

# Low Carbon Scenarios: Argentina

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**Scenarios for a Fast Transition to  
Sustainable Energy**

**10th December, 2009, 10.00-12.00**

**Brown Room, DGI-Byen, Klimaforum09, Copenhagen**

**NGO Side Event to UNFCCC COP15**

[http://www.inforse.org/europe/conf09\\_COP15.htm](http://www.inforse.org/europe/conf09_COP15.htm)

<http://www.lowcarbon-societies.eu/>

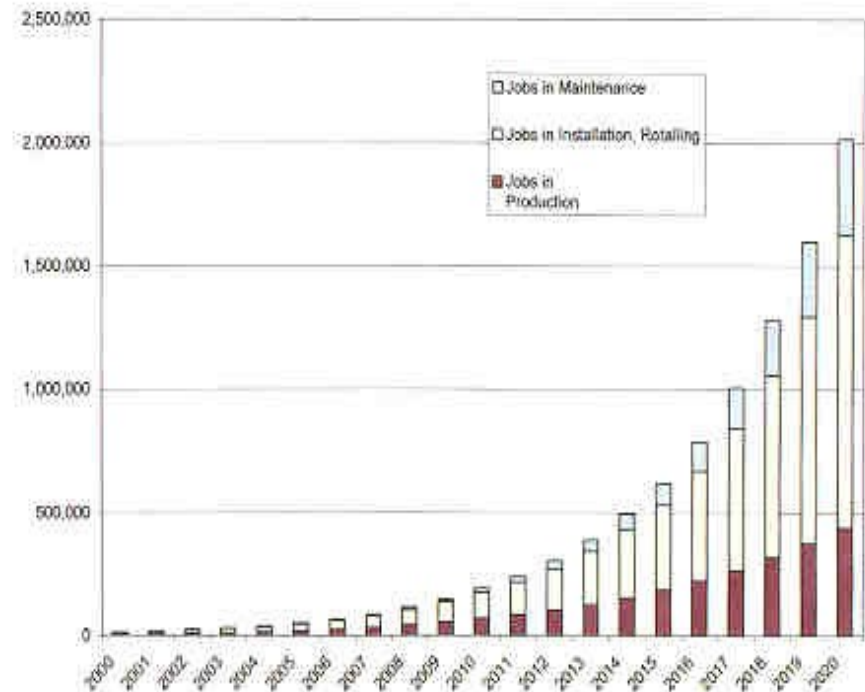
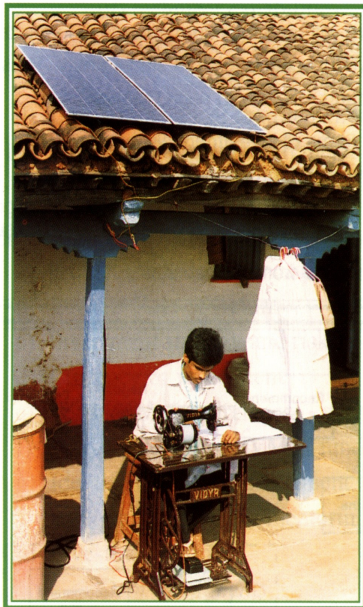


