



## **Carbon emissions: How should we be thinking about carbon tax and related issues?**

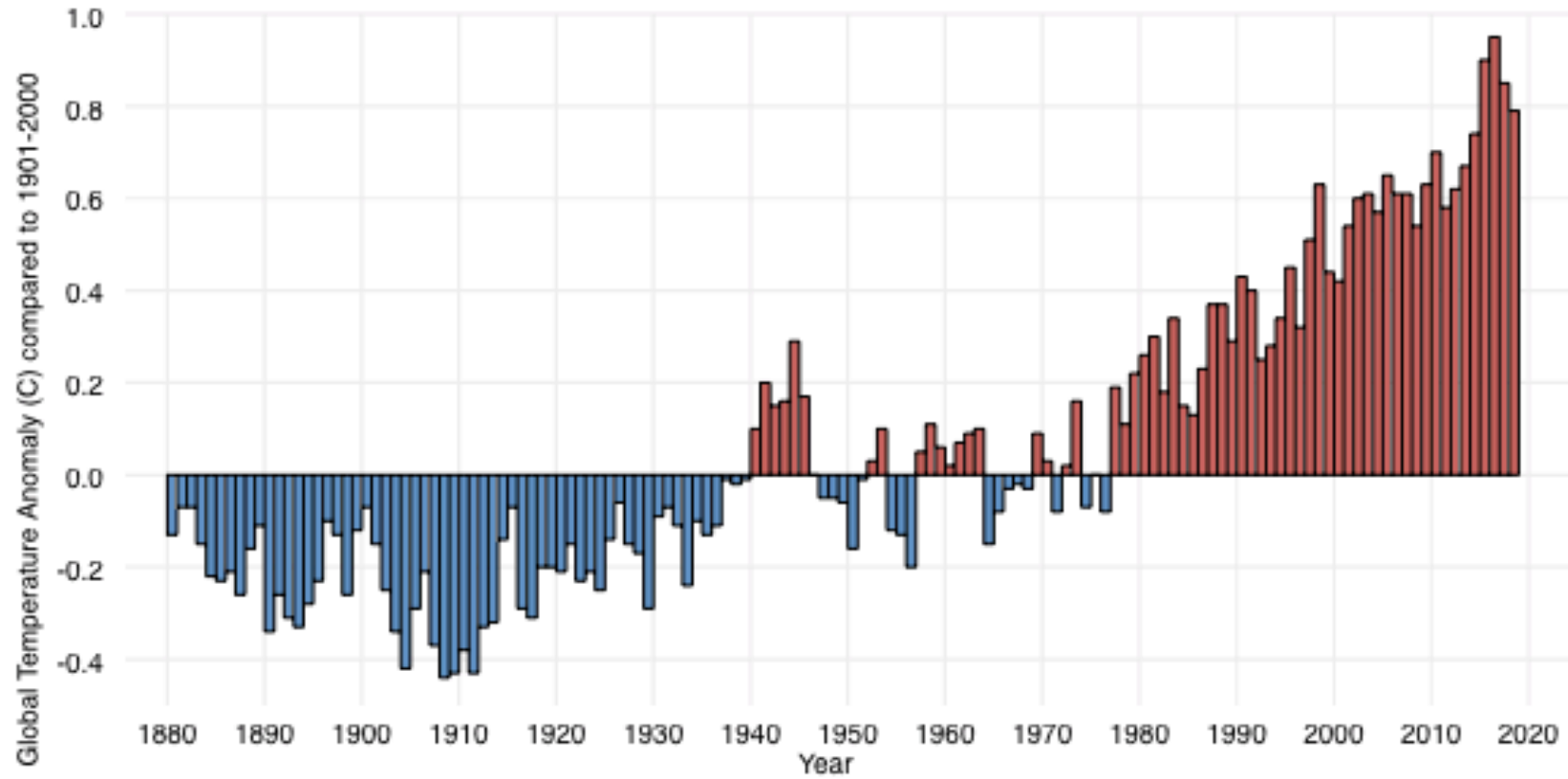
David Farrell, Blue North Sustainability (Pty) Ltd.

