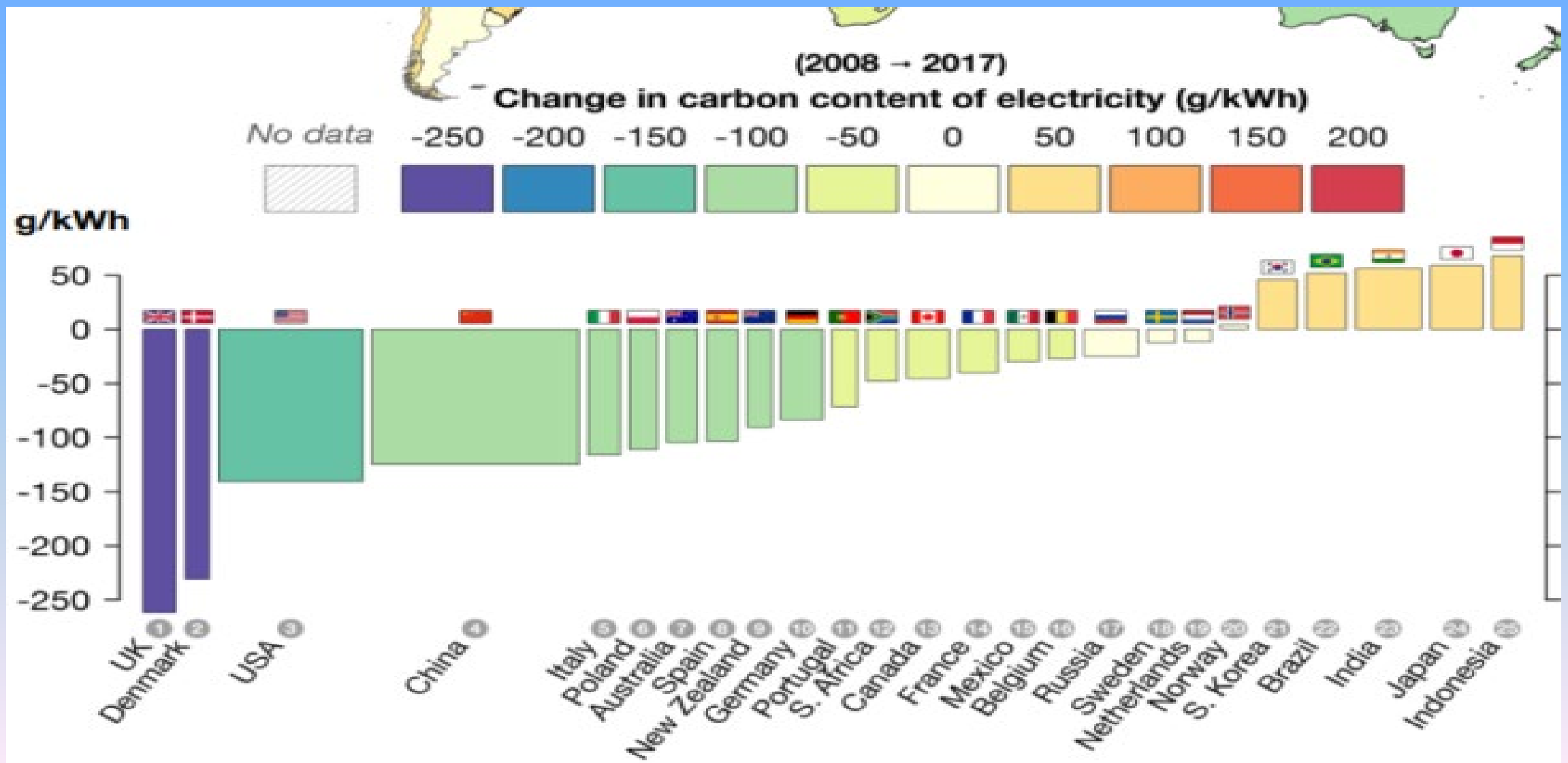
Fourth National Climate Assessment



Volume II