International Network for Sustainable Energy

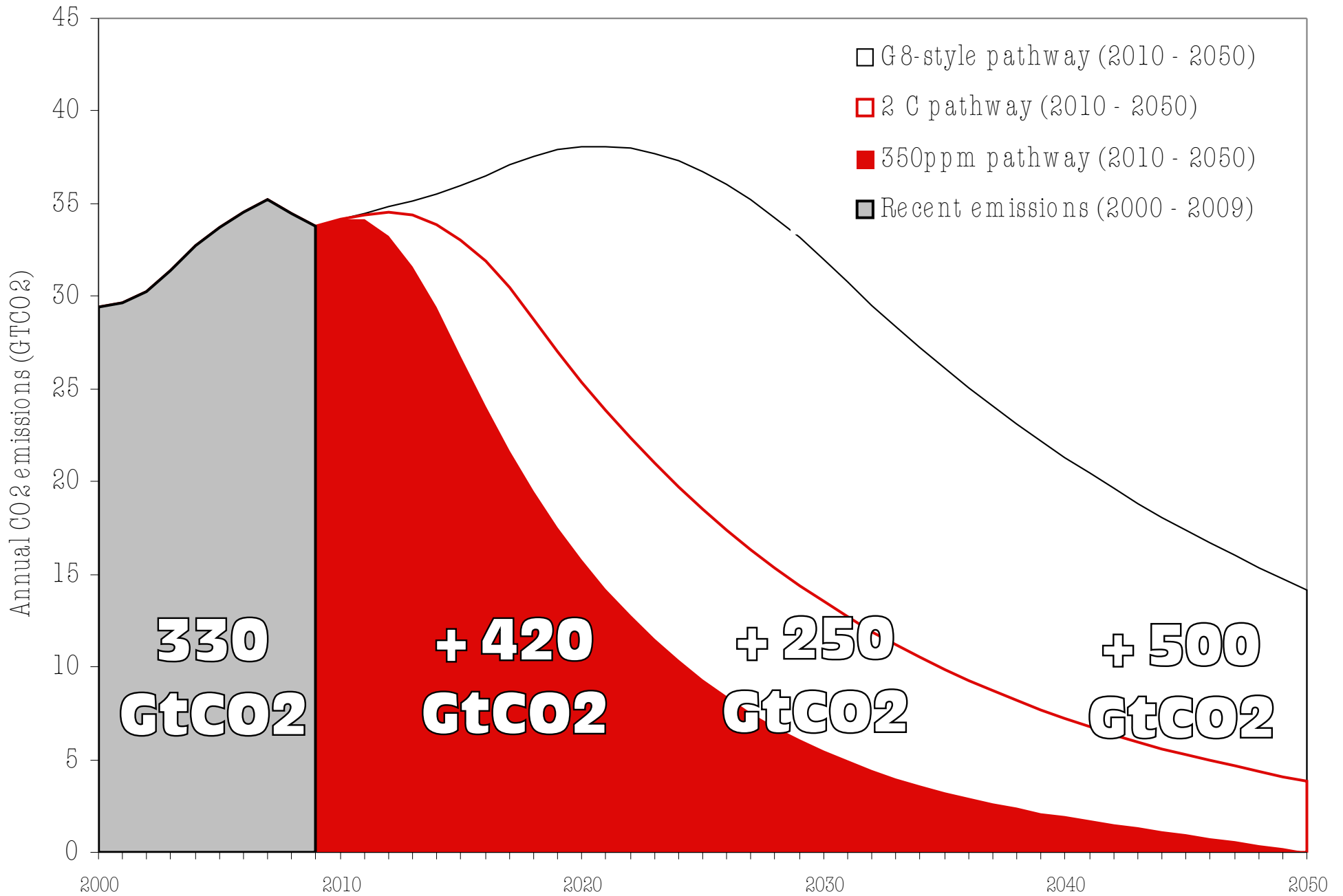


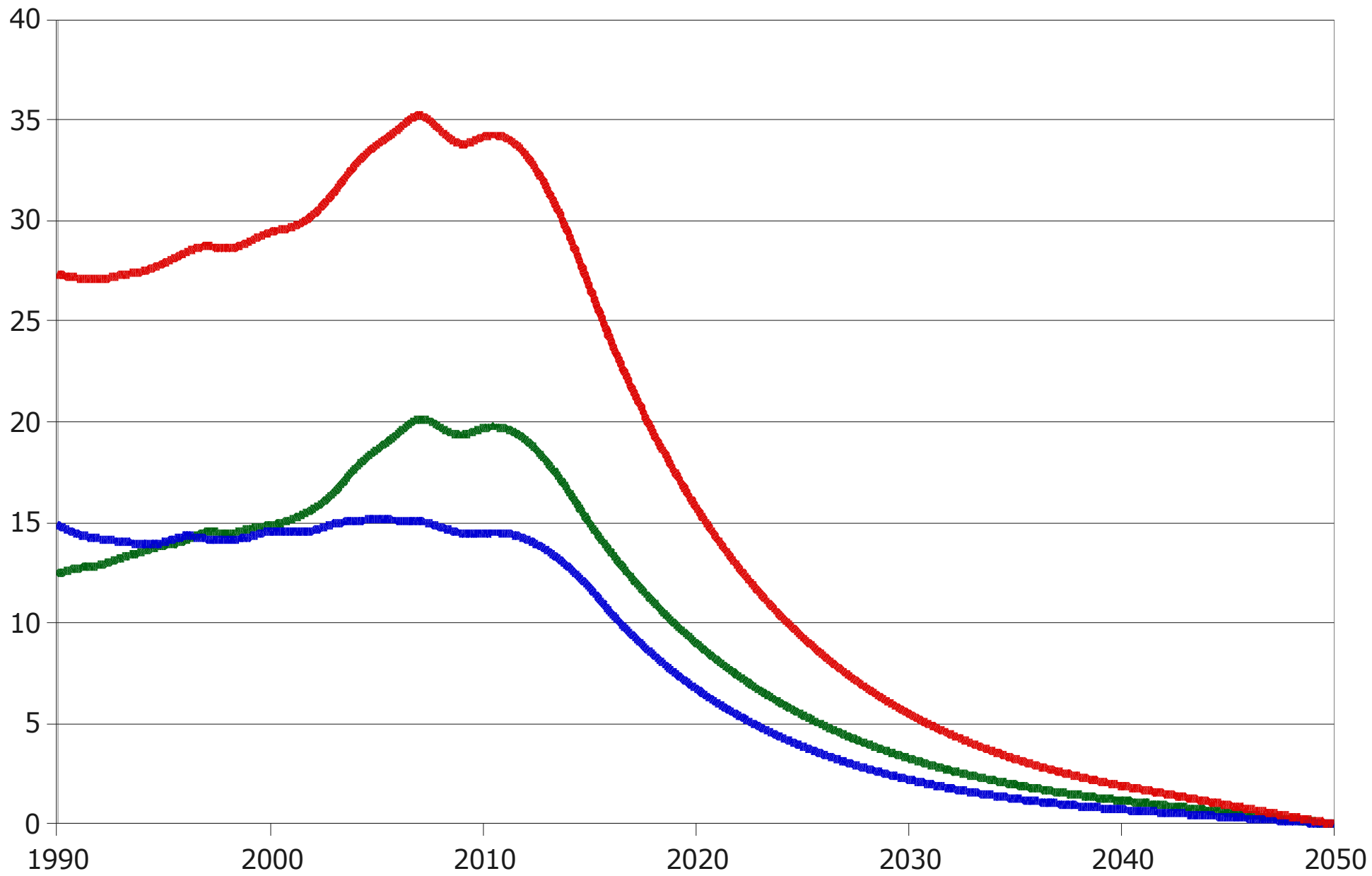
## POLITICAL and INSTITUTIONAL DIMENSIONS