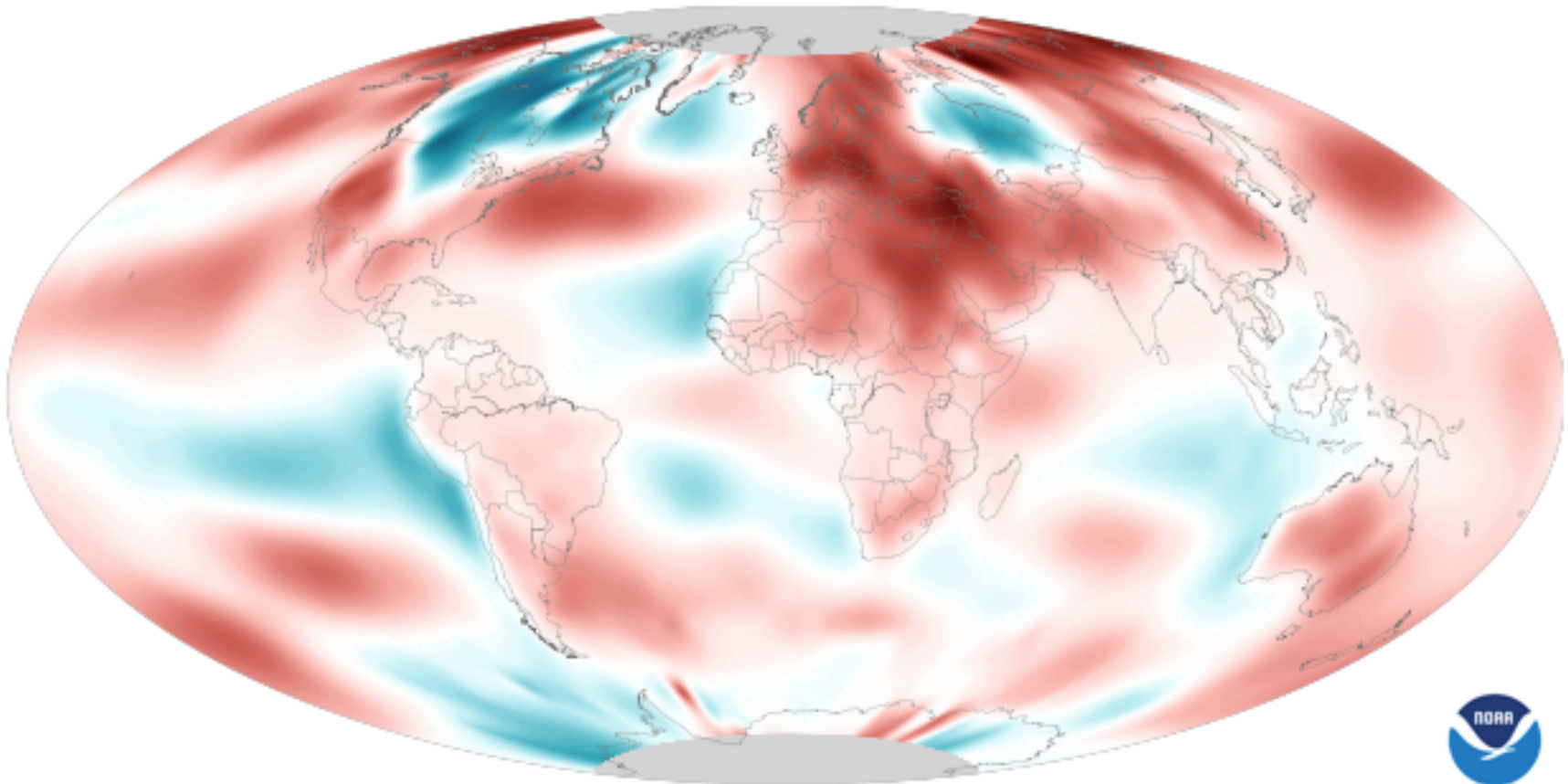


- The climate change context
- Carbon Tax as an instrument
- How much tax?
- Other pressures for change
- What now?

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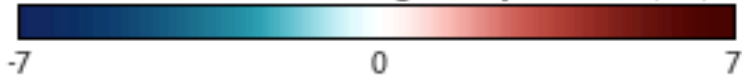
## History of global surface temperature since 1880





2018  
Compared to 1981-2010

Difference from average temperature (°F)



