

What Kind of Agreement Do We Need at COP 21?

Professor Jeffrey D. Sachs
Director of the Earth Institute
10th September

“Challenging the climate crisis and fostering
environmental justice”

Organized by

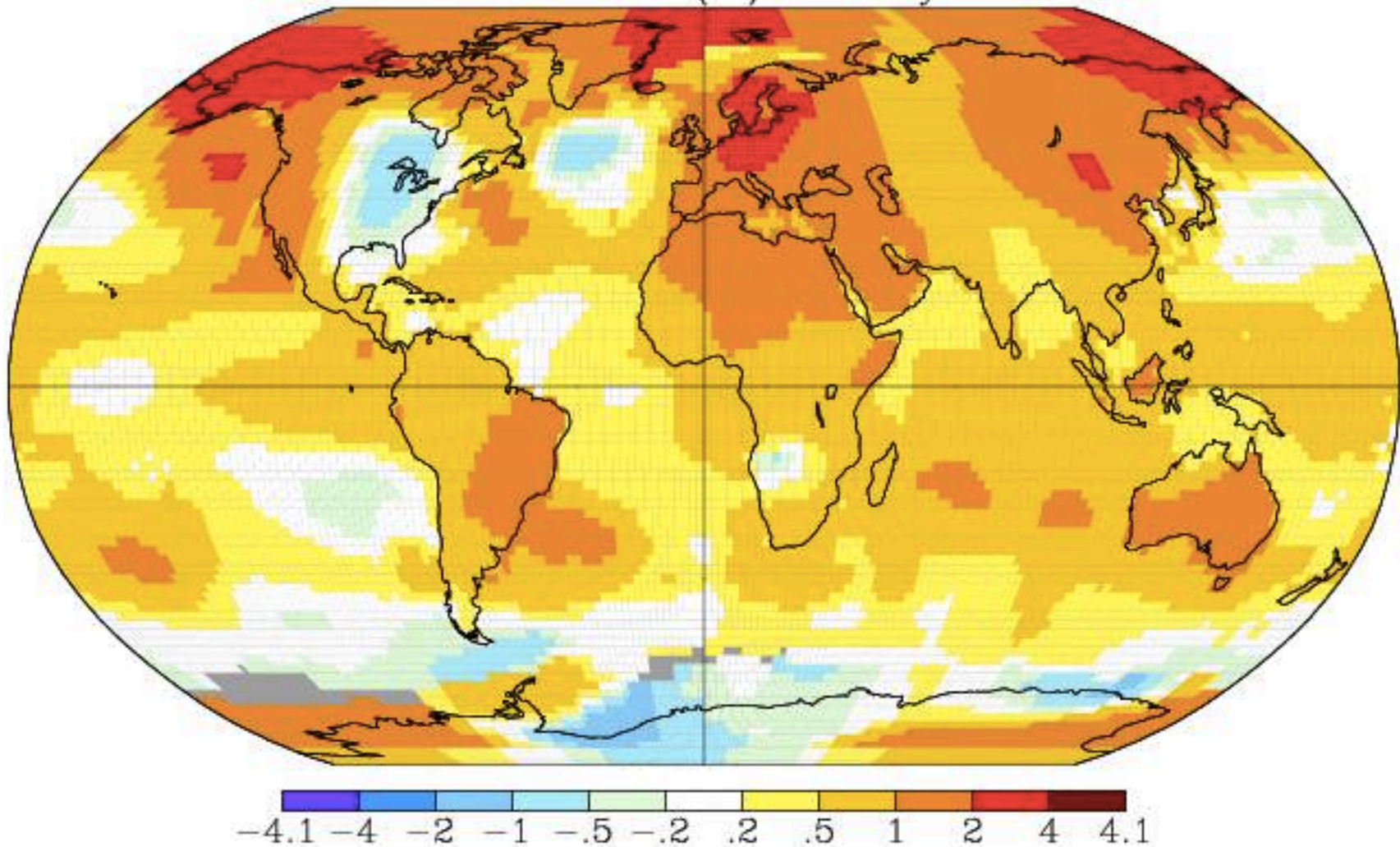
The Sustainable Development Foundation
Institutum Patristicum Agostinianum, Rome

