

Fair Low/Zero Carbon & 100% RE Strategies,
South & North Countries, Villages,
including Women Initiatives
UNFCCC COP21 Side Event, Paris, France
December 3, 2015



UNFCCC SIDE EVENT
December 3rd, 2015

PARIS2015
UN CLIMATE CHANGE CONFERENCE
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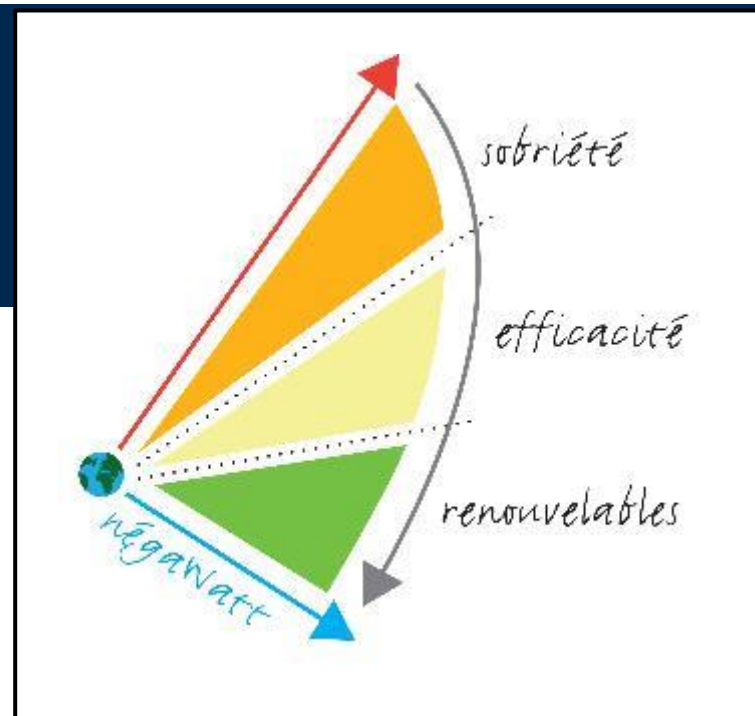
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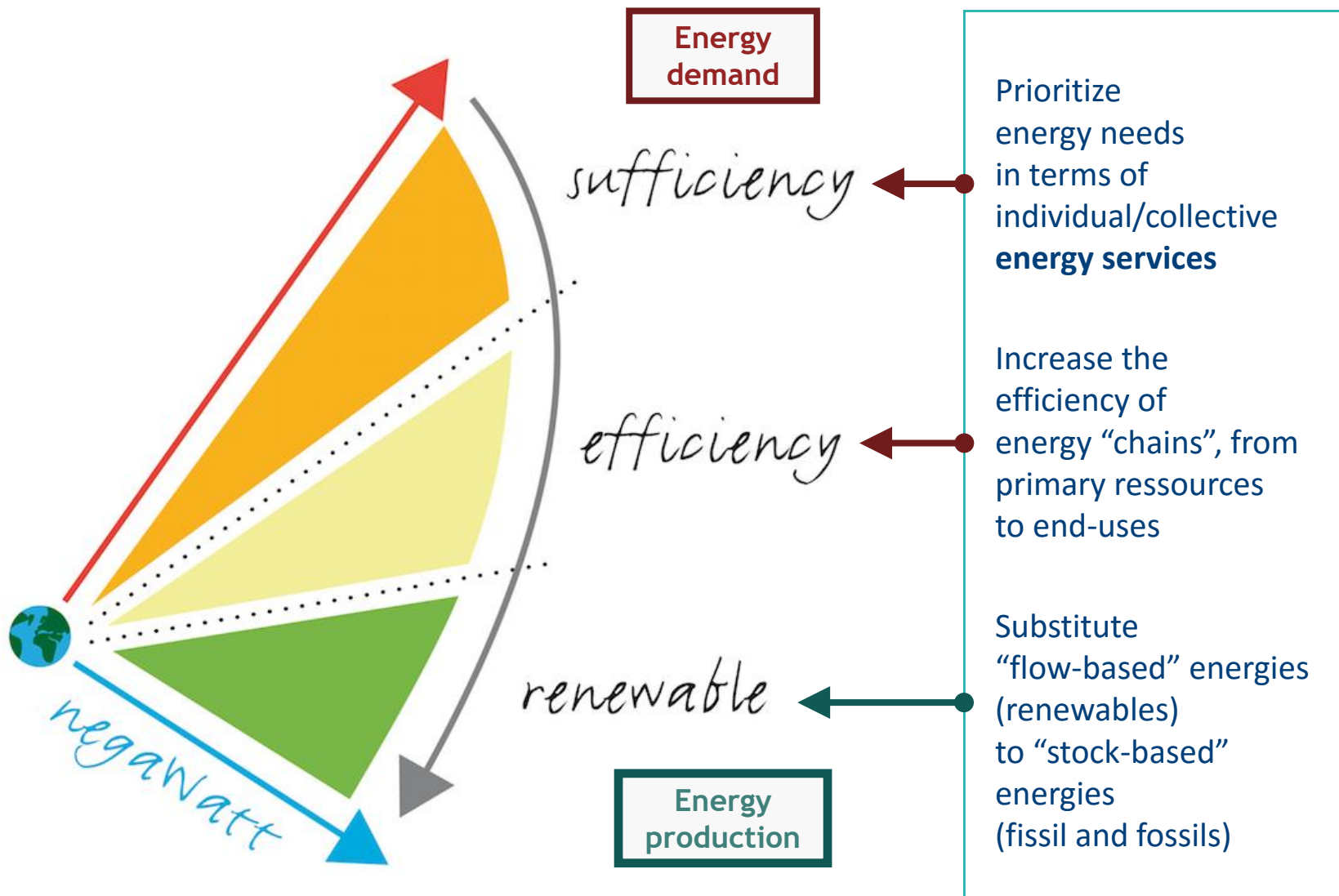
Energy policy: the négaWatt scenario, France