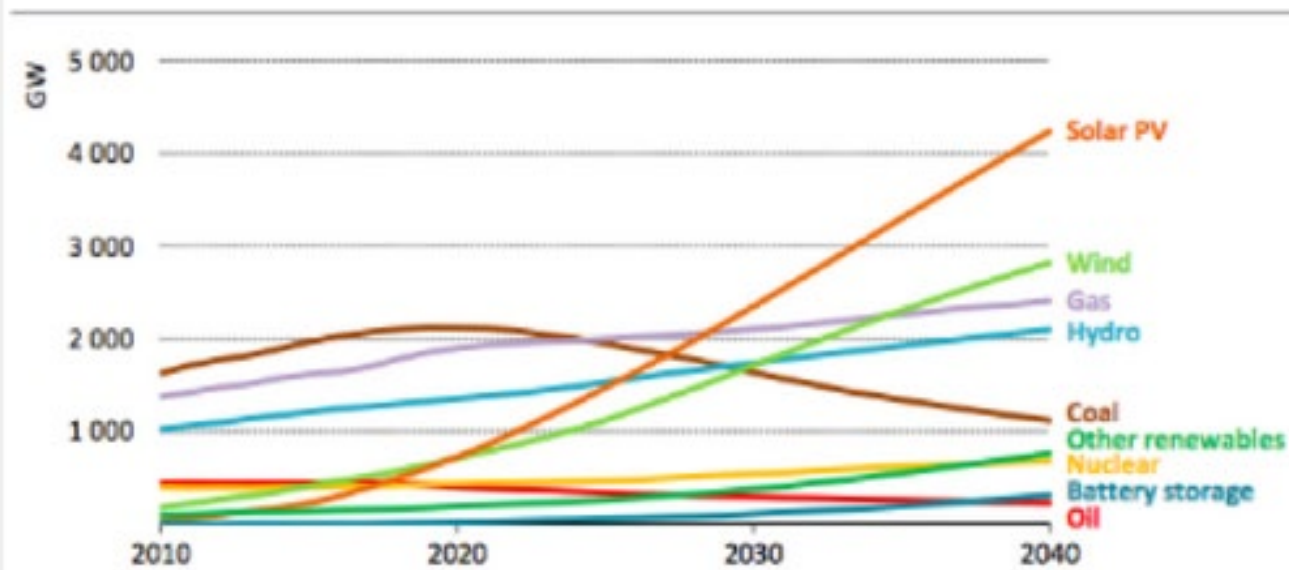
Impacts, Risks, and Adaptation in the United States
Report-in-Brief

