

Finland's national targets in renewable energy and energy efficiency

15 June 2015

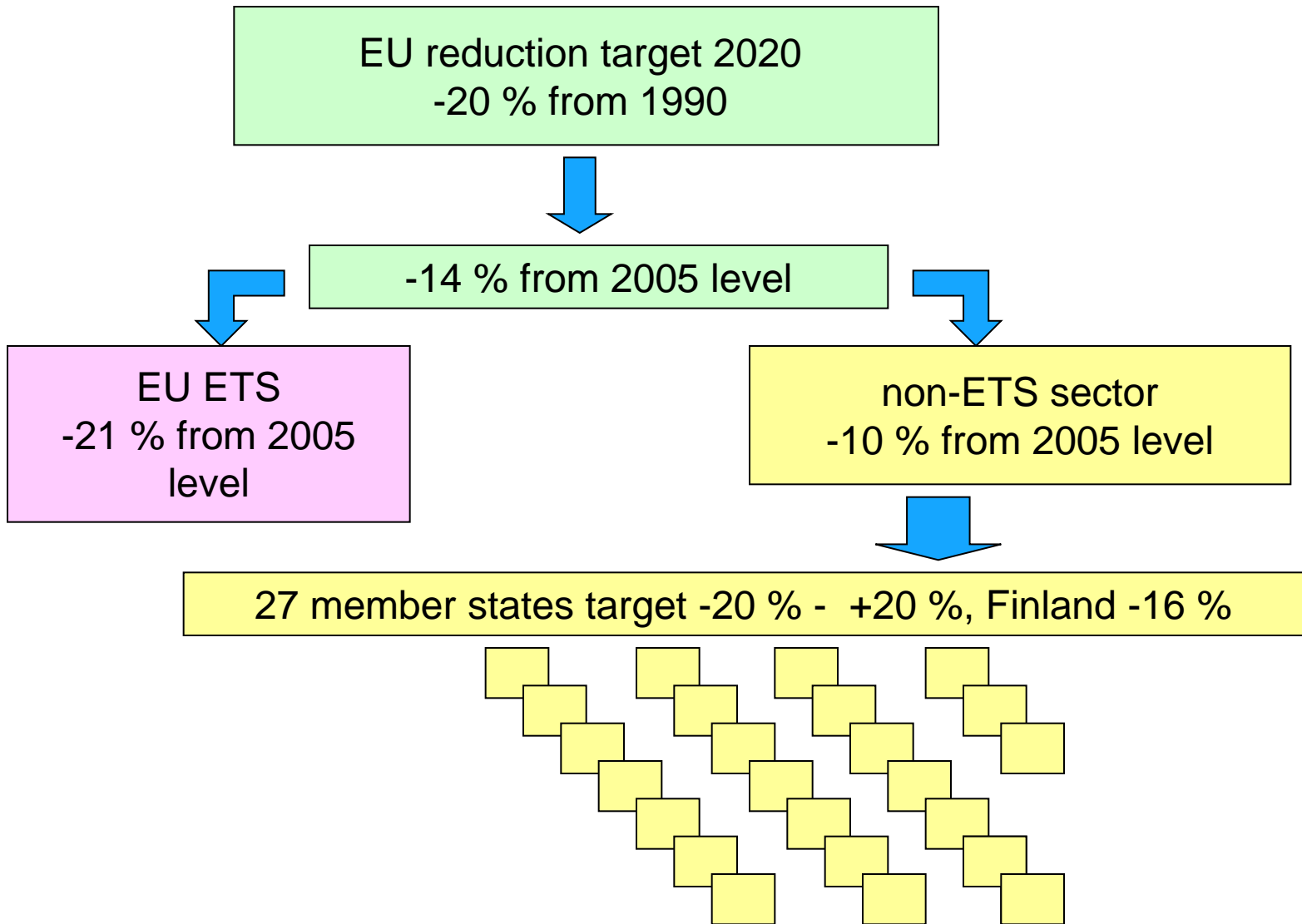
Timo Ritoum
Deputy Director General
Energy Department
Ministry of Employment and the Economy
Finland