**Without the creation of local employment it is impossible to achieve the development in dispersed rural communities**



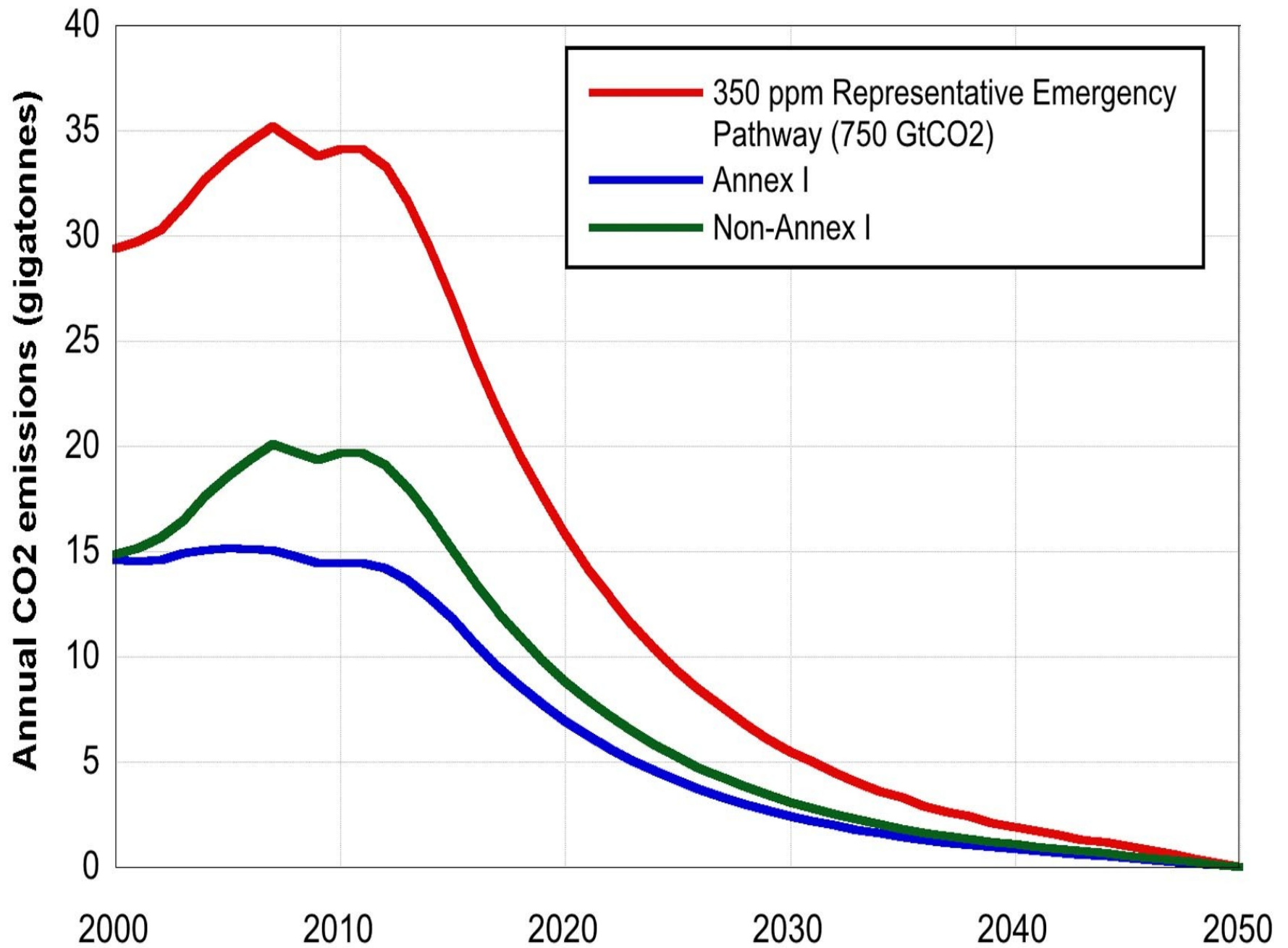
**Employment creation projected on markets of photovoltaic solar energy**