Electricity has decarbonised a lot



And it will keep on decarbonising

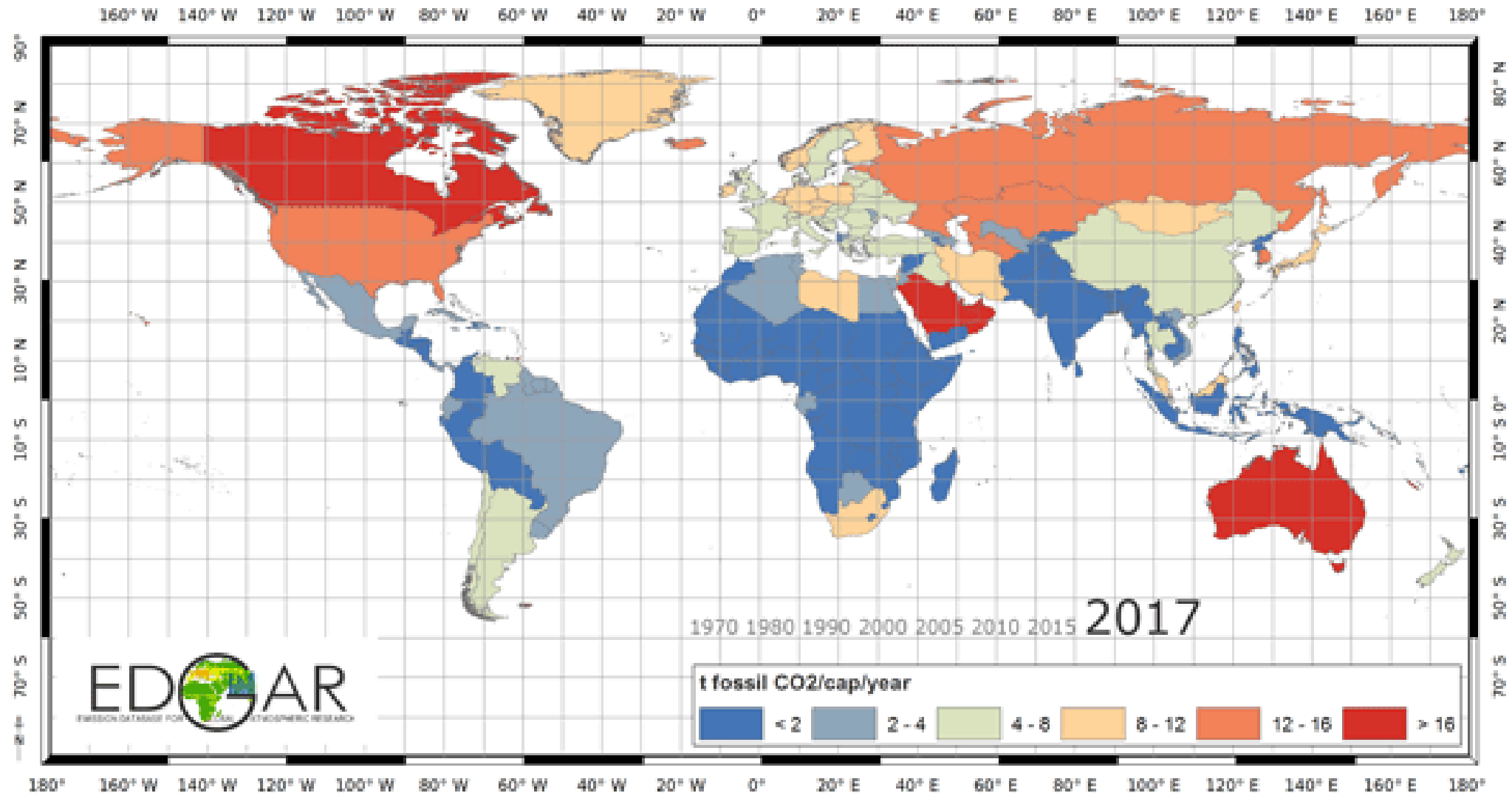
More solar and wind, and a lot less coal



*Solar PV takes the lead in installed capacity before 2030;
unabated coal capacity declines from 2020*

Total power generation capacity in the Sustainable Development
Scenario – source: WEO2018

Latin America is already low-carbon



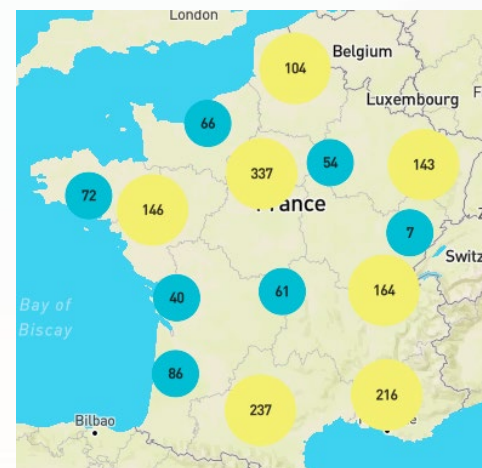
Arguments to pitch BioLPG to policymakers