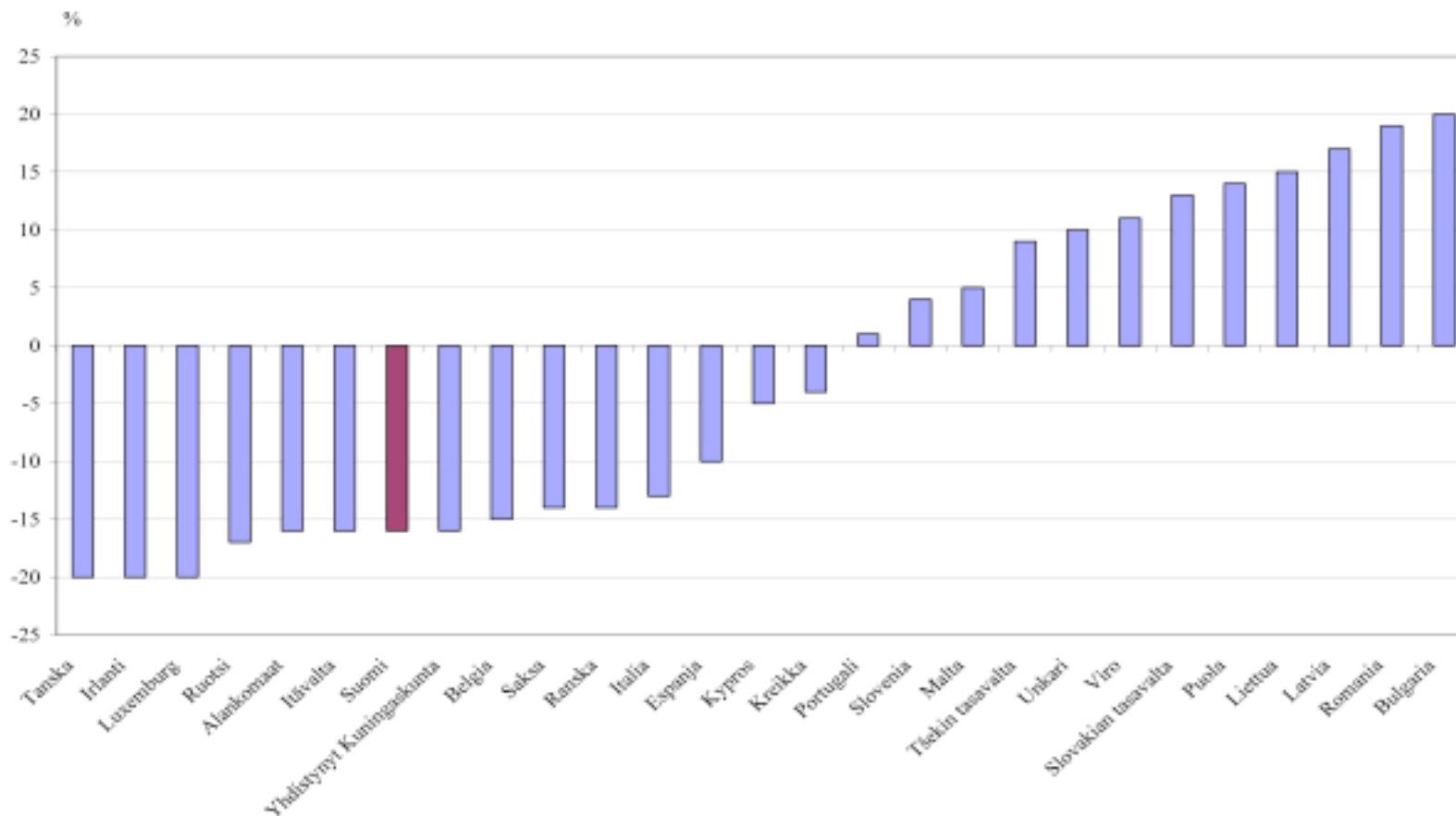
National targets – given by EU

- 2020: EU "20-20-20 + 10", GHG-RES-EE + RES-transport
 - GHG targets: Emission Trading Sector and non-trading per MSs
 - Renewable Energy Sources, RES, 38 % share in final energy use
 - 20 % share in road transport (incl. double counting), EU 10 %
 - Energy Efficiency, EE: EU-28 target primary energy 1483 Mtoe, Finland indicative target 310 TWh (26.7 Mtoe) final energy use
- 2030: EU 40-27-27
 - GHG -40 % of 1990, ETS -43 % and non-trading -30 % of 2005
 - RES 27 % of final energy use, no MS-target
 - EE 27 %, possible 30 % "same way as in 2020...", no MS-target
 - No target – yet – for transport
- 2050: EU and Finland, GHG -80...-95 % of 1990-level