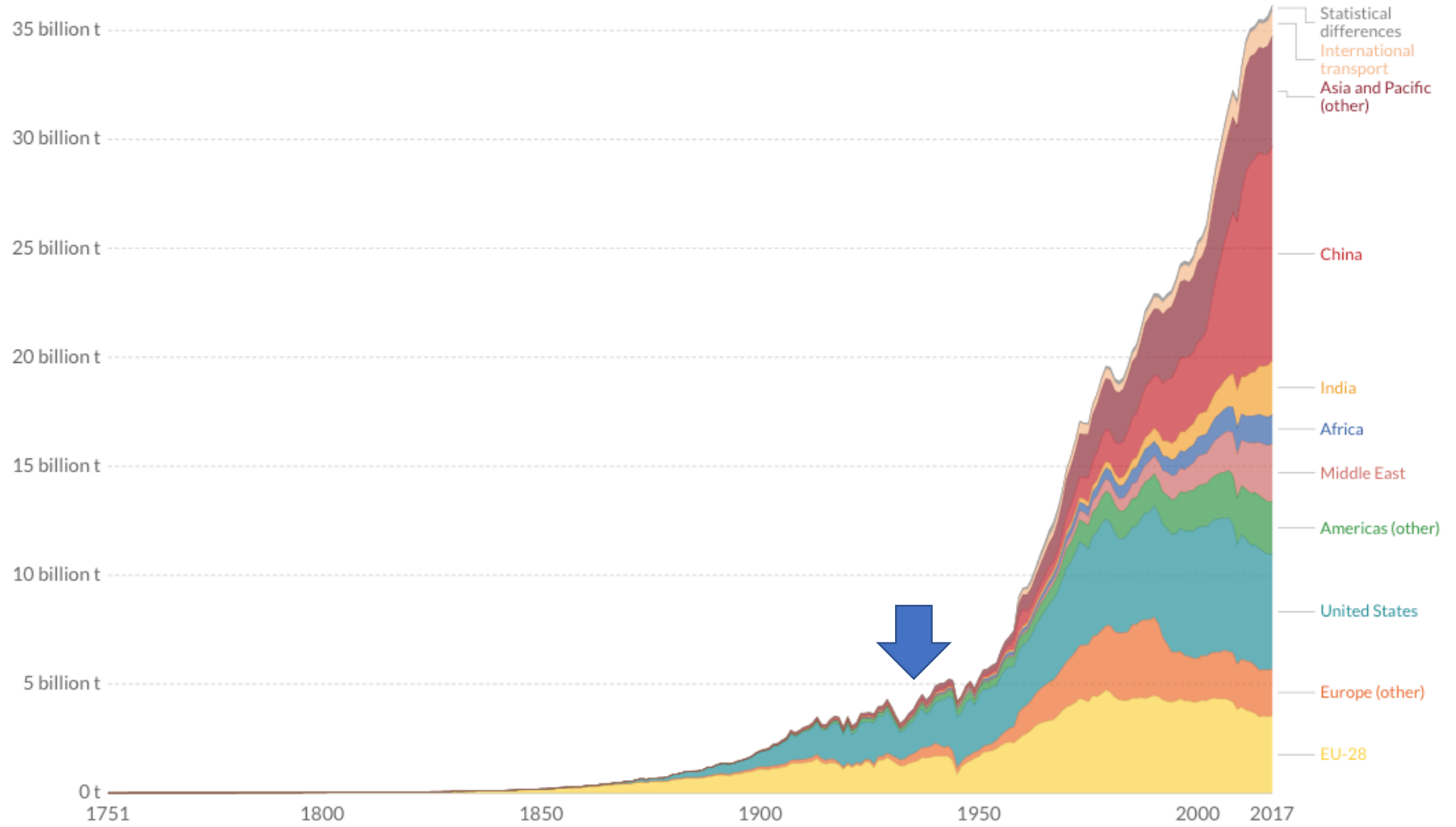
NOAA NNVL  
Data: NCEI



Source: NOAA

# Annual total CO<sub>2</sub> emissions, by world region

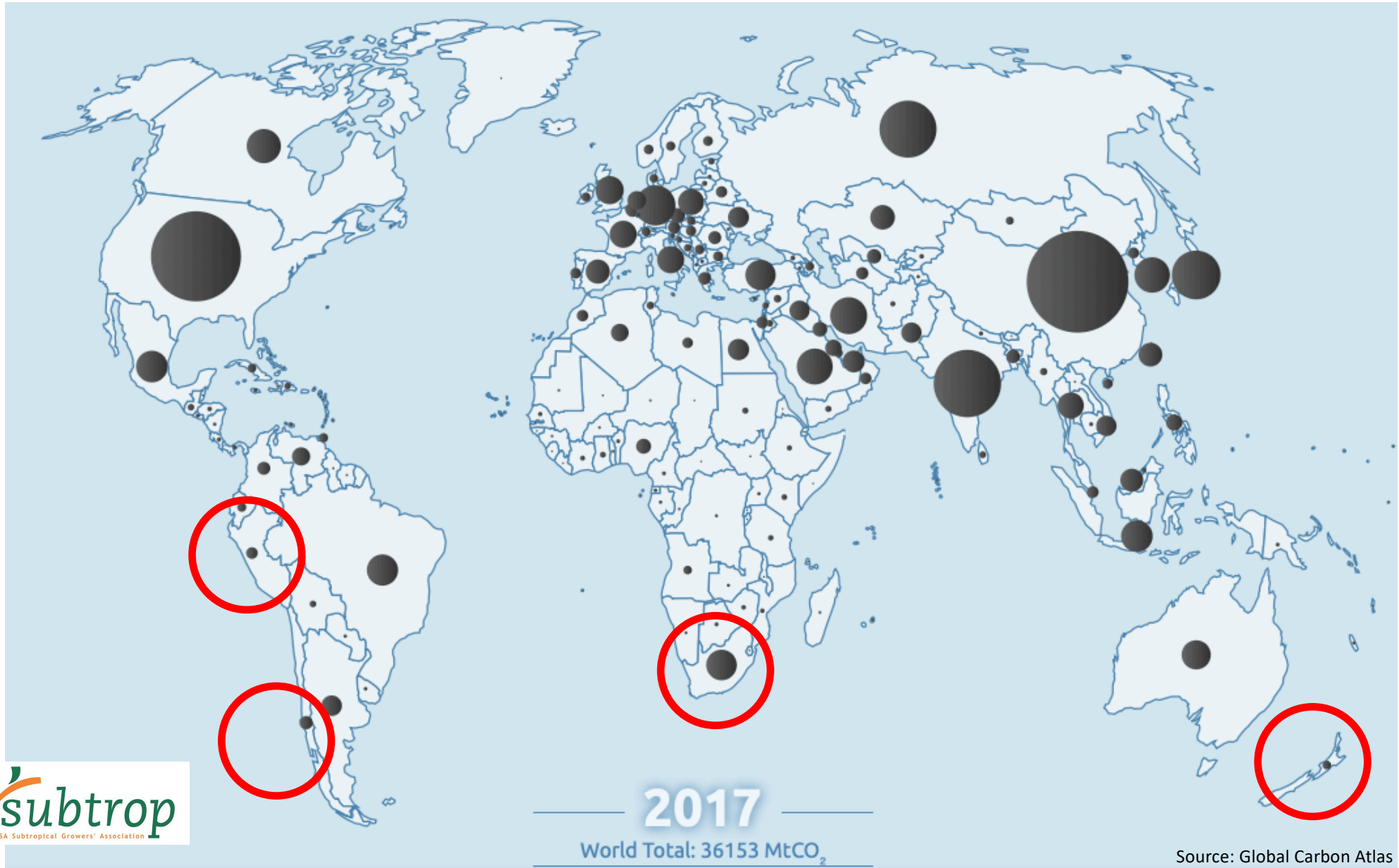
Our World  
in Data



## Territorial (MtCO<sub>2</sub>)

Rank	Country	MtCO <sub>2</sub>
1	China	9839
2	United States of America	5270
3	India	2467
4	Russian Federation	1693
5	Japan	1205
6	Germany	799
7	Iran	672
8	Saudi Arabia	635
9	South Korea	616
