

Energy R&D Public Expenditure in Austria 2011

Andreas Indinger, Marion Katzenschlager

**Survey carried out by the Austrian Energy Agency
on behalf of the Federal Ministry of Transport, Innovation and Technology**

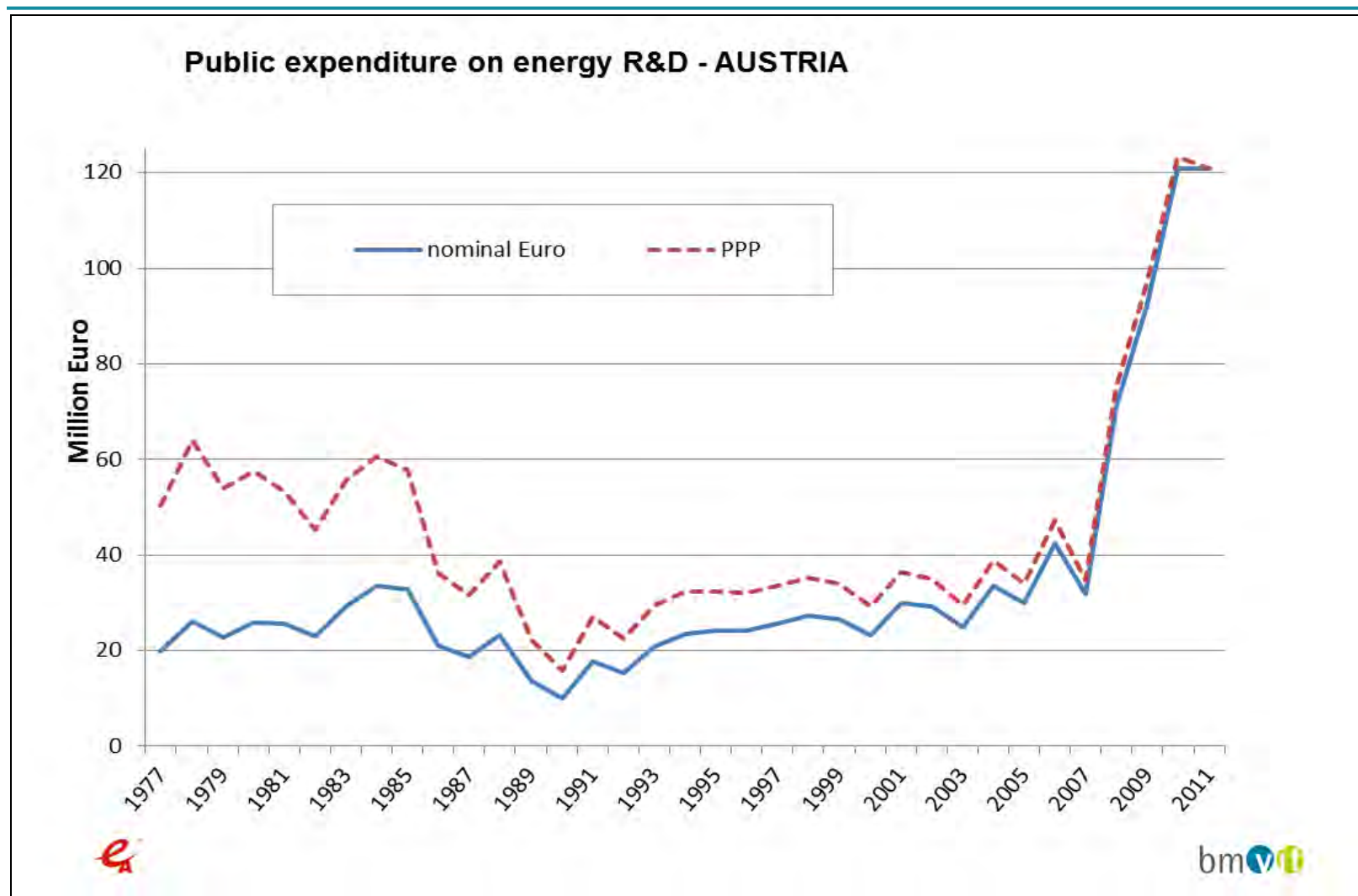
October 2012

-
- In 2011, Austria's public expenditure for energy-related research and development summed up to 120.8 million Euro. This is almost the same amount as in 2010.
 - Energy efficiency becomes even more important: plus 8 million Euro result in a share of 52.7% of total energy R&D. Priorities are hybrid and electric vehicles as well as buildings.
 - Solar energy overtakes bioenergy for the first time with 16.5 million Euro.
 - Almost three quarters of the funding were used for applied research, 21% for experimental development, 4% for basic research and 1% for demonstration.
 - Especially projects generated via the programme "New Energies 2020" contributed to the fact that the Climate and Energy Fund for 2011 was the sampling unit with – by far – the highest expenditures: 49.5 million Euro.