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*COP 21 – Paris Le Bourget
3 December 2015*



The négaWatt approach to energy



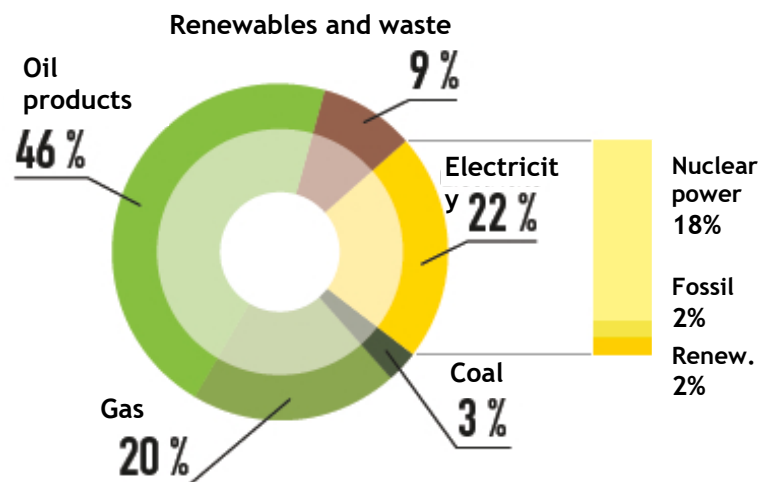
French energy situation

- Dependency on fossil fuels remains high (70%)
- GHG emissions considered 4-fold higher than sustainable
- Strong dependency on nuclear power for electricity (80%)
- Low development of renewables

Fundamentals of the négaWatt scenario

- Provide a sustainable pathway towards low-carbon, 100% renewables
- Build a long term strategy (2050) to guide decisions in the short term
- Use existing solutions instead of betting on hypothetical breakthroughs
- Develop a physical model of uses and resources to discuss the economics