10	Canada	573
11	Mexico	490
12	Indonesia	487
13	Brazil	476
14	South Africa	456
15	Turkey	448
16	Australia	413
17	United Kingdom	385
18	France	356
19	Italy	356
20	Thailand	331
21	Poland	327
22	Kazakhstan	293
23	Spain	281







# Nations Unies

## Conférence sur les Changements Climatiques 2015

COP21/CMP11

### Paris France



# The Paris Agreement

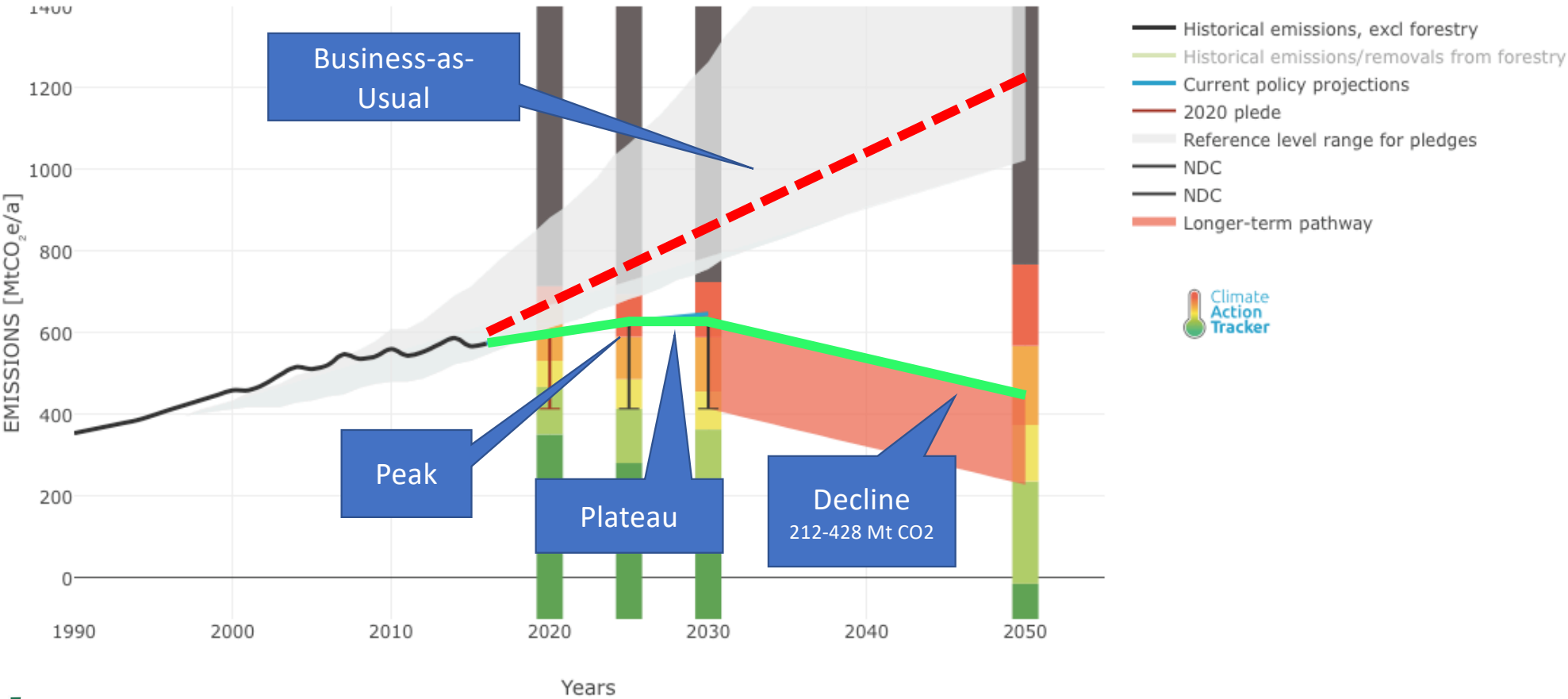
Countries agreed to:

- Keep global temperatures "well below" the level of 2C above pre-industrial times and "endeavour to limit" them even more, to 1.5C
- Limit the amount of greenhouse gases emitted by human activity to the same levels that trees, soil and oceans can absorb naturally, beginning at some point between 2050 and 2100
- Review each country's contribution to cutting emissions every five years so they scale up to the challenge
- Enable rich countries to help poorer nations by providing "climate finance" to adapt to climate change and switch to renewable energy

# The Paris Agreement

- Adopted Dec 2015 / Ratified Nov 2016
- Signed by 197 countries and **ratified** by 185 as of January 2019.
- International Treaty
- Guides international efforts to limit GHG emissions
- Country commitments made via Nationally Determined Contribution (NDC's)
- SA submitted NDC in Sept 2015
- SA signed April 2016
- Now required to adopt within own legal system
  - National Climate change Adaptation Strategy (released for comment May 2019)
  - Climate Change Bill (tabled June 2018 – establish a binding GHG Reduction Trajectory)
  - The Carbon Tax Act (enacted 1<sup>st</sup> June 2019)

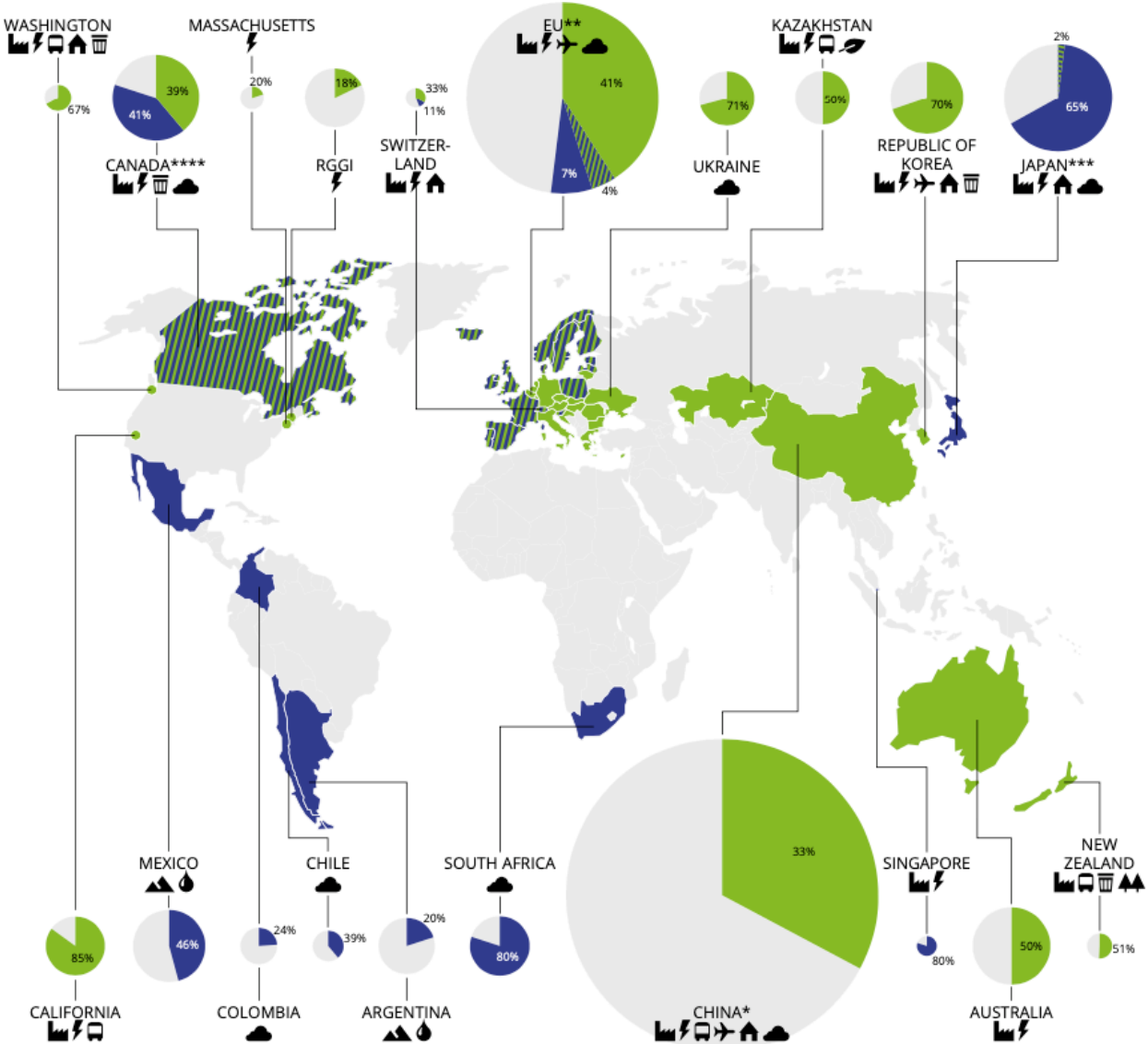
# South Africa's Nationally Determined Contributions (NDC's) to achieving the Paris Agreement Targets