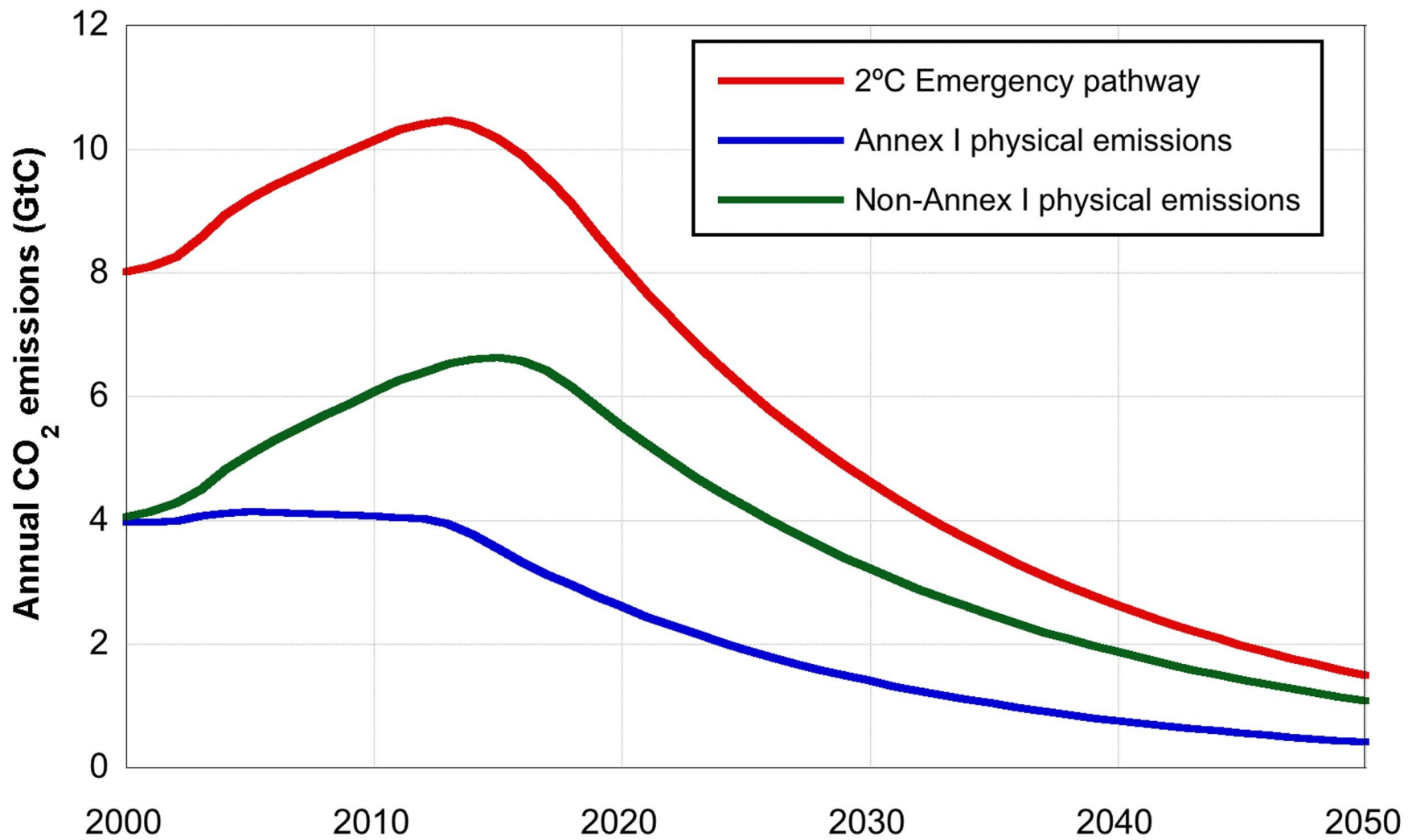




Sequestration from Reforestation	Net Primary Product	Land Available for Reforestation	
	g C/m <sup>2</sup> /year	million km <sup>2</sup>	Gt CO <sub>2</sub> /year
Alexandrov et al . 2002 and Benitez et al . 2007: Technical Potential			
Low	186	26	20.5
High	1,023	35	112.5
Hansen 2008	5.9		
Watson et al . 2000 and IPCC 2001 (TAR)		12	
Low (boreal/temperate/tropical)	40 150 400		4.0
High (boreal/temperate/tropical)	<u>120 450 800</u>	6	5.9
IPCC 2007 (AR4): Economic Potential			
Bottom-up model: Low			1.3
Bottom-up model: High			4.2
Top-down model			13.8

Source: Alexandrov et al. (2002, p.302); Benitez et al. (2007, p.575-576); Hansen et al. (2008); Watson et al. (2000); IPCC (2001); IPCC (Working Group III, Technical Summary, p.69); values in italics are authors' calculations.