France's final energy consumption, share by energy source (2011)



Source: bilan de l'énergie, 2011, SOeS

Implementation on energy demand

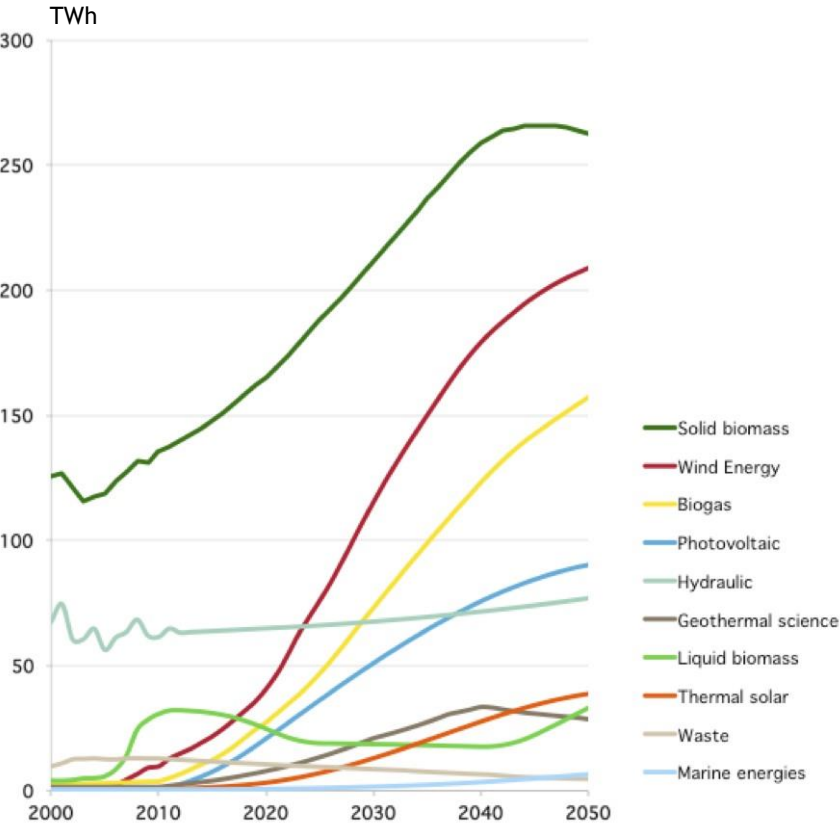
Buildings	Moderating surfaces/person or activity Deep and large thermal retrofitting Constructing positive energy new buildings	
Specific electricity	Implementation on every uses of best equipments and behaviours of today	<i>Roughly 2-fold division of final energy consumption in each sector</i>
Transports	Urban planning to reduce need for distances Modal transfer (road-rail, individual-collective) Efficiency of vehicles and adaptation to uses	
Industry	Extended recycling of materials Reduced need of goods Efficiency in processes	
Agriculture	Same approach on land-use & use of biomass Change of food-habits (meat, etc.)	<i>Allows for sustainable use of bioenergy</i>

Sufficiency + efficiency are keys for substituting rather than adding renewables to existing energy productions