- The climate change context
- **Carbon Tax as an instrument**
- How much tax?
- Other pressures for change
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# Carbon Tax versus Emissions Trading

- ETS implemented or scheduled for implementation
  - Carbon tax implemented or scheduled for implementation
  - ETS and carbon tax implemented or scheduled
- 40% Estimated coverage



Source: State and Trends of Carbon Pricing 2019



# South Africa's Carbon tax model

- Aligned with development goals and NDC under Paris Agreement
- Based on “Polluter Pays” principle
- Easier to administer, sets clear price signal
- Aimed at changing behaviour / transition to low-carbon economy
- Phased approach
- Phase 1 (2019 to 2022):
  - R120 per t CO<sub>2</sub> / allowances reduce this to R6 – R48/ton
  - Agriculture & Eskom Exempt
- Could/should increase significantly for phase 2 (2023-2030) and then beyond 2030
- Reporting via DEA, administration/collection via SARS, based on annual submissions
- Tax liability = (GHG Emissions – Allowances) X Tax Rate

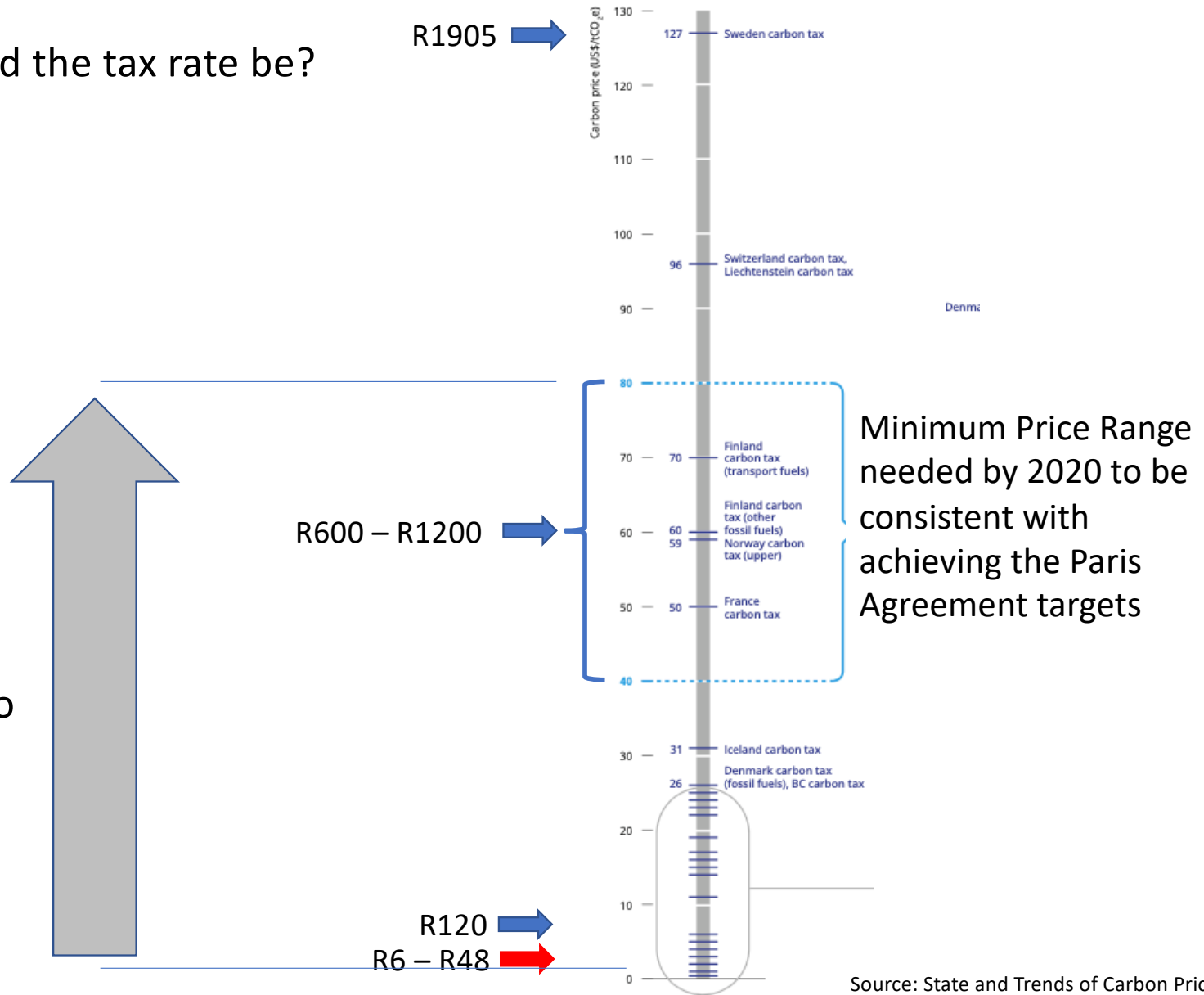
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- Agriculture exempt from Phase 1 (to end 2022)
- BUT, impacted indirectly via a Carbon Tax Fuel Levy (R0,08 per Litre of Diesel)
  
