

ECOFYS

sustainable energy for everyone



Kan het EU-elektriciteitssysteem het duurzame doel halen?

EU-2050 Power Lab
KIVI NIRIA en USI

02/12/2013
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Doelstellingen Europese Unie 2020

- > 20% reductie van broeikasgasemissies
 - Ten opzichte van 1990

- > 20% bijdrage van duurzame energie
 - In finaal energiegebruik
 - Transportbrandstoffen minimaal 10%

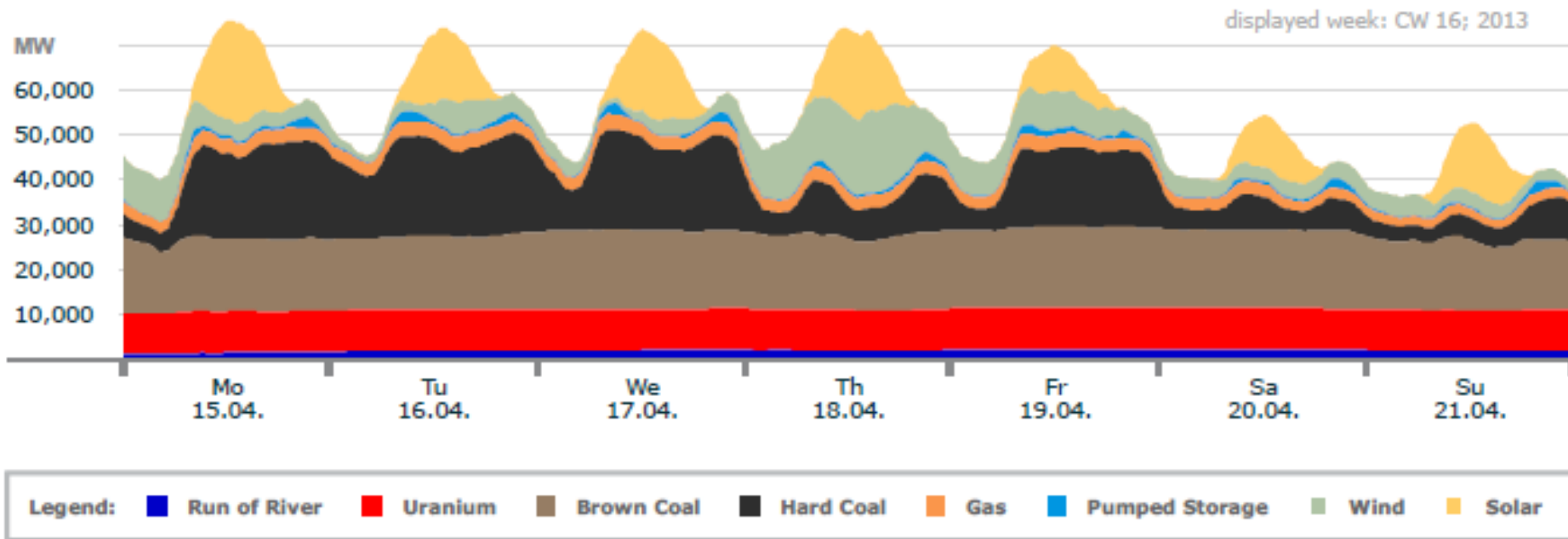
- > 20% extra energiebesparing
 - Ten opzichte van een BaU referentie

Vastgelegd in Energie- en Klimaatpakket 2007/2008

> 80-95% emissiereductie van
broeikasgassen t.o.v. 1990

Inzet elektriciteitscentrales in Duitsland

(derde week april, 2013)