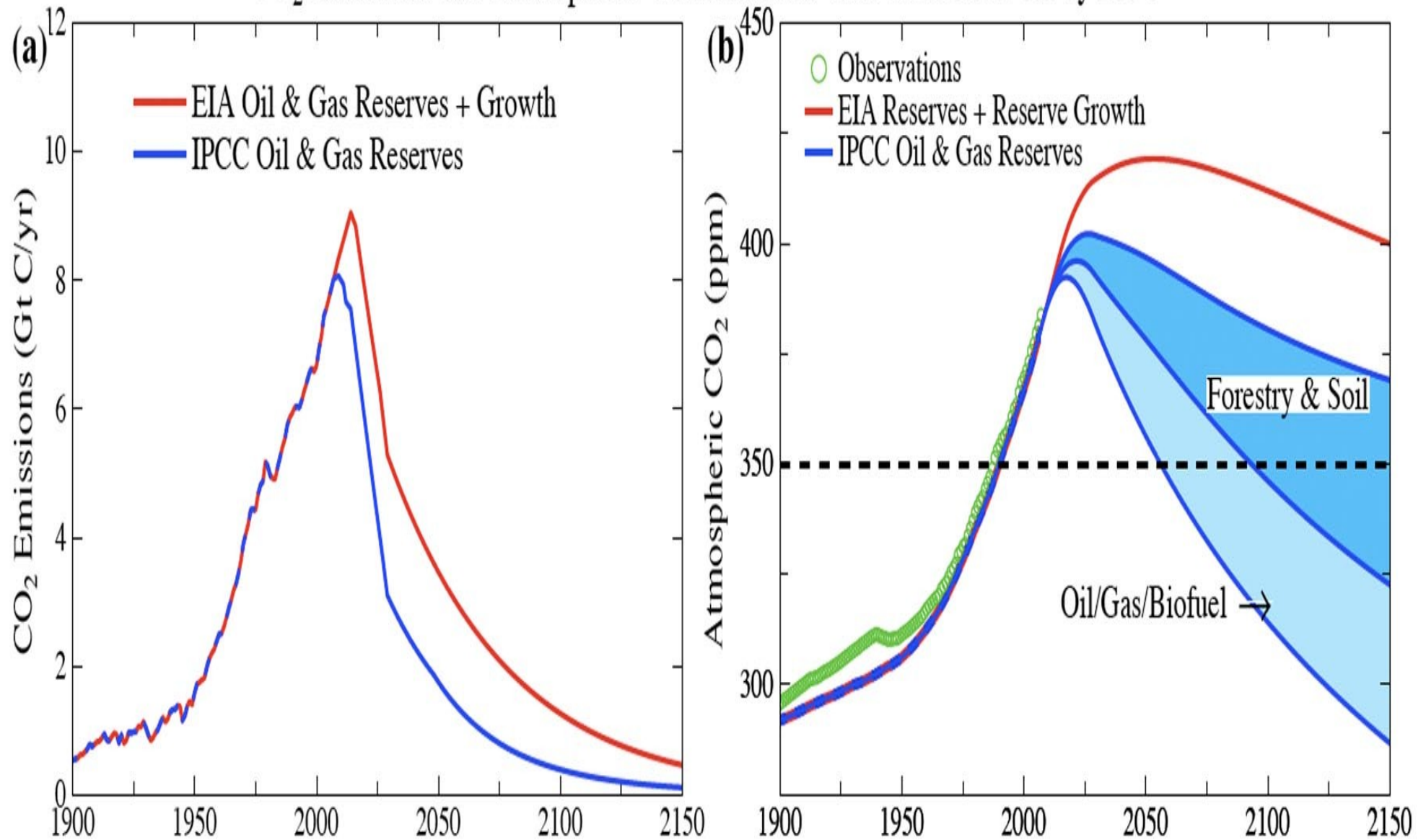




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	OLD EP1000	Gt750	Gt
Peak Yr	2013	2012	2011
Peak (p)	40%	26%	25%
Trans T	6	7	5
Pct belc	9,0%	-7,1%	-42,1%
Max De	-5,50%	-6,10%	-10%
Pct belc	-80%	-86%	-100%

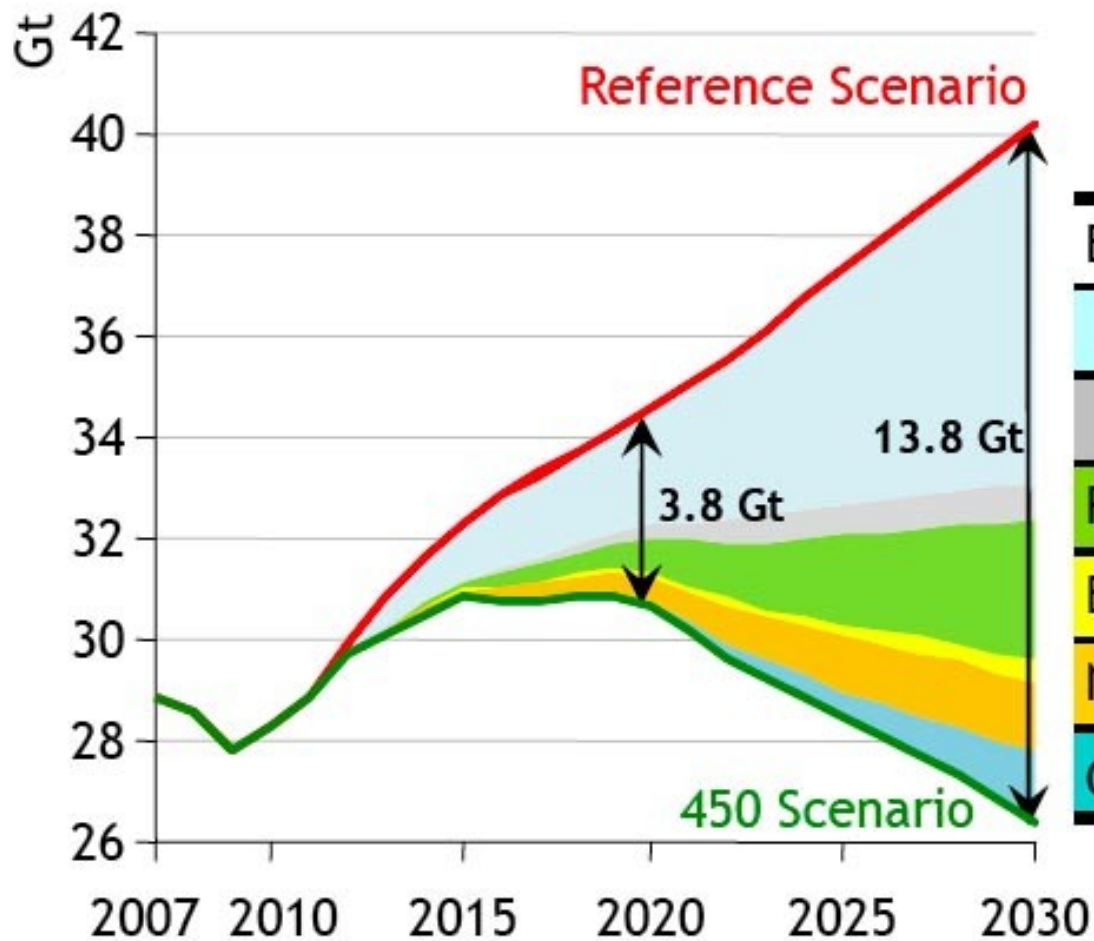
## CO<sub>2</sub> Emissions and Atmospheric Concentration with Coal Phaseout by 2030



g. (6). (a) Fossil fuel CO<sub>2</sub> emissions with coal phase-out by 2030 based on IPCC [2] and EIA [80] estimated fossil fuel reserves. (b) Resulting atmospheric CO<sub>2</sub> based on use of a dynamic-sink pulse response function representation of the Bern carbon cycle model [78, 79].