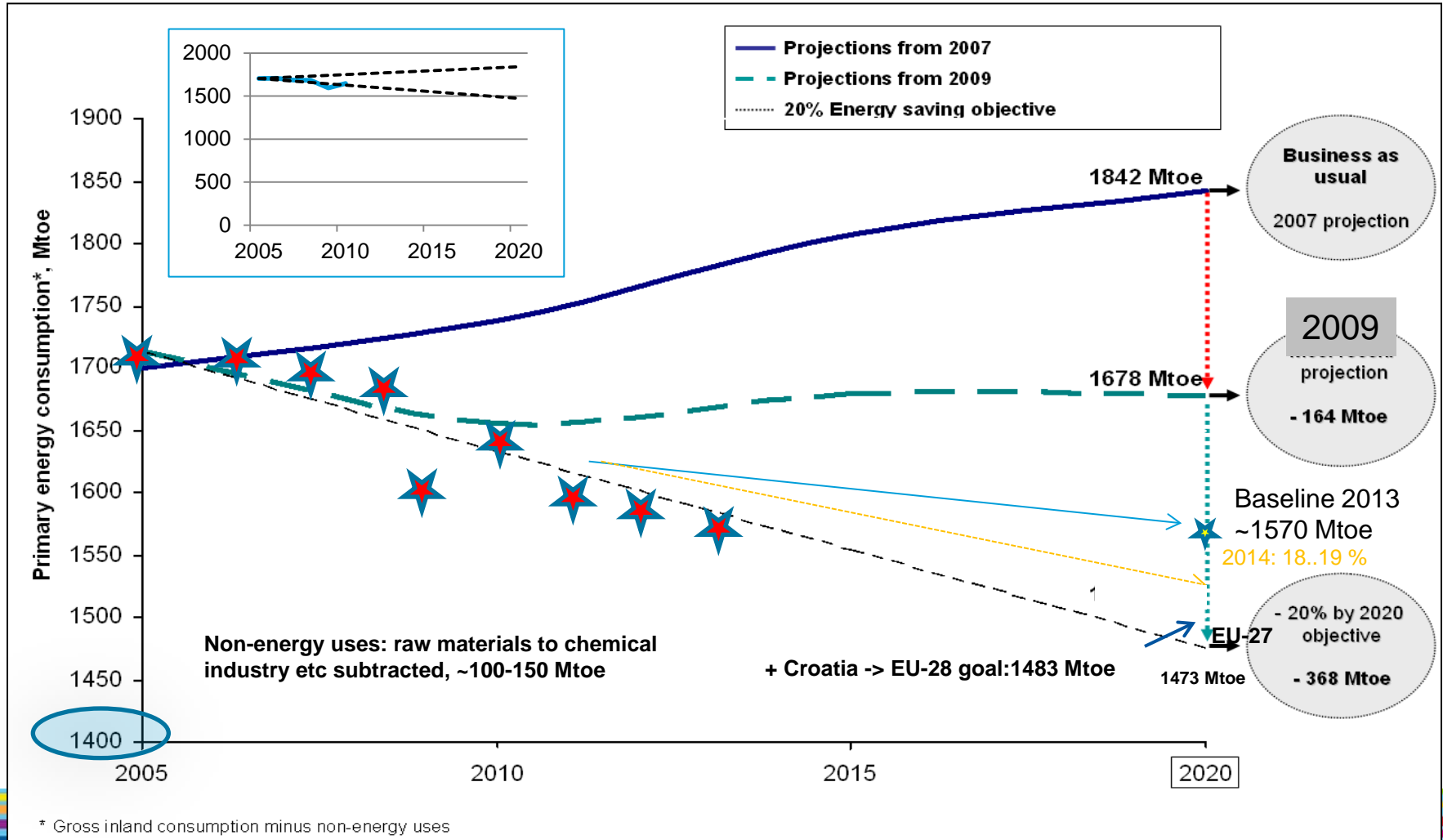


Non-trading sector, GHG target for 2020 compared to 2005 level

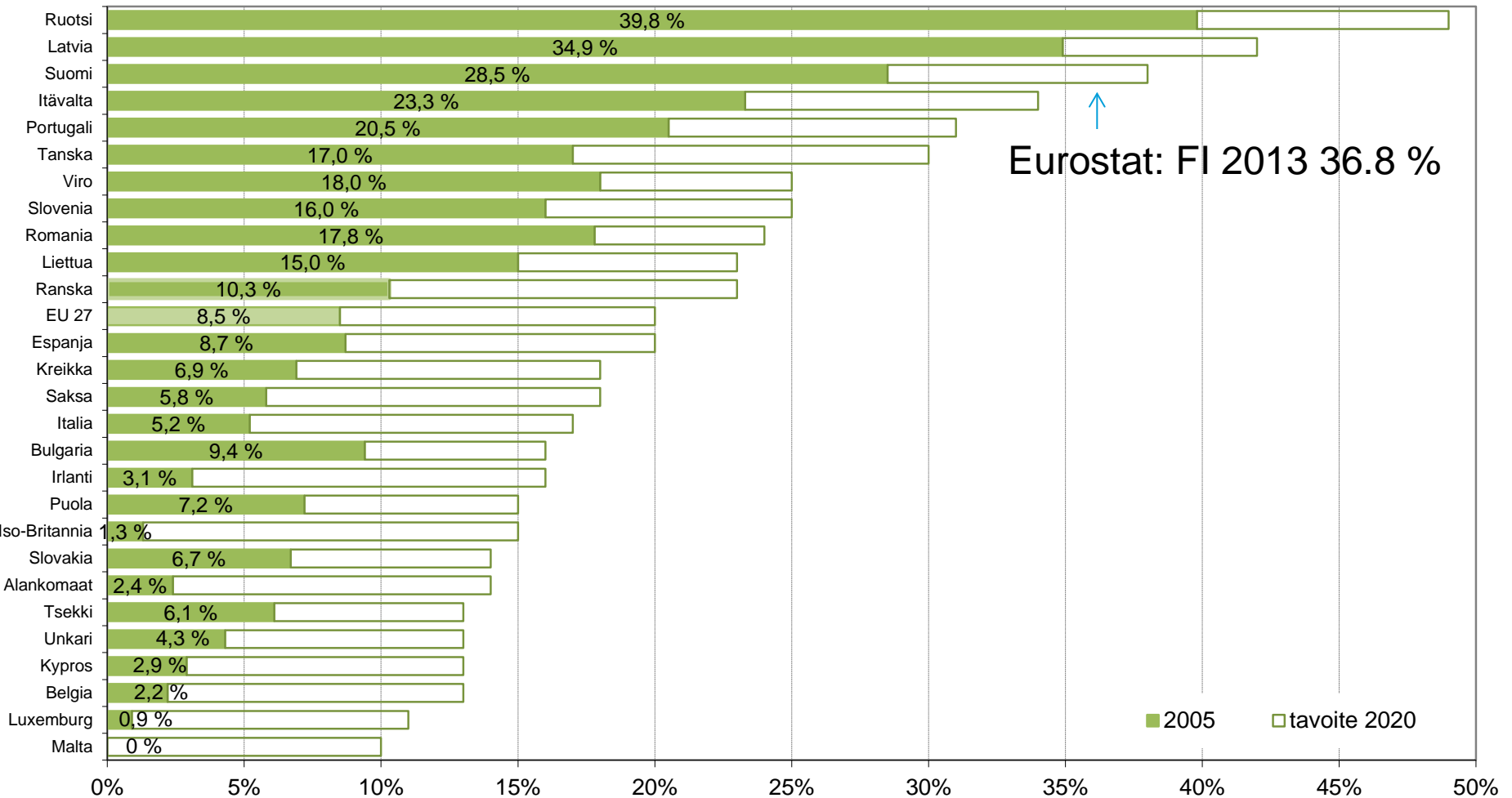


EU and -20 % Energy Efficiency Goal

scenarios from different years, enlargement, non-energy uses subtracted...