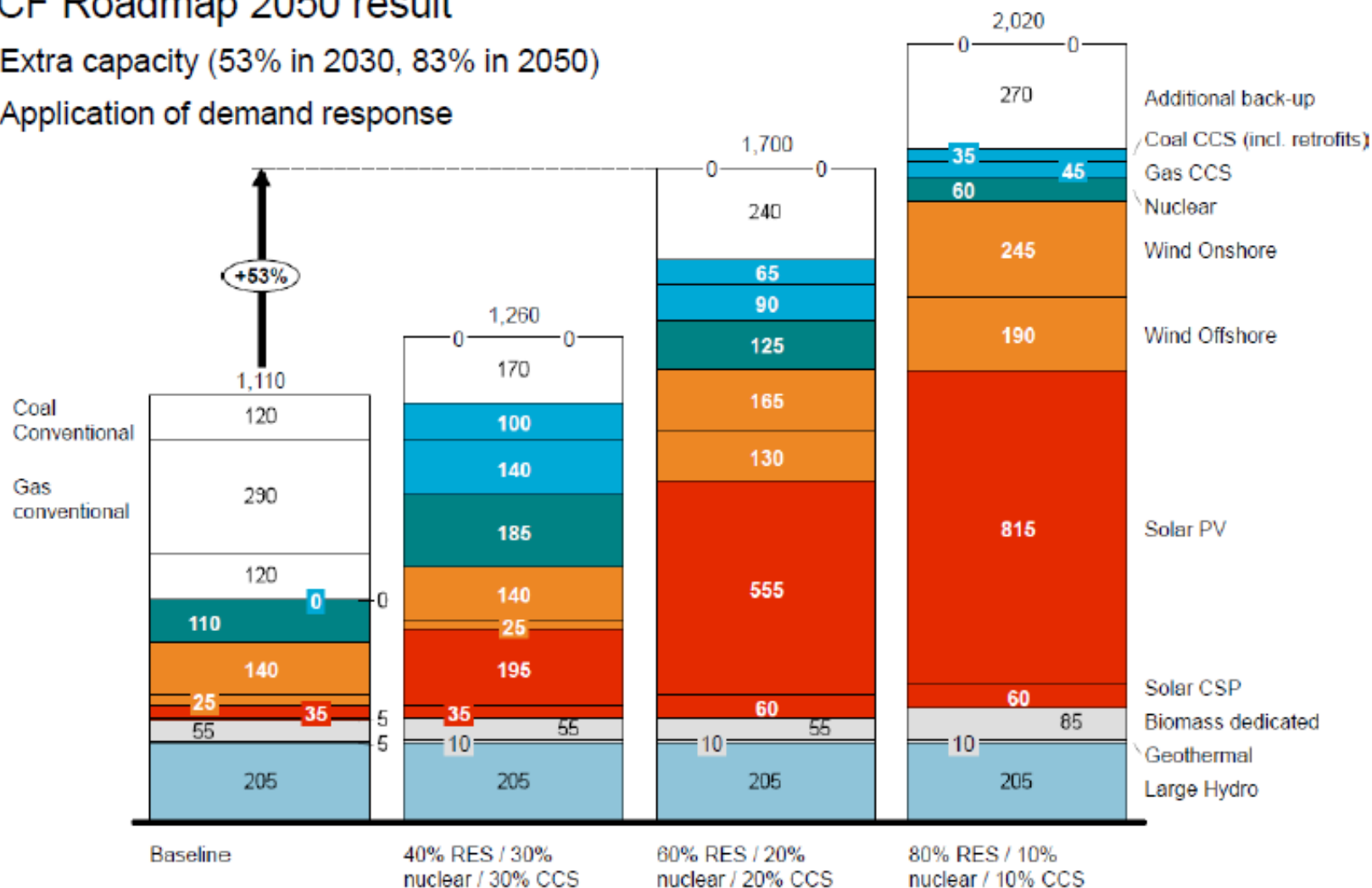


Source: Bruno Burger, Fraunhofer ISE, 2013

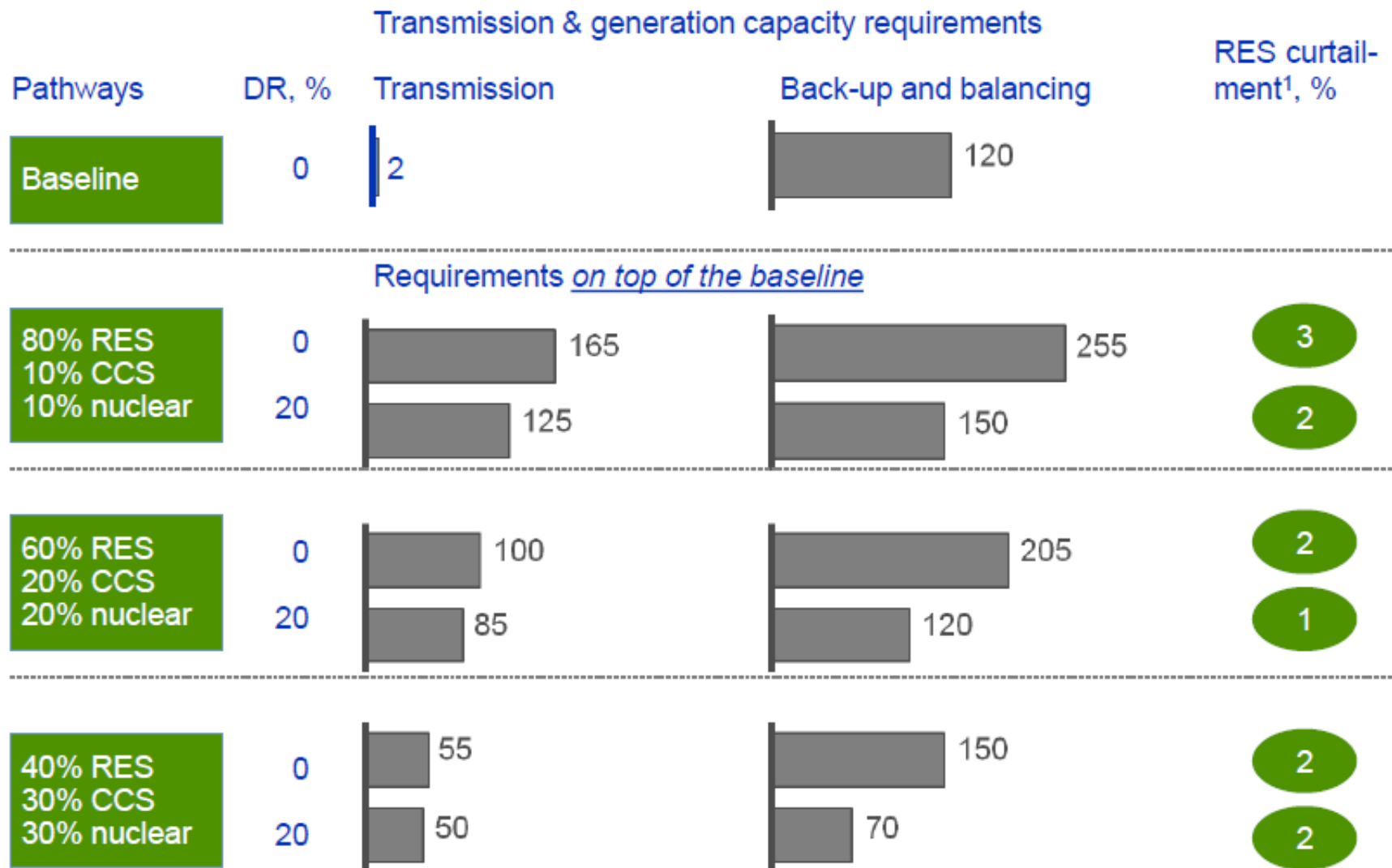
German intraday power prices peak (red) and base (blue)
Source: EEX

Topics - Influence of weather circumstances

- ECF Roadmap 2050 result
 - Extra capacity (53% in 2030, 83% in 2050)
 - Application of demand response