# Fast transition scenarios

- Global dynamics determined in second decade: peak and maximum rate.
- Lag between Annex I and NAI is less than ten years: convergence accelerated.
- Negligible flexibility available: "investment driven" process for substitution with current technologies.
- "Wedges" implementation more important than MAC curves

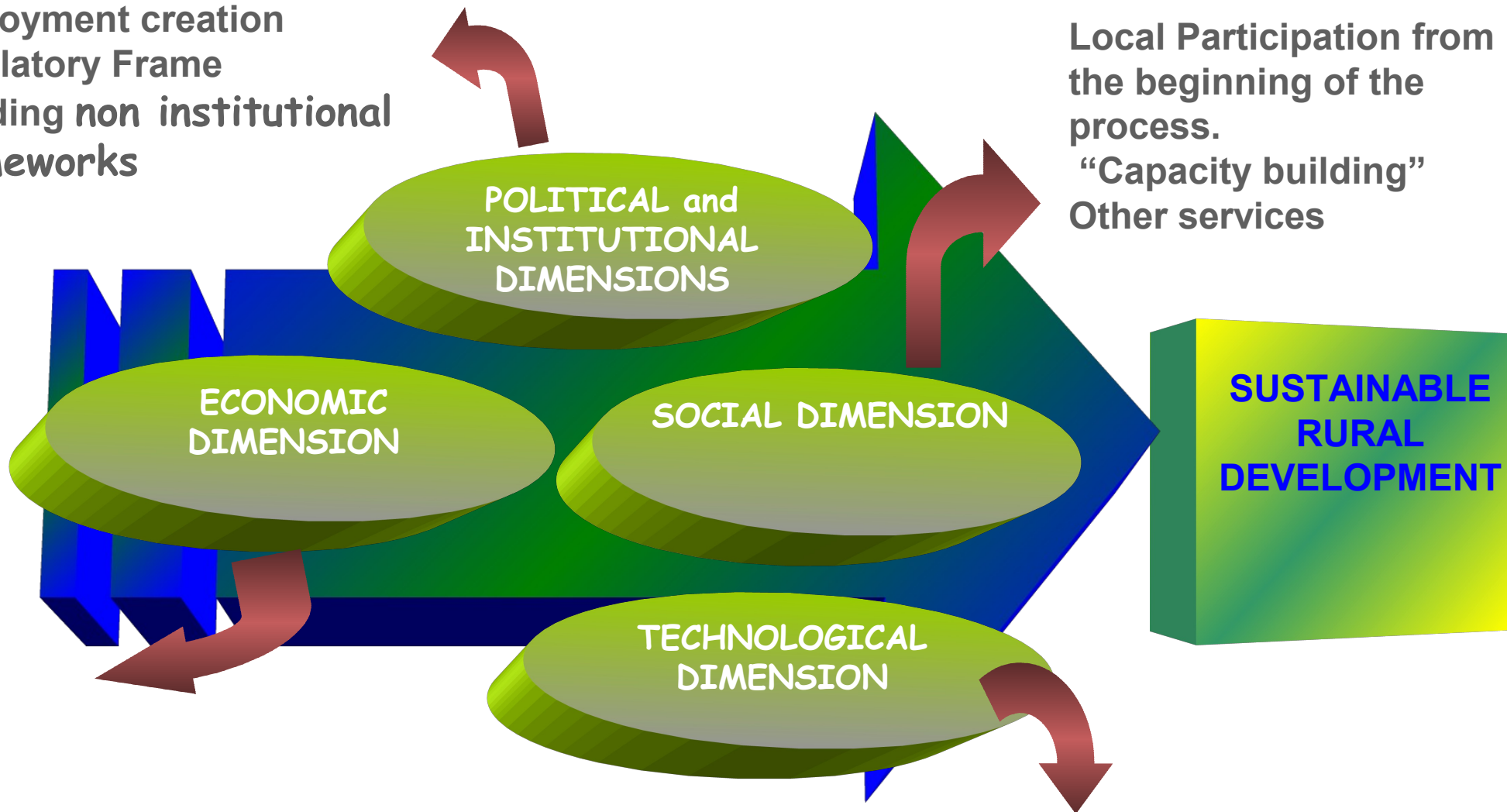


	Share of abatement %	
	2020	2030
Efficiency	65	57
<i>End-use</i>	59	52
<i>Power plants</i>	6	5
Renewables	18	20
Biofuels	1	3
Nuclear	13	10
CCS	3	10

# Conclusions

- Economic criteria (and modeling) no longer valid: eg. fossil fuel prices, equilibrium modeling.
- Energy and matter flows more important: eg energy payback/content, material input, footprint.
- Only real zero carbon choices acceptable for short term phase-out :ie ,CCS ,highly efficient fossil fuel devices excluded .
- Decentralized and centralized systems required
- Efficiency and rational use priority to allow whole economic system to restructure