RES share in final energy use (EU-27) 2005 and goals 2020

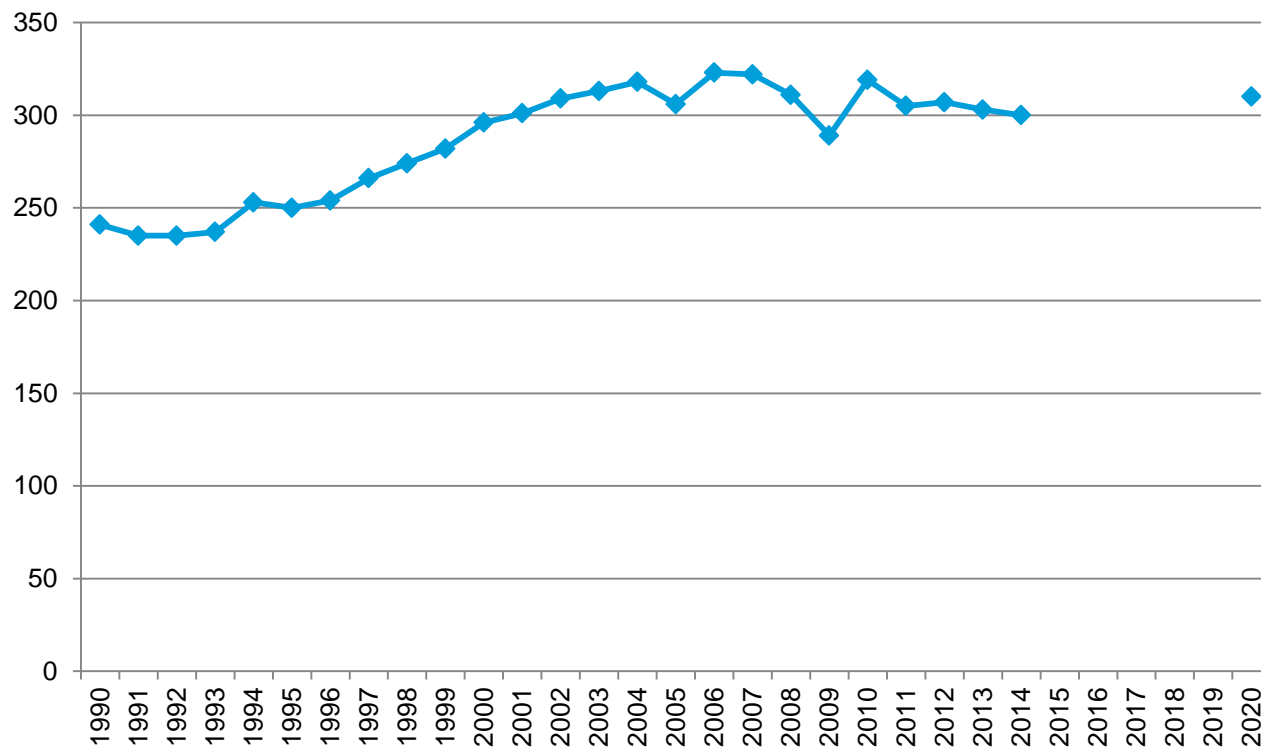