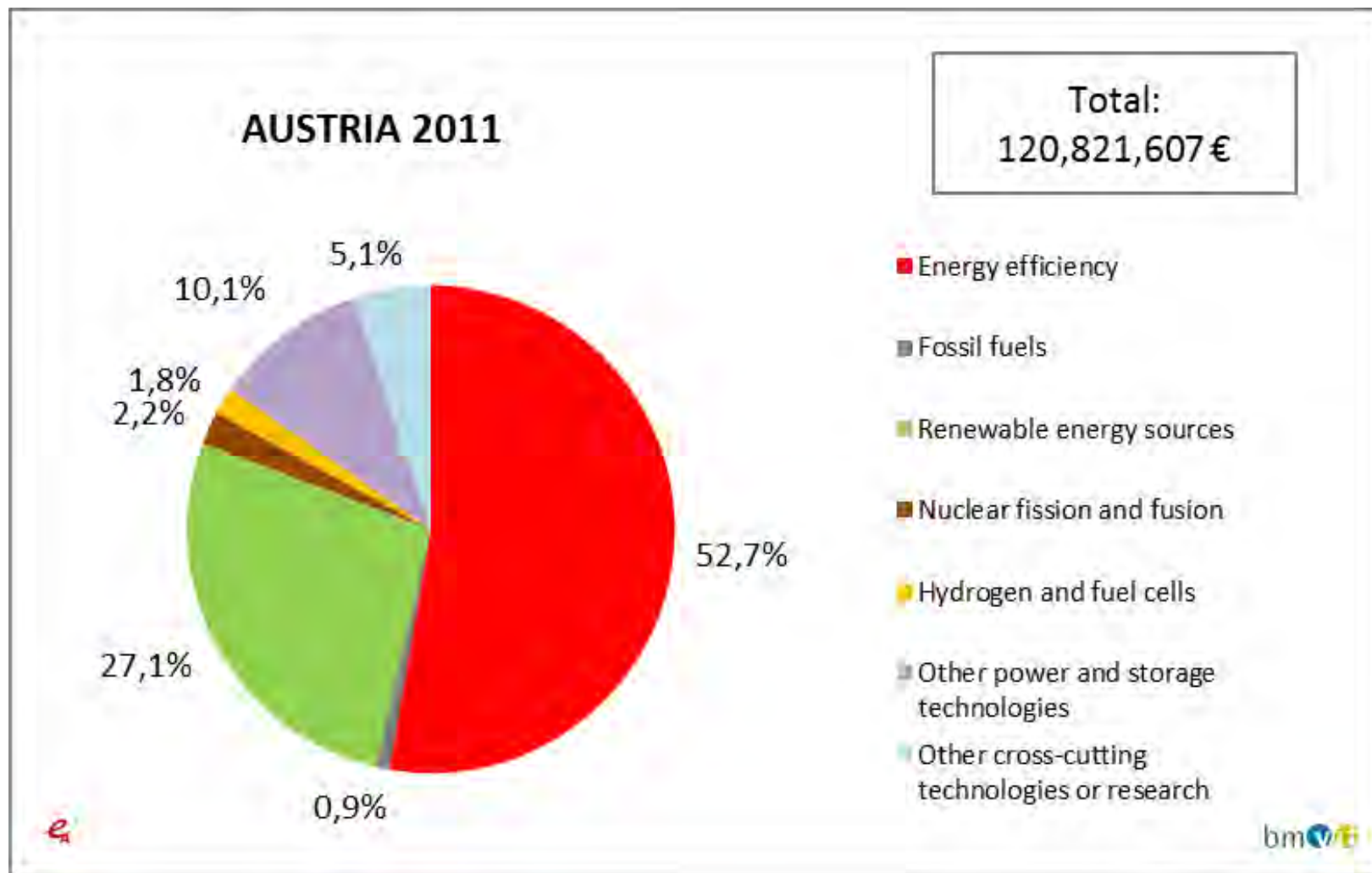
- In 2011, the Research Promotion Fund (FFG) processed 88.8 million Euro. The majority of transactions were related to programmes run on behalf of the federal ministries and the Climate and Energy Fund. This makes FFG the central contact point for funding energy-related R&D projects in Austria.
- The bottom-up oriented basic programmes of the Research Promotion Fund increased their funding for energy-related R&D to 15.6 million Euro in 2011.
- The total expenditure of the federal provinces was 2.3 million Euro, about 5 million Euro less than in 2010.
- The universities spent 8.5 million Euro in total. The Vienna University of Technology had the highest expenditures.
- The expenditure of the (non-university) research institutions was 13.2 million Euro, with 88% coming from the Austrian Institute of Technology – AIT.
- *Only expenditures from own equity capital provided by the public owners had been included by universities and non-university research.*