2014: Warmest Year on Instrument Record

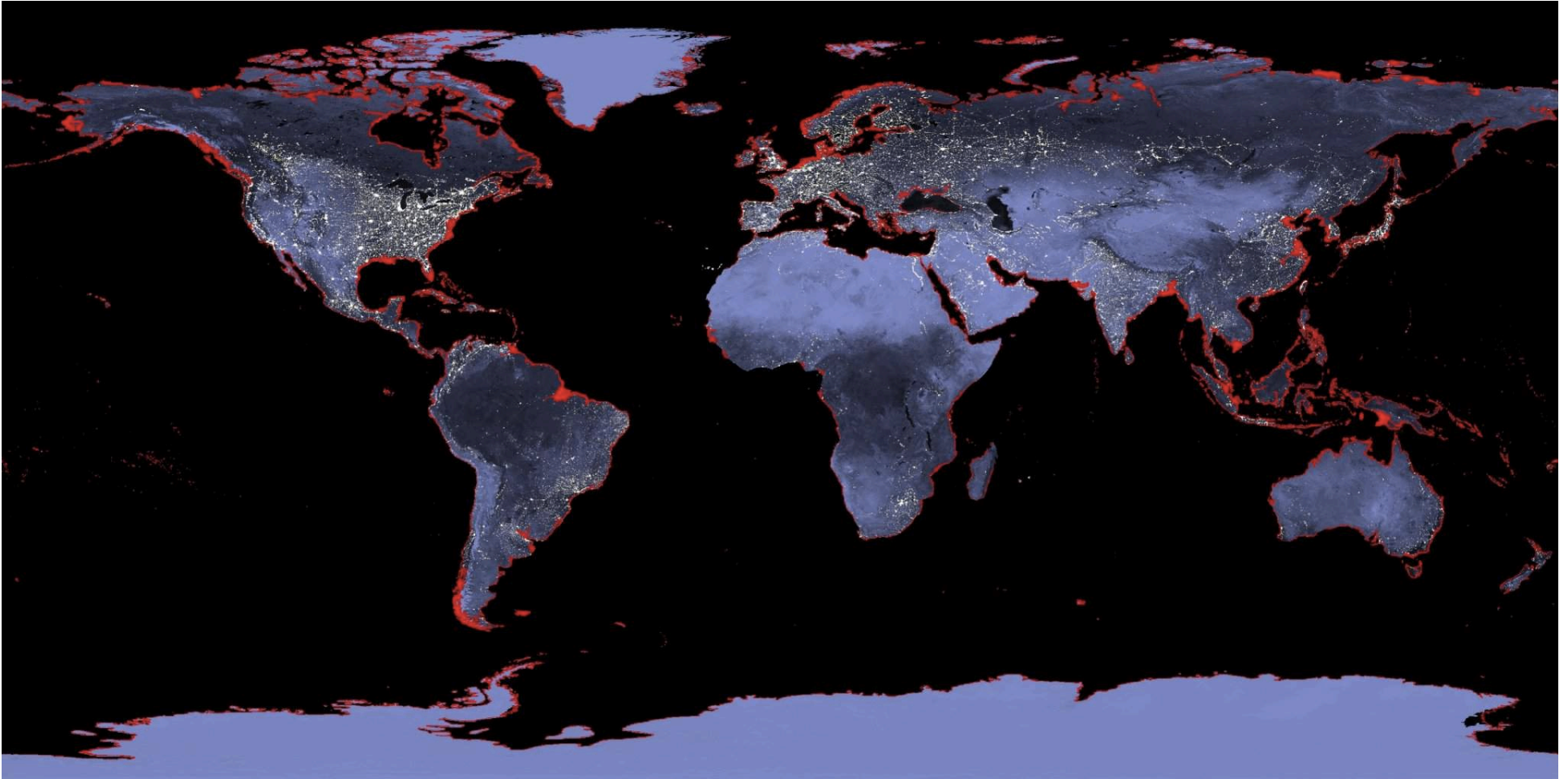
Annual J-D 2014

L-OTI(°C) Anomaly vs 1951-1980

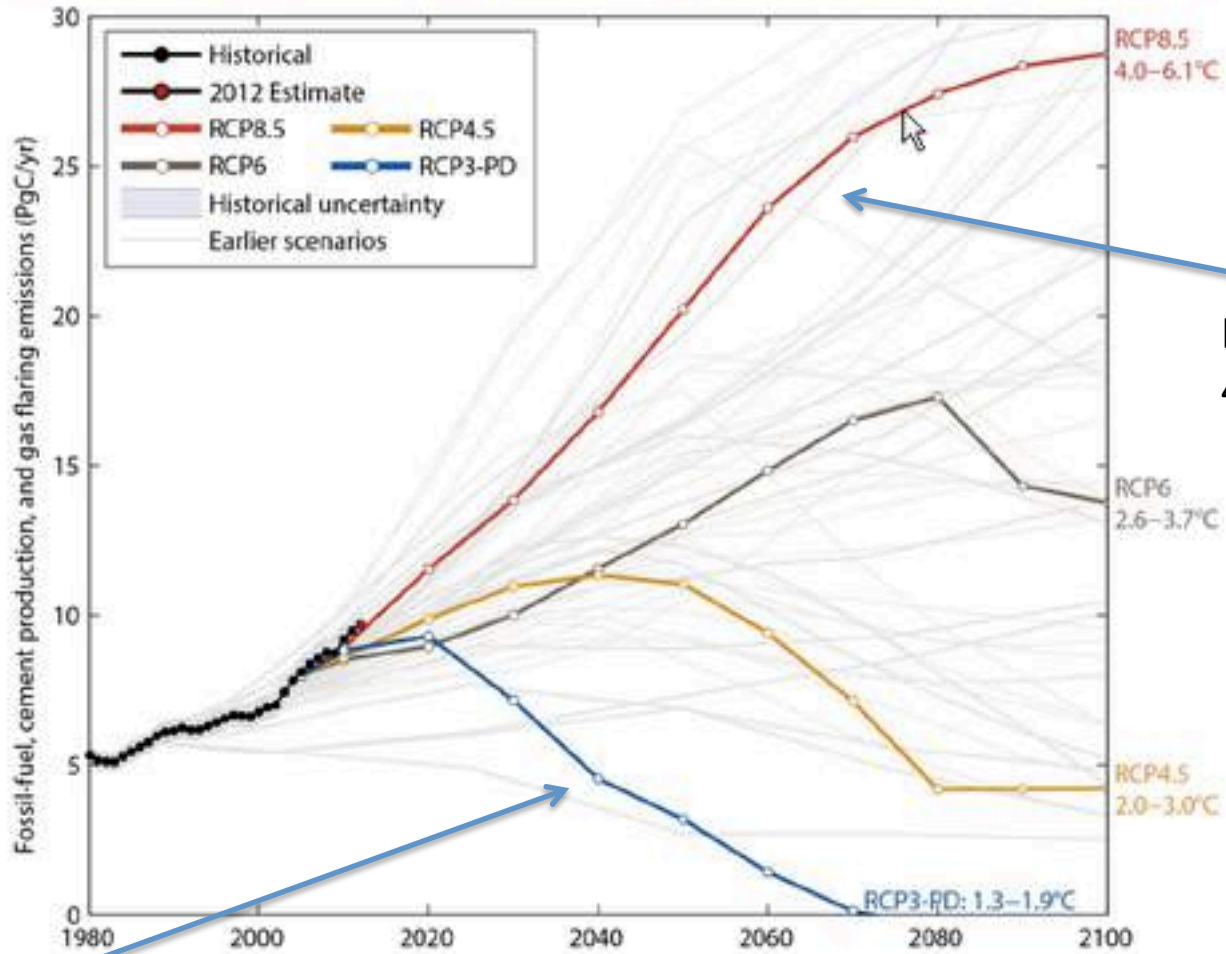
0.67



Land Lost to 6M Sea Level Rise, NASA



Emissions are heading to a 4.0-6.1°C “likely” increase in temperature
Large and sustained mitigation is required to keep below 2°C



BAU:
4-6 degree C

Linear interpolation is used between individual datapoints

Source: [Peters et al. 2012a](#); [Global Carbon Project 2012](#);