Significant carbon savings

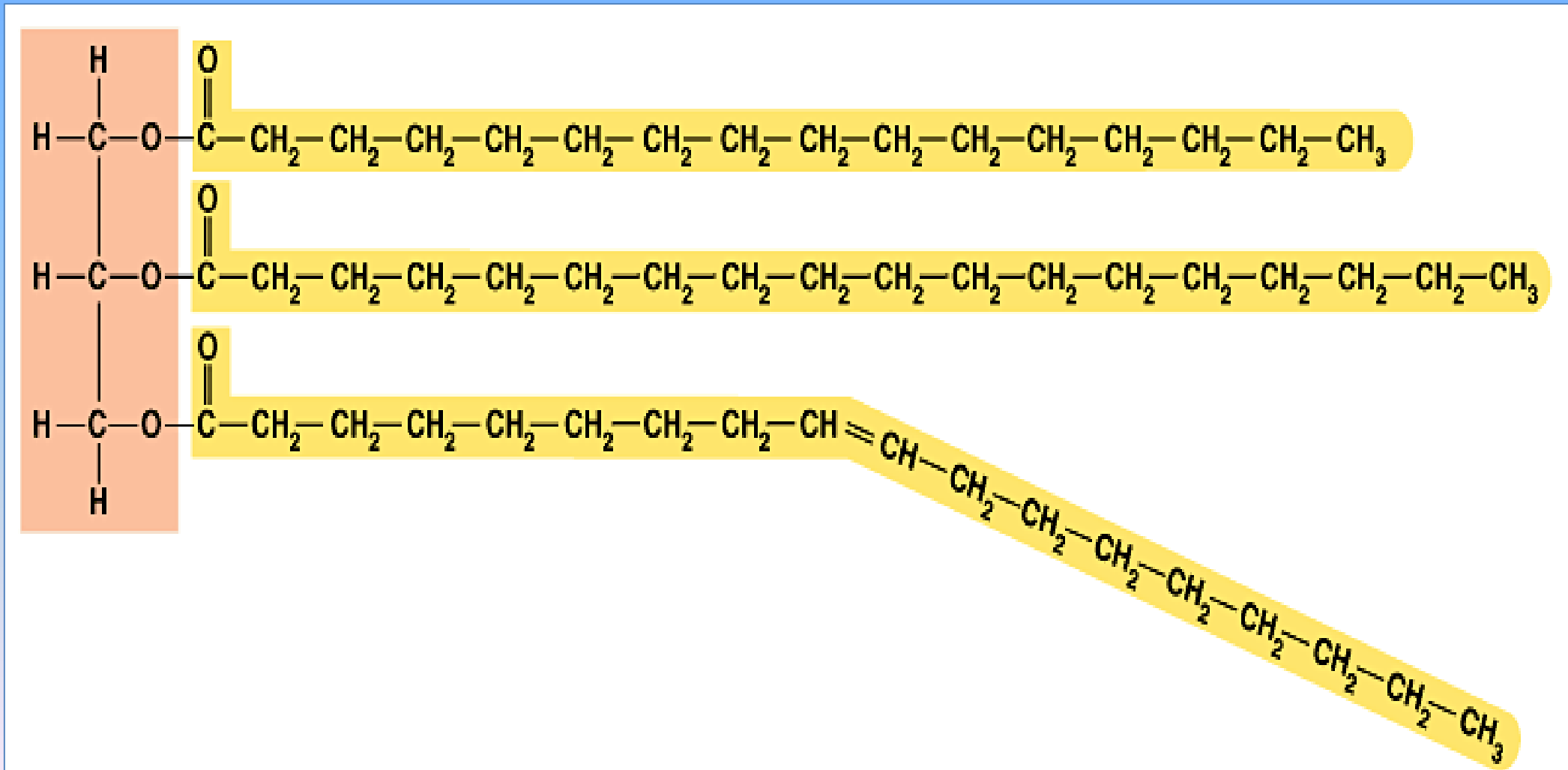


Low pollutant emissions



**No need for new infrastructure
or appliances**

Today's biopropane: from vegetable/animal oils/fats



In the past 4 years....a flying start

- BioLPG production up 50%
- Sales of branded BioLPG started
- LPG now has a renewables story