- Carried out annually since 1974, until 2002 by Prof. G. Faninger, from 2003 onwards by the Austrian Energy Agency
- On behalf of the Federal Ministry of Transport, Innovation and Technology
- International standards set by IEA and OECD (Frascati manual)
- Data for Austria shows real expenditures, no budgets
- Some 1,000 energy research projects and activities have been registered and analysed for the year 2011
- Annual publication (full report)
- New IEA format (topics, demonstration covered etc.) starting with this survey
- See also IEA-Database for R&D: <http://www.iea.org/Textbase/stats/rd.asp>

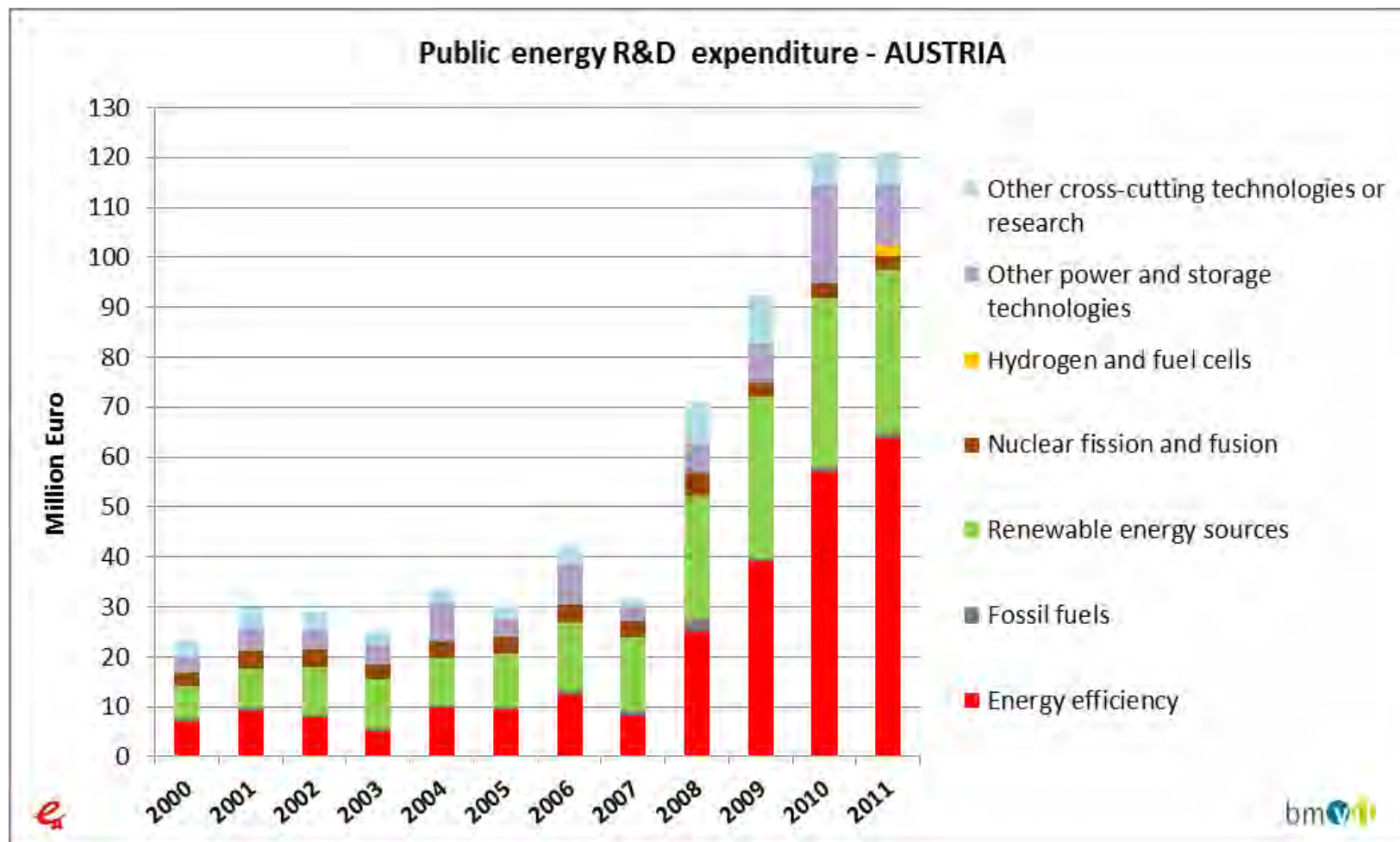
Public energy R&D expenditure in Austria