2-degree C

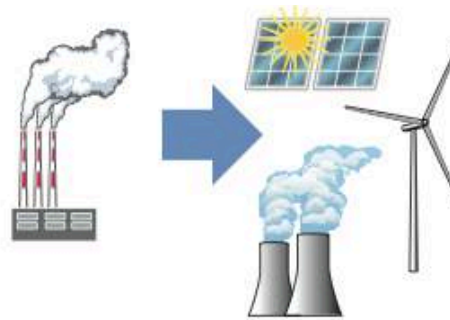
Main Decarbonization Strategies

Strategy

Energy Efficiency



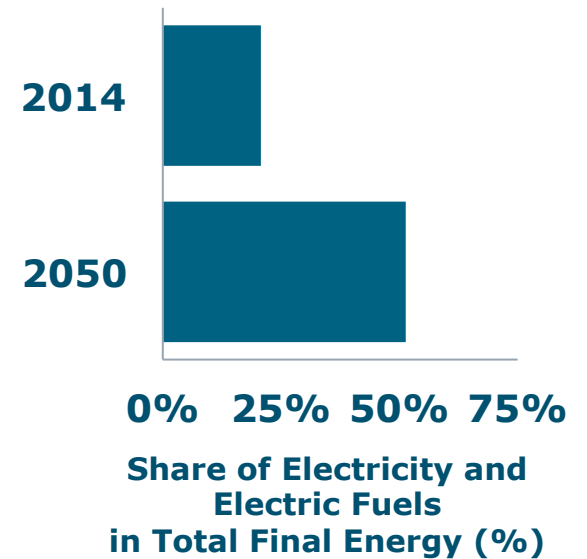
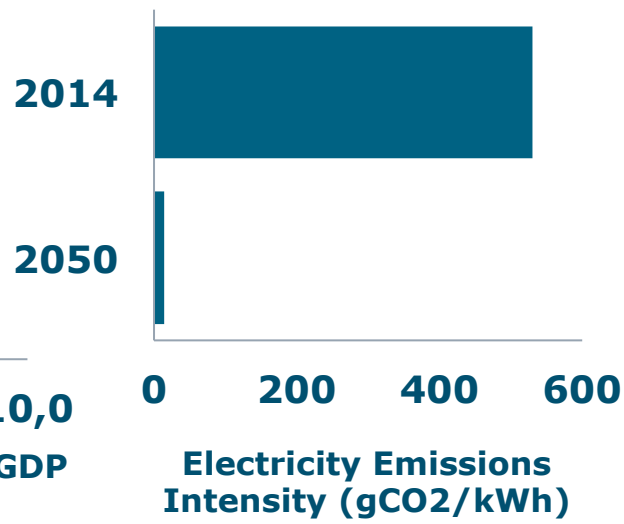
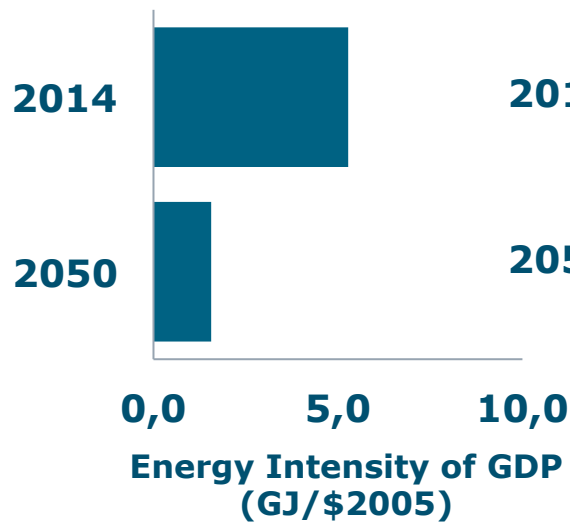
Decarbonization of Electricity