- Phase 2 could bring new challenges
  - Eskom no longer exempt? (Carbon Tax Electricity Levy?)
  - More realistic pricing of the Tax (double or much much more)?
  - Tax allowances fall away?
  - Electricity and Fuel prices rise significantly?
  - Agriculture exemption reduced/falls away?

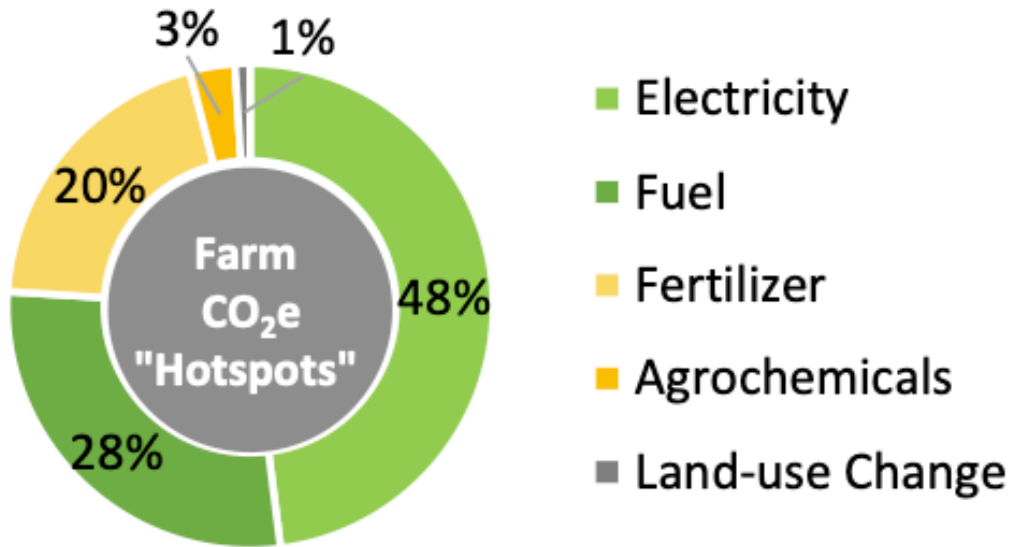
How much could/should the tax rate be?

Carbon Tax rate will have to increase between approx. 1,900% and 20,000% to be in required range.



Source: State and Trends of Carbon Pricing 2019

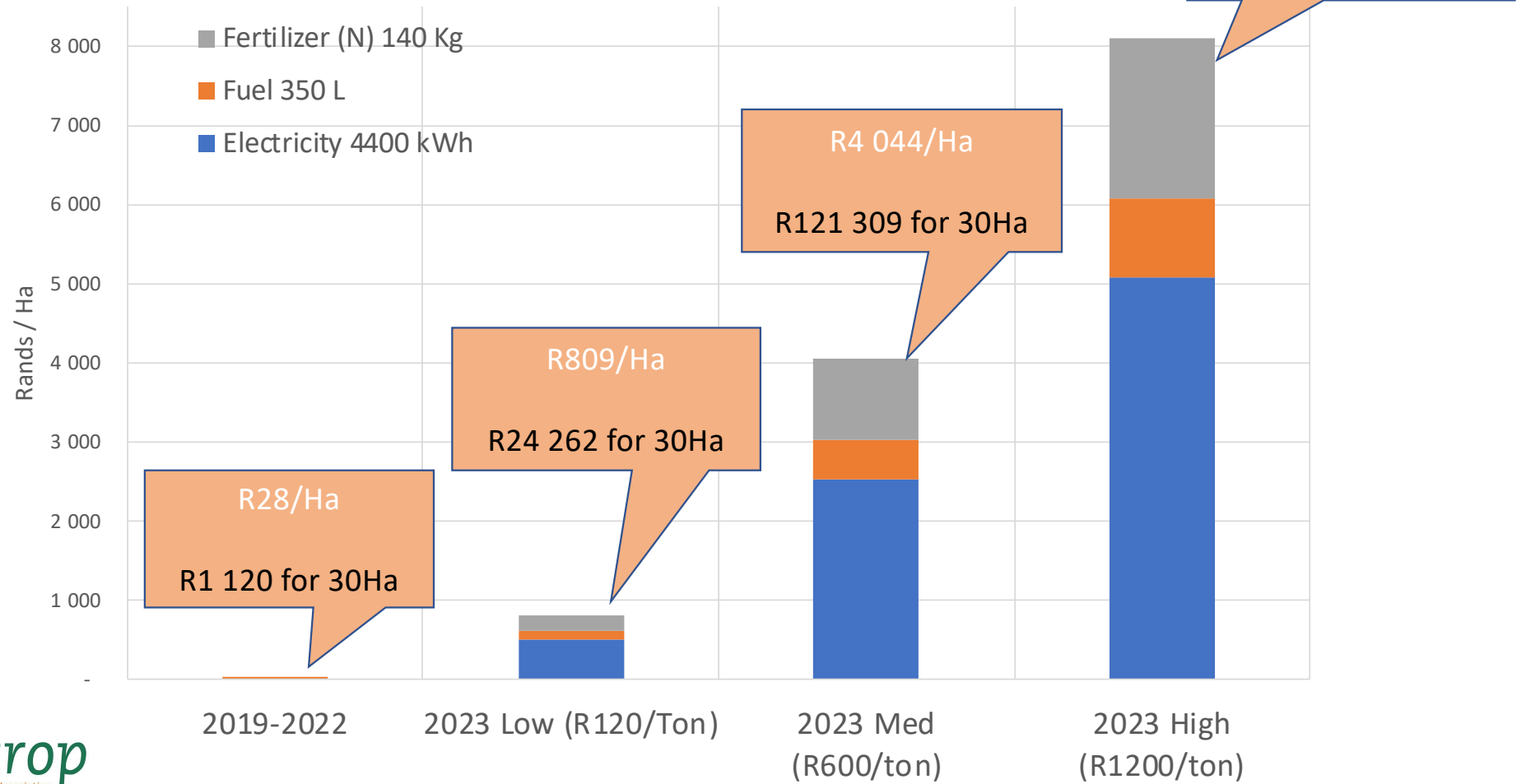
## WHERE DO FARM EMISSIONS COME FROM?