Public R&D expenditure

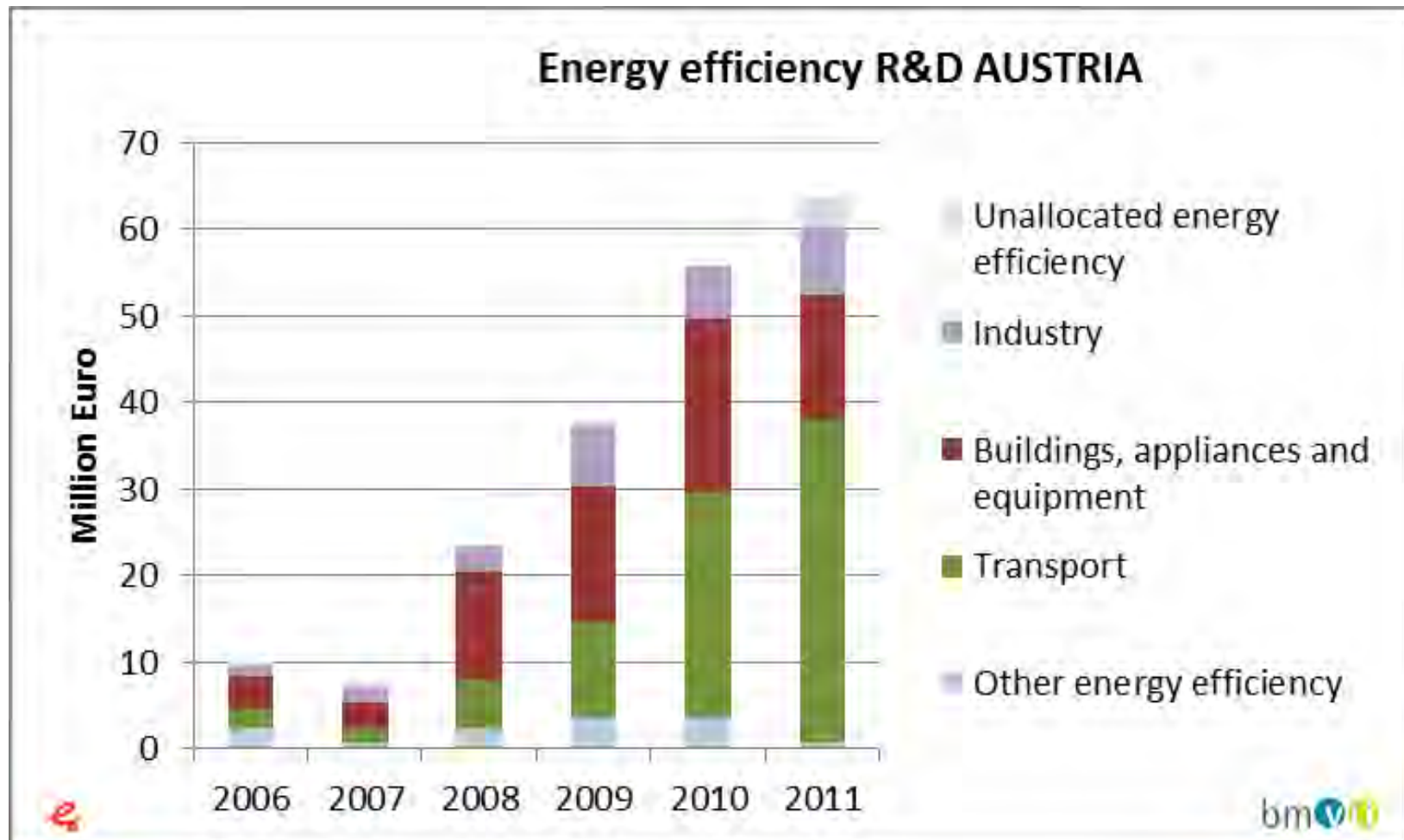