Implementation on energy resources

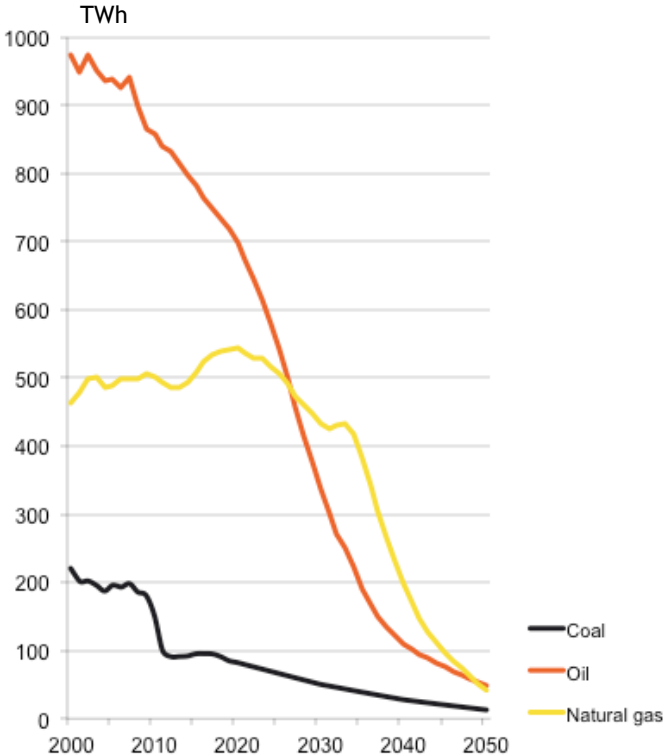
Strong development of renewables

- Biomass (mostly wood and biogas)
- Electric renewables (mostly wind and PV)

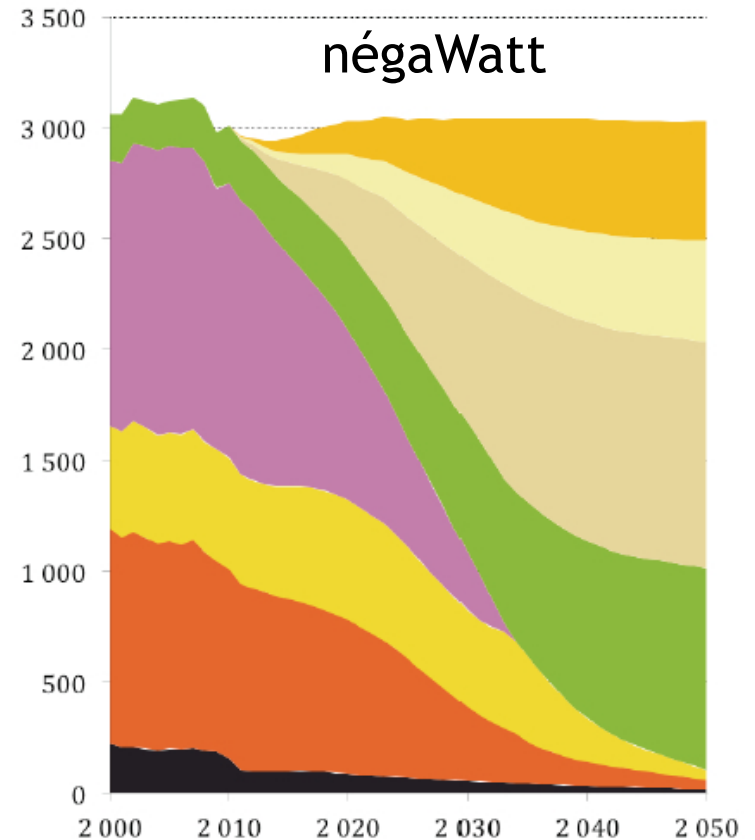
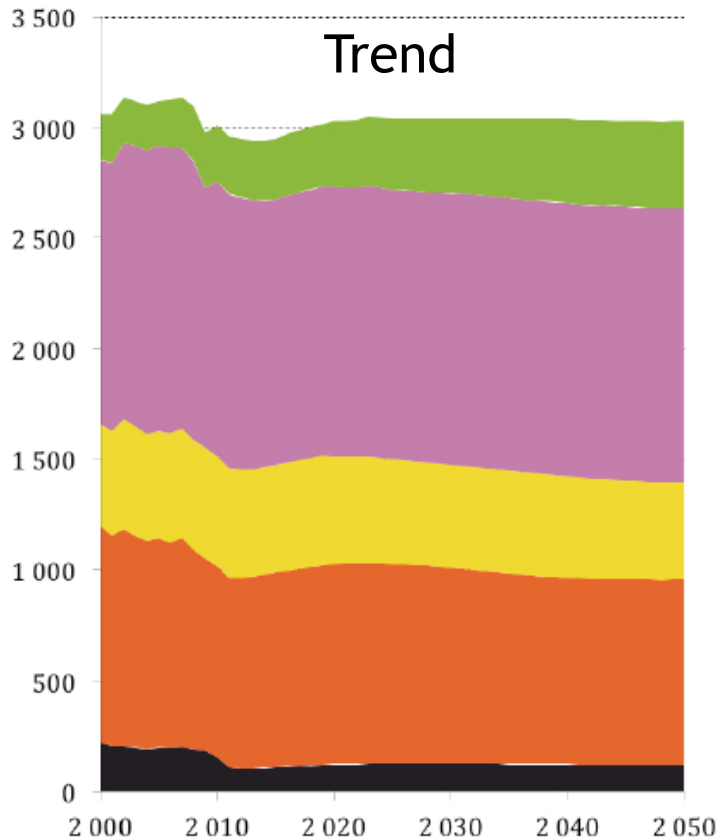