CO<sub>2</sub>e emissions vary by farm, region and commodity. On average, farms participating in the CCC benchmark have a CO<sub>2</sub> footprint = **6.82 tonnes CO<sub>2</sub>e/ha.**

Input	Usage	UoM	Tons CO <sub>2</sub> /Ha
Electricity	4400	kWh	4.22
Fuel	350	L	0.83
Fertilizer (N)	140	Kg	1.69
			<b>6.74</b>

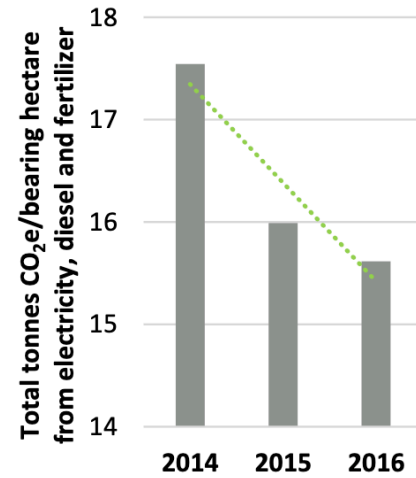
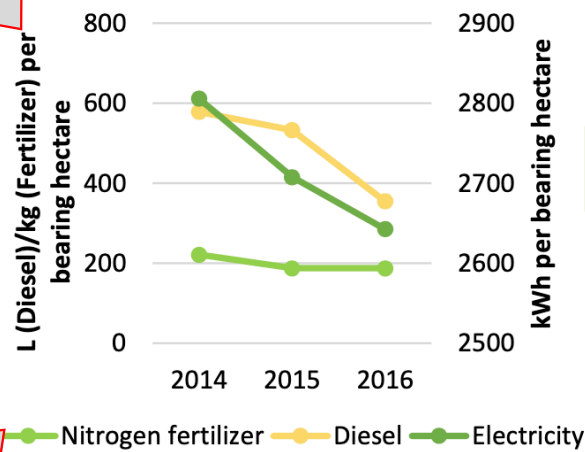
### Indirect & Direct Carbon Tax scenarios under different Carbon Price regimes



- The climate change context
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Trade /  
Market  
Access

Retailer  
Requirements



Energy-  
insecurity/  
cost

Carbon Tax

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- Measure, review & understand ([www.climatefruitandwine.co.za](http://www.climatefruitandwine.co.za))
- Develop/implement emissions reduction plan (de-coupling from dependence on fossil-fuel)
  - Energy efficiency
  - Technology switching
  - Renewable energy adoption
  - ...
- Develop/implement C-sequestration plan
  - Biodiversity restoration (diverse cover crops, degraded areas, riparian zones, corridors...)
  - Soil Health (Soil Organic C)
- Calculate and track theoretical carbon tax liability
- Account for C-Tax (make a provision for it on your income statement)



*“In a moment of decision, the best thing you can do is the right thing to do, the next best thing is the wrong thing, and the worst thing you can do is nothing”*

Theodore Roosevelt

*“The price of doing the same old thing is far higher than the price of change”*

Bill Clinton

# Subtrop



MARKETING SYMPOSIUM

Thank you!

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