End Use Fuel Switching to Electric Sources



Key Metric of Transformation



Renewables



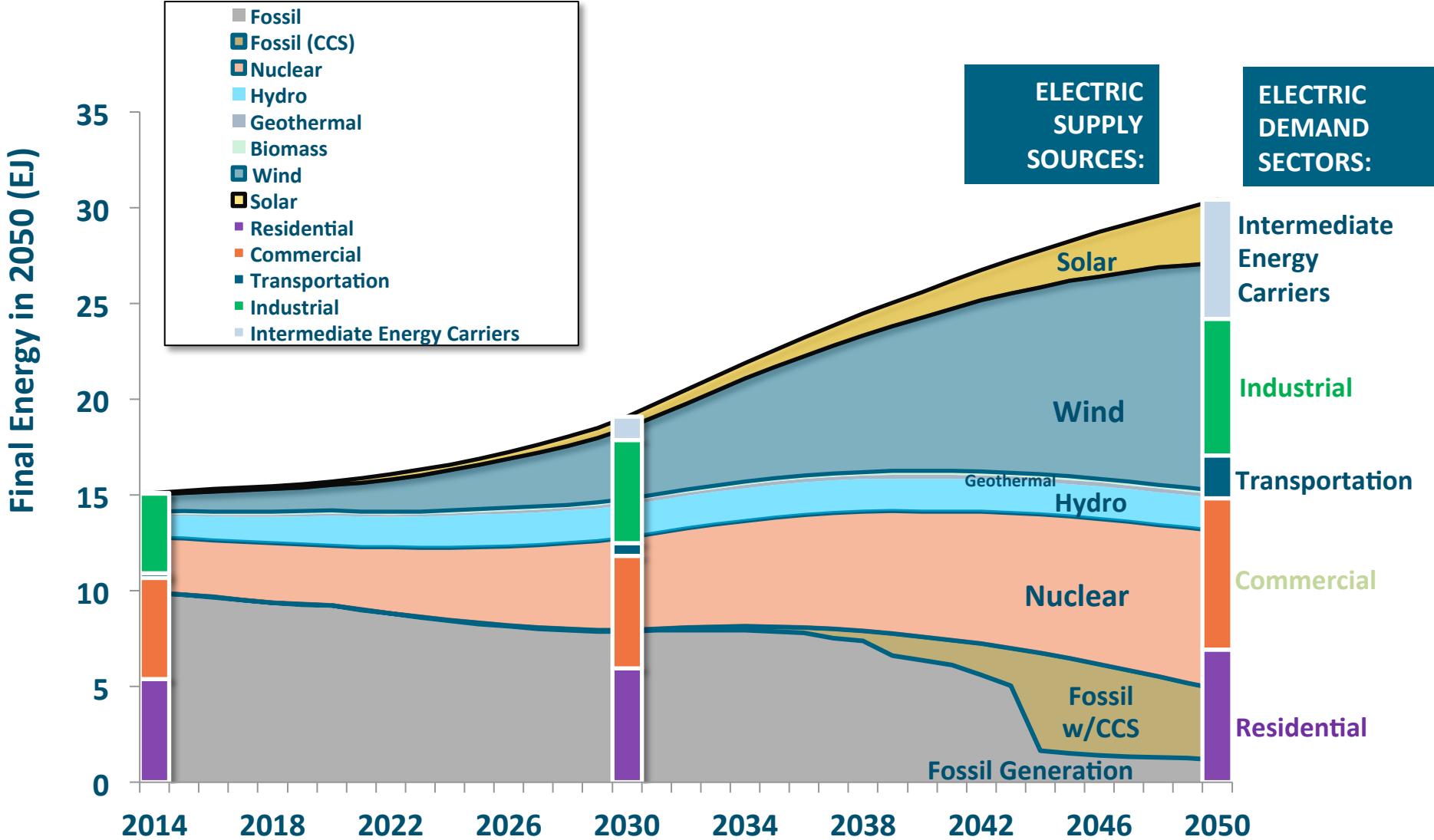
CCS



EVs



Electricity Supply: By Fuel Type and Demand Sector



THE WORLD WILL NEED TO STRAND OIL, GAS, AND COAL RESERVES

Table 1 | Regional distribution of reserves unburnable before 2050 for the 2 °C

Country or region	2 °C with CCS					
	Oil		Gas		Coal	
	Billions of barrels	%	Trillions of cubic metres	%	Gt	%
Africa	23	21%	4.4	33%	28	85%
Canada	39	74%	0.3	24%	5.0	75%
China and India	9	25%	2.9	63%	180	66%
FSU	27	18%	31	50%	203	94%
CSA	58	39%	4.8	53%	8	51%
Europe	5.0	20%	0.6	11%	65	78%
Middle East	263	38%	46	61%	3.4	99%
OECD Pacific	2.1	37%	2.2	56%	83	93%
ODA	2.0	9%	2.2	24%	10	34%
United States of America	2.8	6%	0.3	4%	235	92%
Global	431	33%	95	49%	819	82%

FROM McGLADE AND EKINS, NATURE MAGAZINE, JANUARY 8, 2015

THE SUSTAINABLE DEVELOPMENT GOALS WILL BE ADOPTED ON SEPTEMBER 25



PILLARS OF A GLOBAL AGREEMENT AT COP21

AGREEMENT BASED ON 2-DEGREE C UPPER LIMIT

GLOBAL CARBON BUDGET FOR 2-DEGREE C

LEGALLY BINDING INDCs TO 2030

BOLD ASPIRATIONAL DEEP DECARBONIZATION PATHWAYS
(DDPS) TO 2050

GLOBAL RDD&D FOR LOW-CARBON TECHNOLOGIES

CLIMATE FINANCING (MITIGATION, ADAPTATION, LOSS
AND DAMAGE) FOR LOW-INCOME COUNTRIES