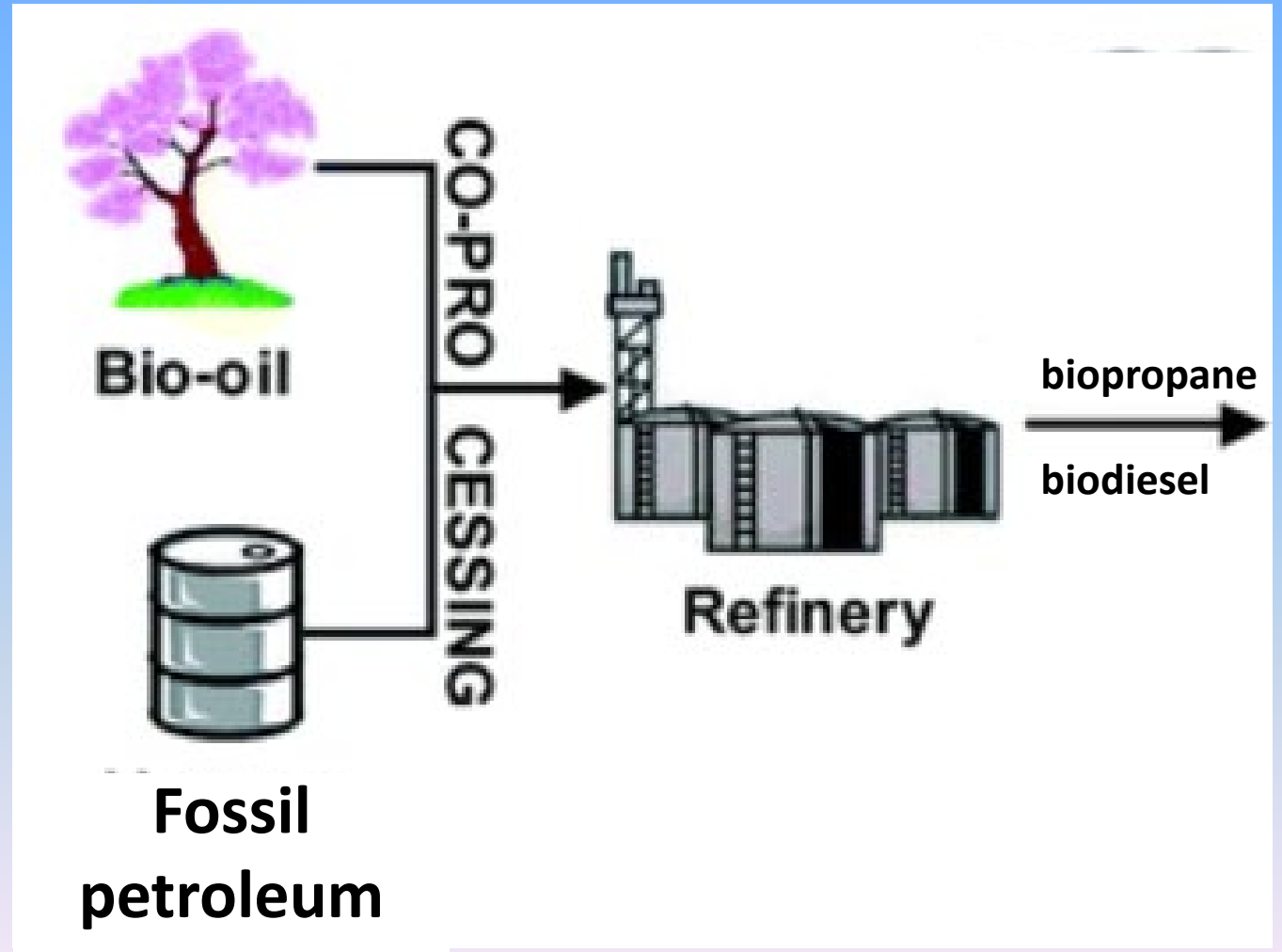


200 kilotonnes/yr in production

Owner/Operator	Country	Is biopropane extracted?	Biopropane, kt/y
AltAir Fuels	USA	No	7
CEPSA	ES	Maybe	?
Eni	I	Yes	20
GALP	P	Maybe	?
Global Bioenergies	D	Biobutylene, yes	Biobutylene, 0.1
Hitachi Zosen	J	No	0.0
Irving Oil	IR	No	3
Neste Oil	NL, SF, Singapore	Yes	90
ÖMV	A	?	?
Petrobras	BR	No	?
PREEM	S	Yes	15
Renewable Energy Group	USA	Probably	1.3
Repsol	ES	Probably starting in 2018	?
Total	F	Starting in 2018	30
Valero: Diamond Green Diesel	USA	Small quantities?	10
SUM			Estimated 200