Lähde: Direktiivi uusiutuvan energian edistämisestä, 2008/0016 (COD), liite 1

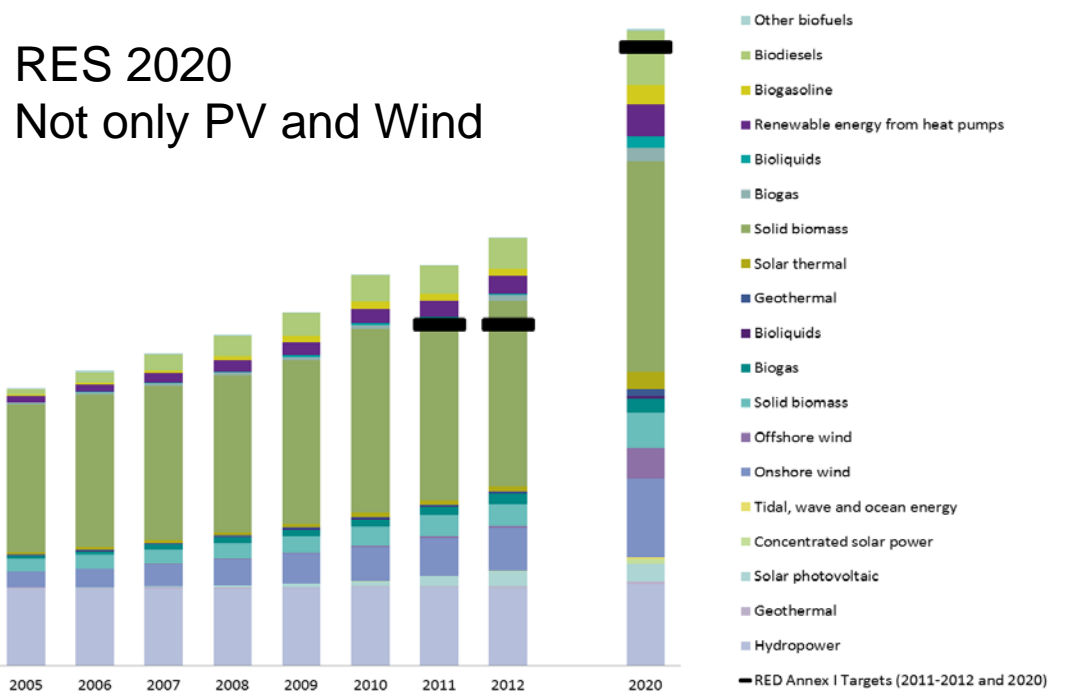