Phase out of stock-based energies

- 58 nuclear reactors gradually shut-down (before 40 years lifetime)
- Residual use of fossil fuels



Primary energy balance



-  Renewables
-  Sufficiency
-  Nuclear
-  Efficiency (consumption)
-  Gas
-  Efficiency (production)
-  Oil
-  Coal

67% cut in primary energy consumption / trend
90% based on local renewables in 2050

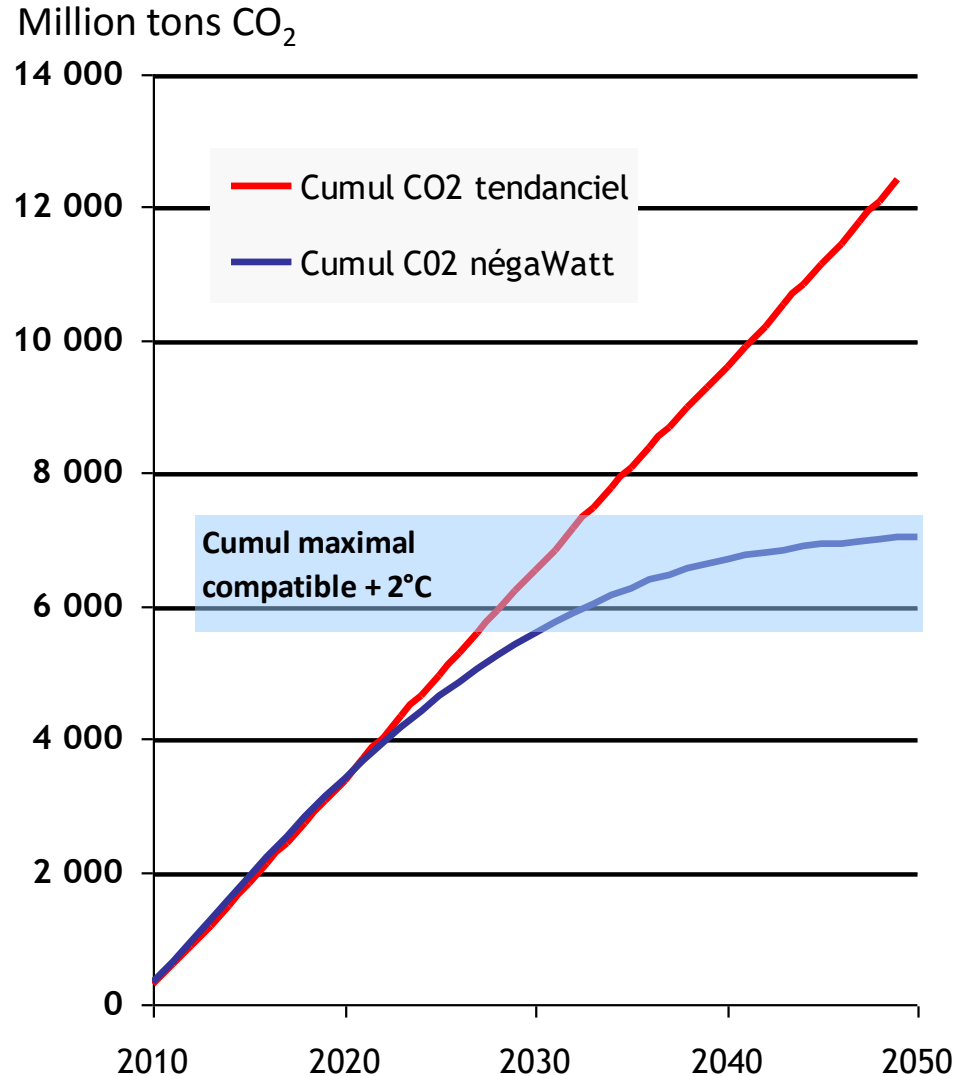
- Factor 4 on GHG emissions by 2050**

Compared to 2010, CO₂ emissions divided by 16 by 2050, estimated GHG emissions divided by 4

- Cumulated CO₂ emissions 2011-2050**

In line with France's fair share in a global mitigation scenario (keeping global warming below 2°C)*

* Based on carbon budgets, cf. study by Postdam Institute

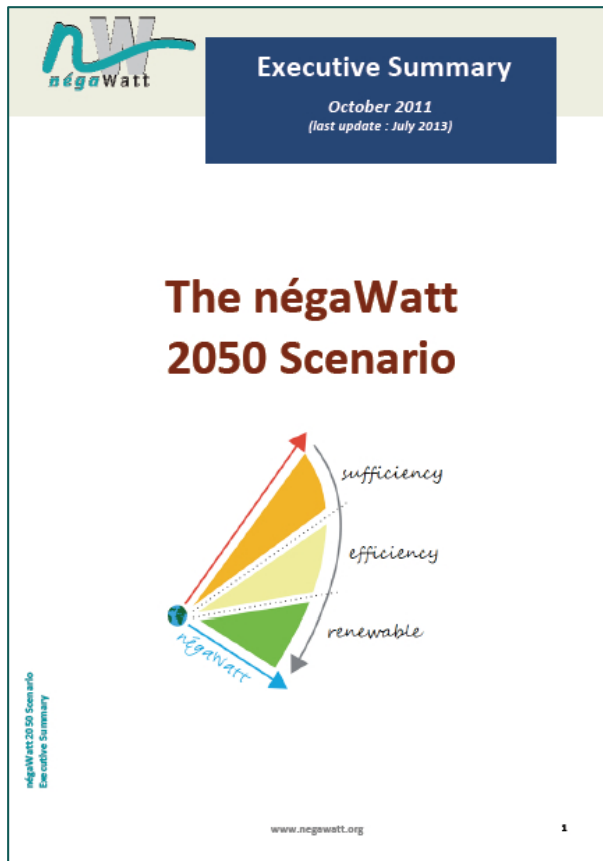


Conclusions and recommendations

- Based on existing and emerging solutions, it is possible to implement energy transition of a country like France to almost 100% renewables by 2050
- A strategy based on intelligent energy uses, technical solutions and choice of resources is needed to meet the objective of keeping below 2°C
- More efficiency and inclusion of sufficiency are the most readily available option to raise the ambition of countries' pledges (INDCs)
- Sufficiency in the North is key to equity with the South: in a globally constrained use of fossil resources, shifting useless uses of energy allows for increasing vital ones
- The négaWatt approach is based on strong values of fairness, equity, minimum risks, and 'no-regret' path
- The recommended solutions and policies can be replicated in many other countries

Thank you for your attention!

To learn more:



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