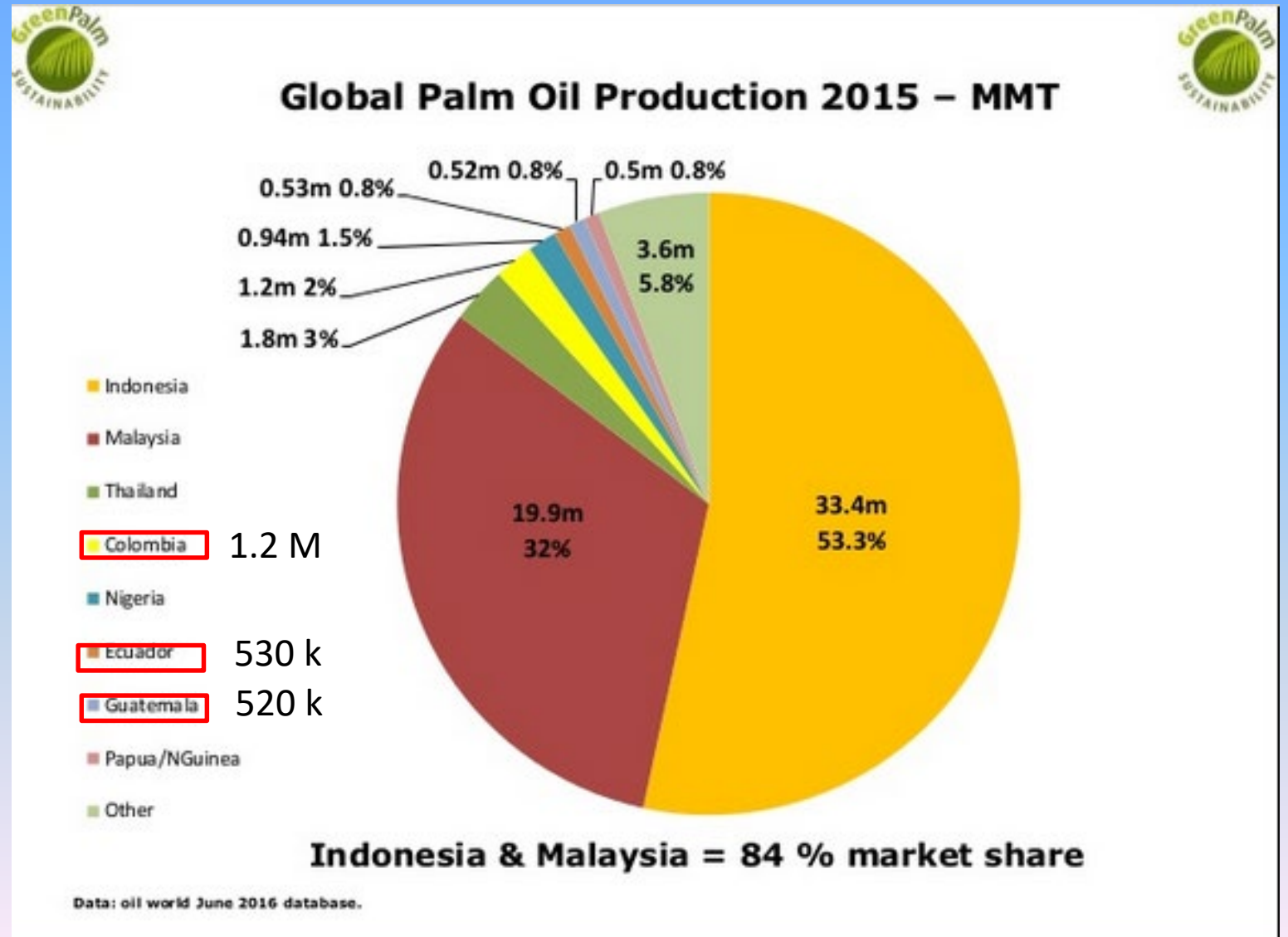
Biggest trend: co-processing

- Conventional refinery
- Modified hydrotreater or even FCC
- Infrastructure exists
- Conversion packages available



In LatAm: co-processing is the obvious next step

2.35 million tonnes/yr
yields approximately
120 ktons of biopropane



Chain of custody: very important!

***Where no chain of custody exists
mass balance should be used***

Book & Claim

- Complete decoupling of certificates and product
- Trade in certificates
- Used in electricity market
- Akin to equivalence trading

Mass Balance

- Mixing permitted
- Units in units out basis
- Partial decoupling of certificate & product
- Used in wood sector (FSC)

Bulk Commodity

- 100% separation certified & non-certified
- Common in food sector
- Somewhat impractical for fuel or small volumes