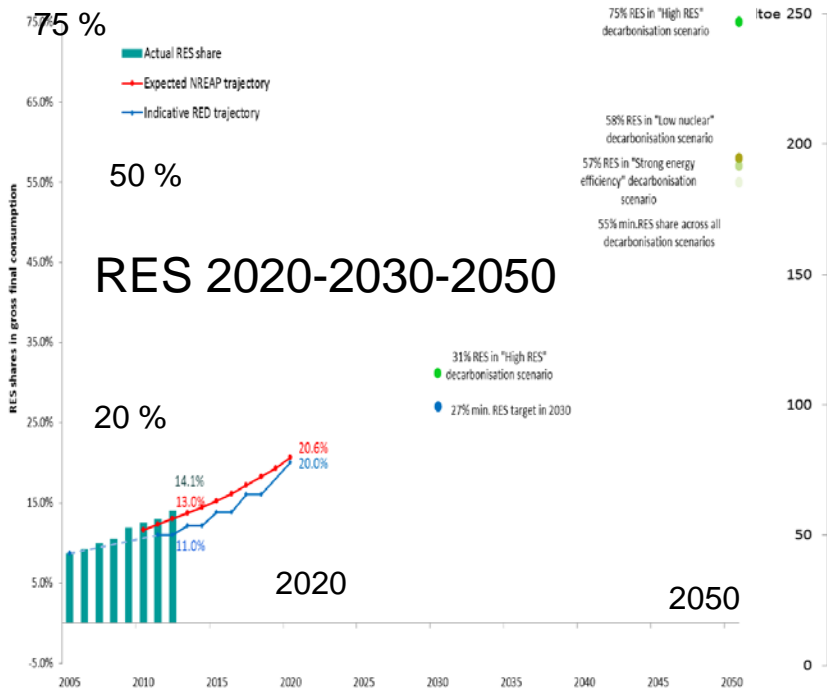
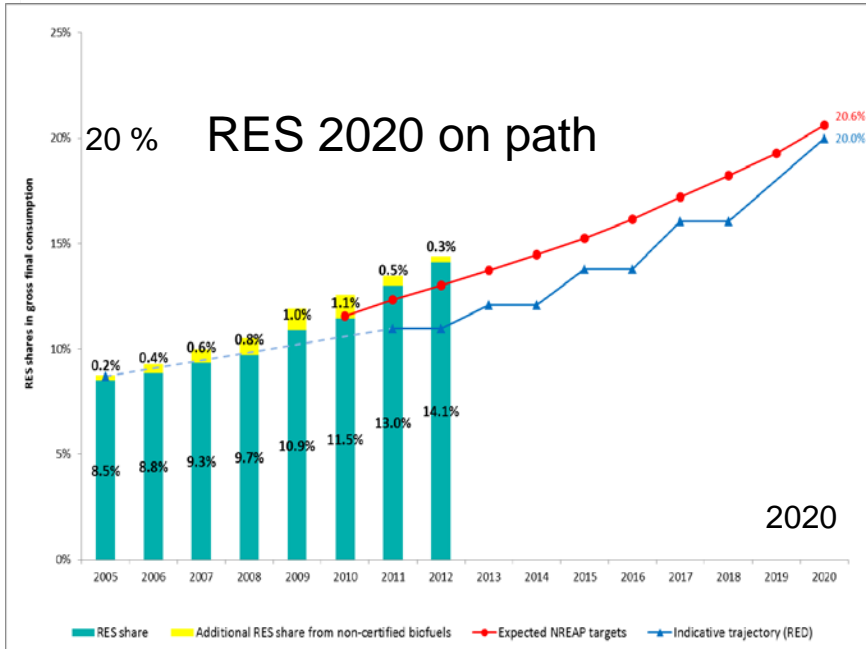
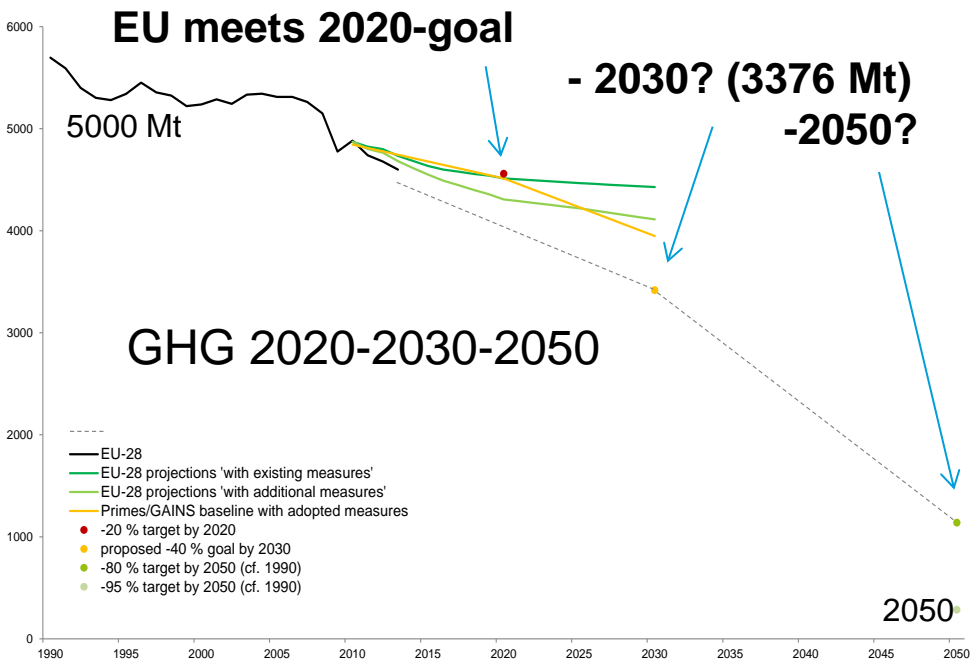