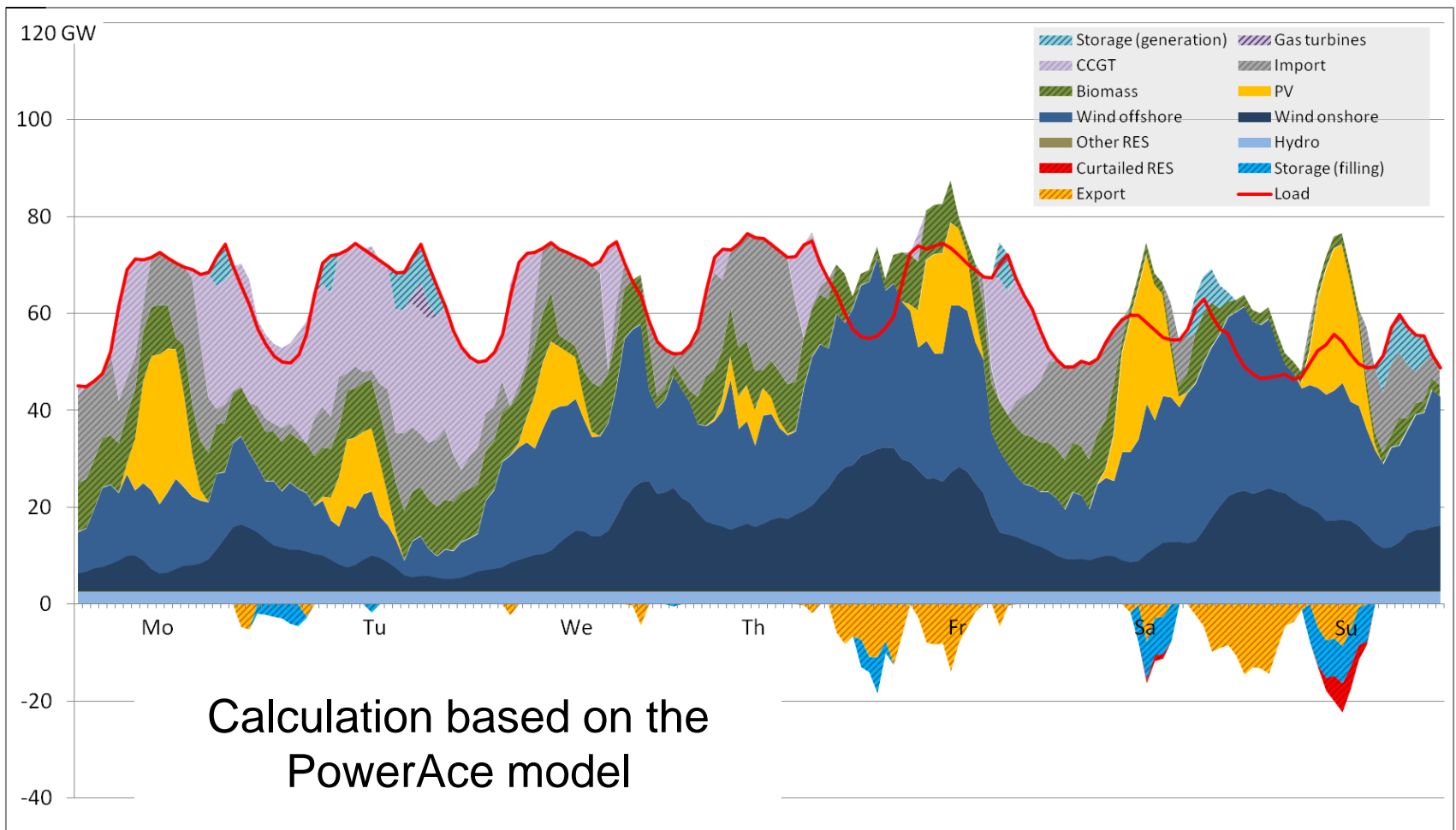


Curtailment is kept low through grid expansion and back-up capacity



2050 figures, in GW

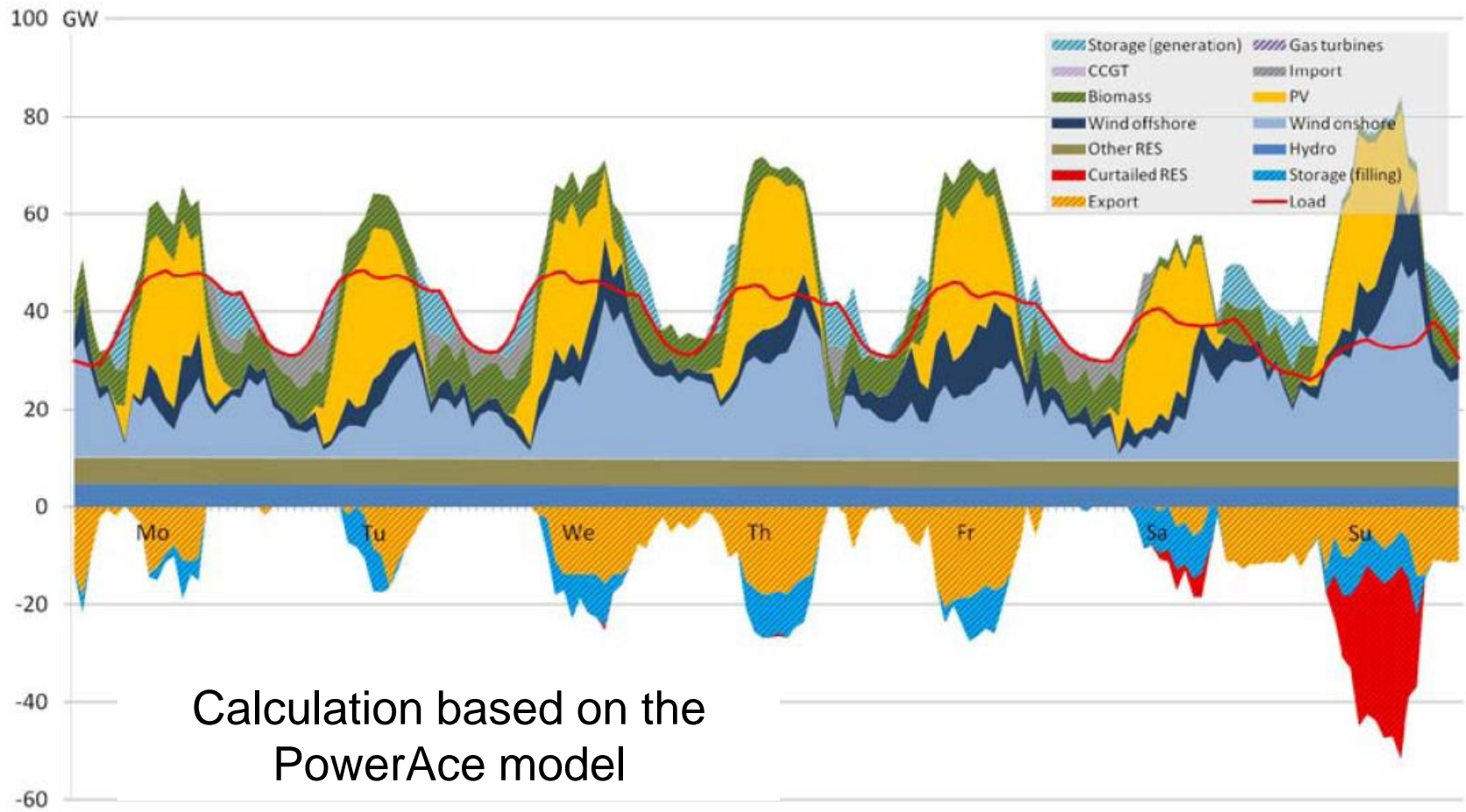
Germany's (possible) load curve and supply in 2050, Week 42



Source: Fraunhofer ISI 2012

http://www.isi.fraunhofer.de/isi-en/x/projekte/314587_bmu-langfristszenarien.php

Spain's (possible) load curve and supply in 2050, Week 27



Source: Fraunhofer ISI 2012
http://www.isi.fraunhofer.de/isi-en/x/projekte/314587_bmu-langfristszenarien.php

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