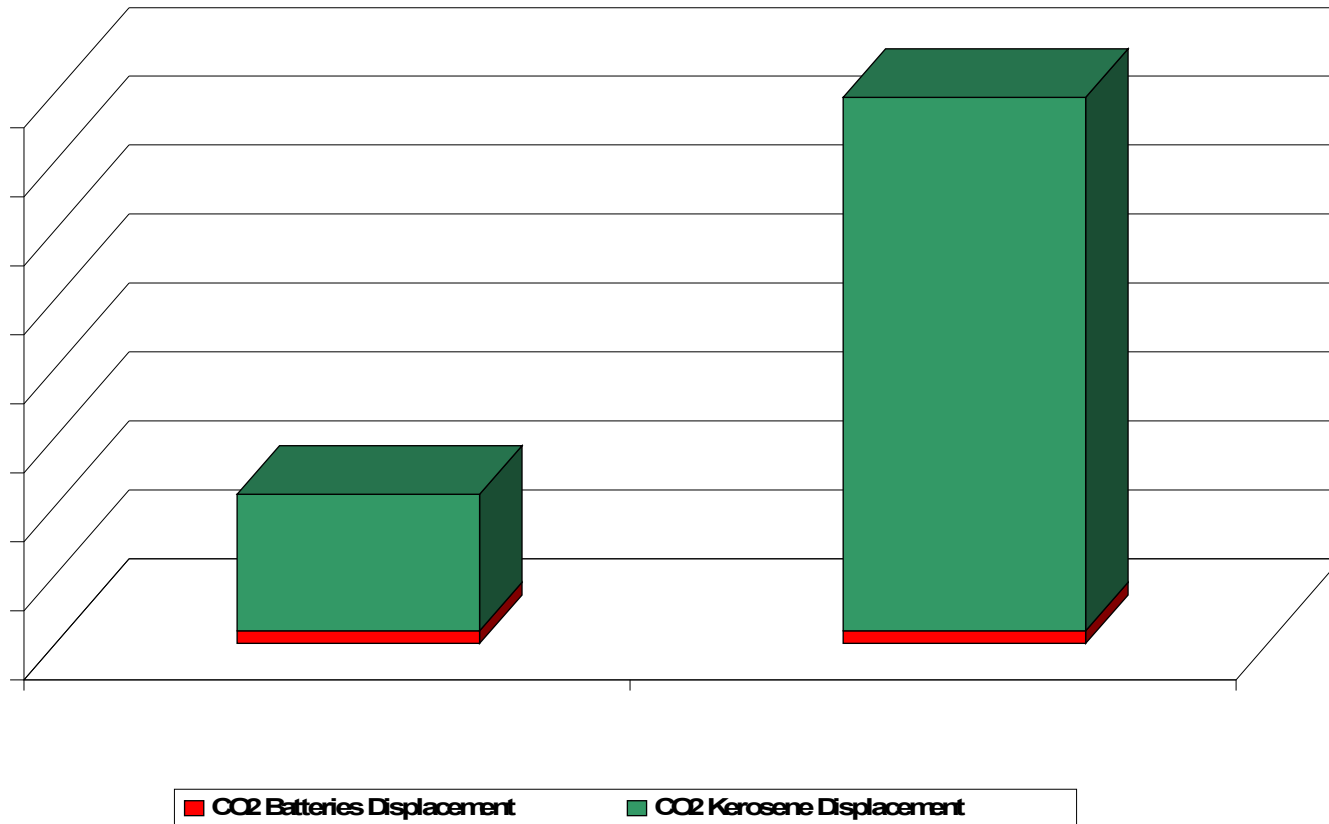
Local Administration  
Employment creation  
Regulatory Frame  
Avoiding non institutional  
frameworks



Local Participation from  
the beginning of the  
process.  
“Capacity building”  
Other services

Which is the most appropriated  
technology for each case? Why?  
Scale: Attachment I and Attachment II

# Avoidable emissions due to Rural Electrification with Renewable Energy (SHS)



# Environmental Issues

- In addition to the economic development of the currently protected areas attached to these programmes, we must also highlight the environmental issues related to these technologies and, among them, the option of mitigation of CO<sub>2</sub>. Some significant numbers emerging from projects already implemented in the area are:

Each Kwh is considered to reduce in average:

- 0.6 Kg for systems connected to the network
- 1 Kg when it replaces an autonomous Diesel
- 10 Kg when it replaces Kerosene (number of GEF for PERMER).



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More on INFORSE's Visions:

<http://www.inforse.org/europe/Vision2050.htm>