EE target 310 TWh 2020 is met – unless..

Finland, Final energy use, TWh



Mt CO2-equivalent



New Government programme 2015-

- New Prim.Min. Sipilä's Government's programme in May 2015:
- Meet 2020 target by end of election period -2019 (mid-April)
- RES in transport 40 % by 2030
- RES share over 50 %, over 55 % with domestics by end of 2020's
- Phase out coal by end of 2020's (2030)
- Half the use of fossil oil by end of 2020's (2030)
- Limit wind power to 2000 MVA – and quota-system (2500 MVA)
oversubscribed in few days

- All these answered in new Energy and Climate Strategy



- Some extra slides on EE in Finland



Energy Efficiency (EE) in Finland

- Energy Efficiency (EE) has been a corner stone of Finnish Energy Policy: Energy intensive industry; Lack of indigenous energy sources; Cold & dark climate; Relatively sparsely inhabited
- High energy intensity (energy / capita, energy / GDP) is not wasting!
- Energy Efficiency agreements (2008-2016), earlier Energy Saving agreements (1997-2007) in central role, good reporting
- Energy Auditing, linked to agreements, Finnish success story!
 - IEA's Country Reviews: EE in Finland good, market based
- Information and advice activities (EE week in October) in use
- CHP market based, yet Finland top-share in EU/world: ~35 %
 - CHP DHC cooperation CEM & IEA
- Implementation of EU directives (Labelling & Ecodesign for appliances, EPBD, ESD+CHP=EED) + Smart meter rollout end -13



Energy Auditing

- Finnish success story: Energy Auditing started in Finland early 1990's; now EED is demanding the same for EU
- Energy Auditing Program (EAP) is runned by Motiva, state owned company
- Voluntary program until end 2014
 - 2015- EED made compulsory (no subsidies) for non-SME
 - Still voluntary, subsidized auditing for SME's
- Subsidies, 1992-2007 total 23.1 M€, 2008-2013 total 9.8 M€
- Energy Auditing is an expert analyze – just like a visit to a doctor
- Combining Auditing with Agreements: monitoring
- Energy Auditors qualified by Motiva, training, 1994- over 1400 part.
- http://www.motiva.fi/en/areas_of_operation/energy_auditing



Energy Efficiency Agreements

- Voluntary agreements, sectors, coverage varies: over 90 % (industry, energy companies), road goods transport lowest (~20 %)
- Period 2008-2016 (ESD), letter of intent signed Nov 2013 of prolongation period to cover 2017-2020. New agreements in 2015
- Older version Energy Conservation Agreements 1997-2007
- Results from 2008-2013, annual savings at end 2013
 - Heating energy and fuels 6.65 TWh
 - Electricity 2.64 TWh
 - Energy cost 566 M€, CO2 reduction 2.9 Mt
 - Subsidies granted 2008-2012: 9.8 M€ for audits, 62.6 M€ for investments, total investments 612 M€
- <http://www.energiatehokkuussopimukset.fi/en/>
- http://www.motiva.fi/files/9677/ETS_tuloksia_2008_2016_suomi_englanti.pdf



Energy Efficiency Agreements 2008-2016

Energy efficiency agreements 2008–2016



Responsible Ministry:
Ministry of Employment and the Economy

Energy efficiency agreement and Energy Programme for municipal sector



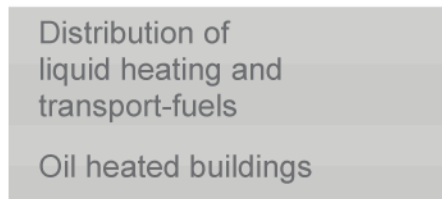
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Ministry of Employment and the Economy

Energy efficiency agreements for transport sector



Responsible Ministry:
The Ministry of Transport and Communications

Energy efficiency agreement for oil sector - Höylä III



Responsible Ministry:
Ministry of Employment and the Economy

Energy efficiency agreement for property and building sector 2010-2016



Responsible Ministries:
1) Ministry of Environment
2) Ministry of Employment and the Economy

Energy programme for Finnish farms 2010-2016



Responsible Ministry:
The Ministry of Agriculture and Forestry

www.energyefficiencyagreements.fi