Increase in cost & perceived confidence

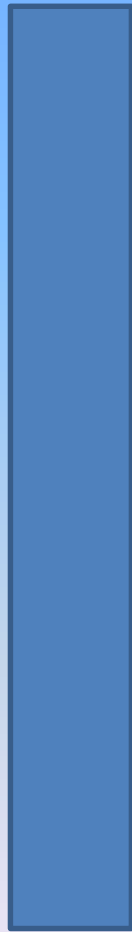
Buyers: carbon-conscious companies



L'ORÉAL

Potential of oil/fat biopropane is limited

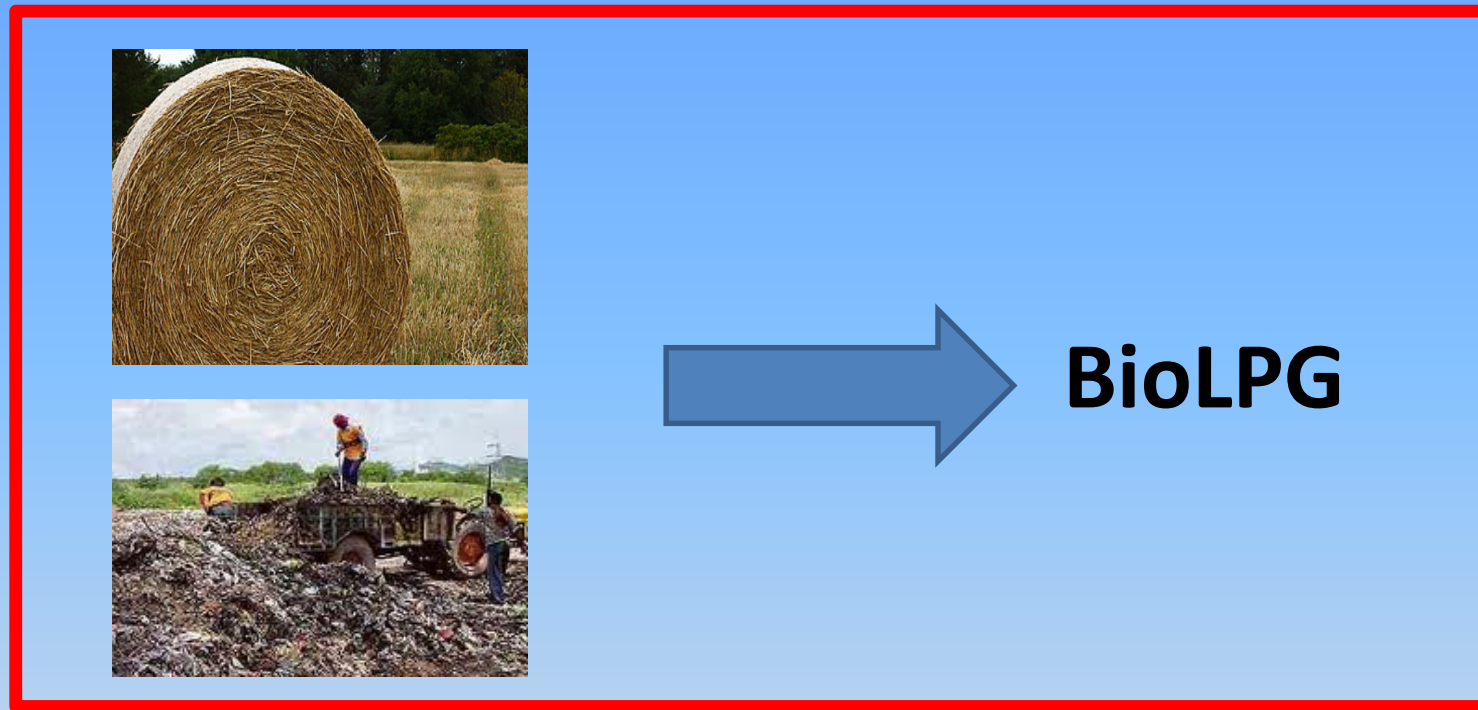
LPG production



Bio-oil
potential




Biggest potential feedstocks: cellulose and waste



	Million tonnes/year			
Feedstock	2018	2030	2050	Process path
Cellulosics	0	94	108	Advanced chemical processes
Mixed waste	0	15	15	Advanced chemical processes

It will never happen?

 **energies**

Title / Keyword

JournalEnergies▼


Author / Affiliation

Article Type

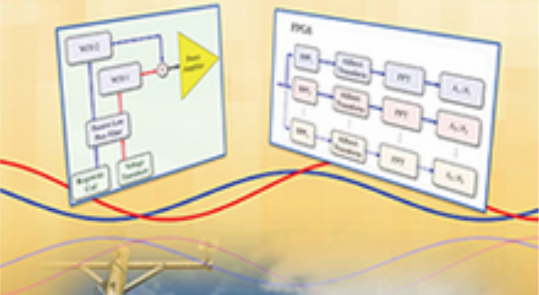
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Open AccessReview

Short Rotation Wood Crops in Latin American: A Review on Status and Potential Uses as Biofuel

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WLPGA/PERC scoping study

- Find a cellulosic/waste-to-BioLPG R&D project...
- ...or, at least, identify possible partners
- Working group to help in contact/networking
- Start: end February
- Finish: around June
- Method: 'dial and smile', desk research, build on existing work

**If you know of a possible project
please tell us!**

And what now?

- **Explore co-processing with refiners**
- **Protect virgin bio-oils for biofuels**
- **Analyse/monitor government 'bio' plans**
- **Promote BioLPG-rich options**