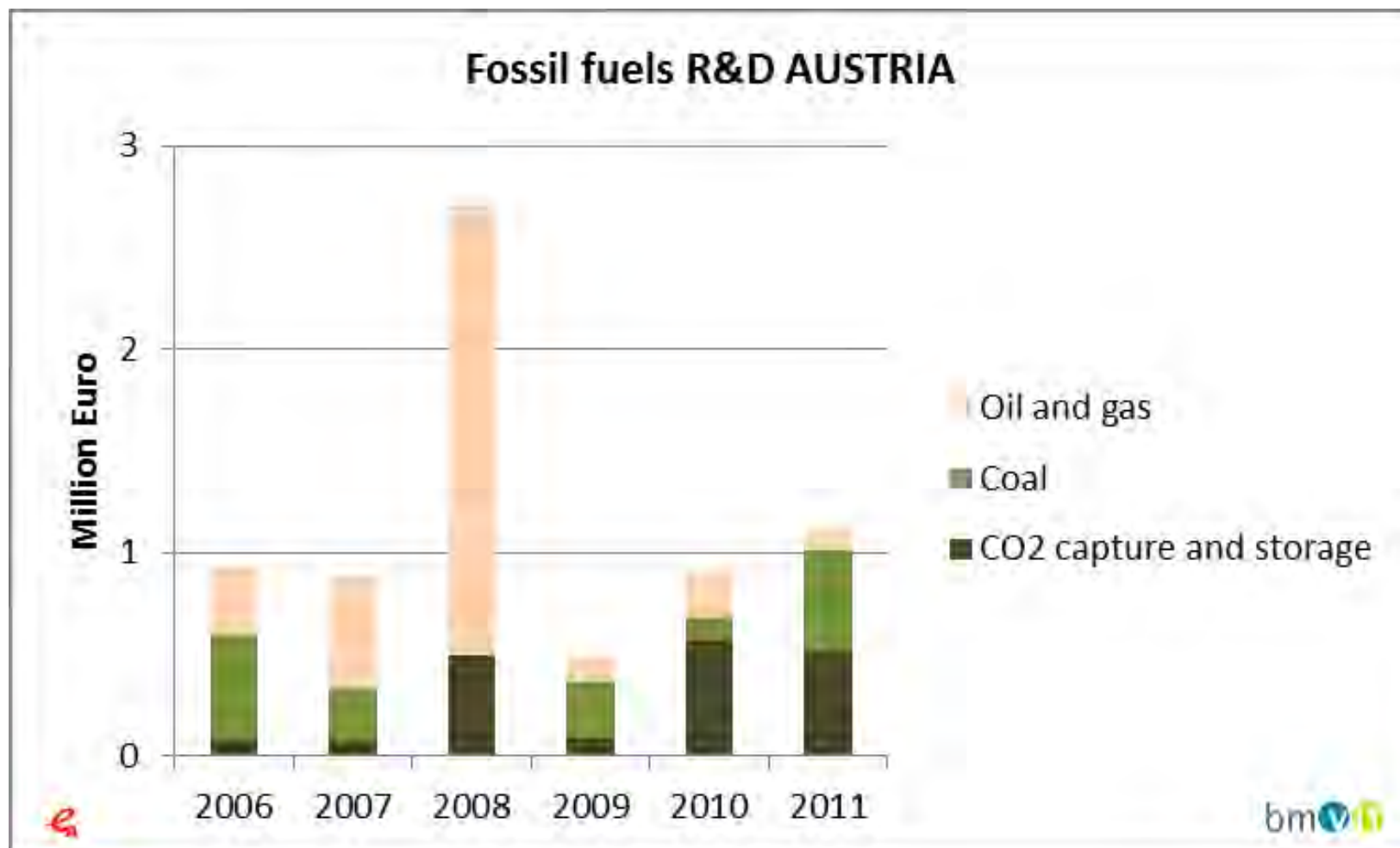
Timeline (nominal)

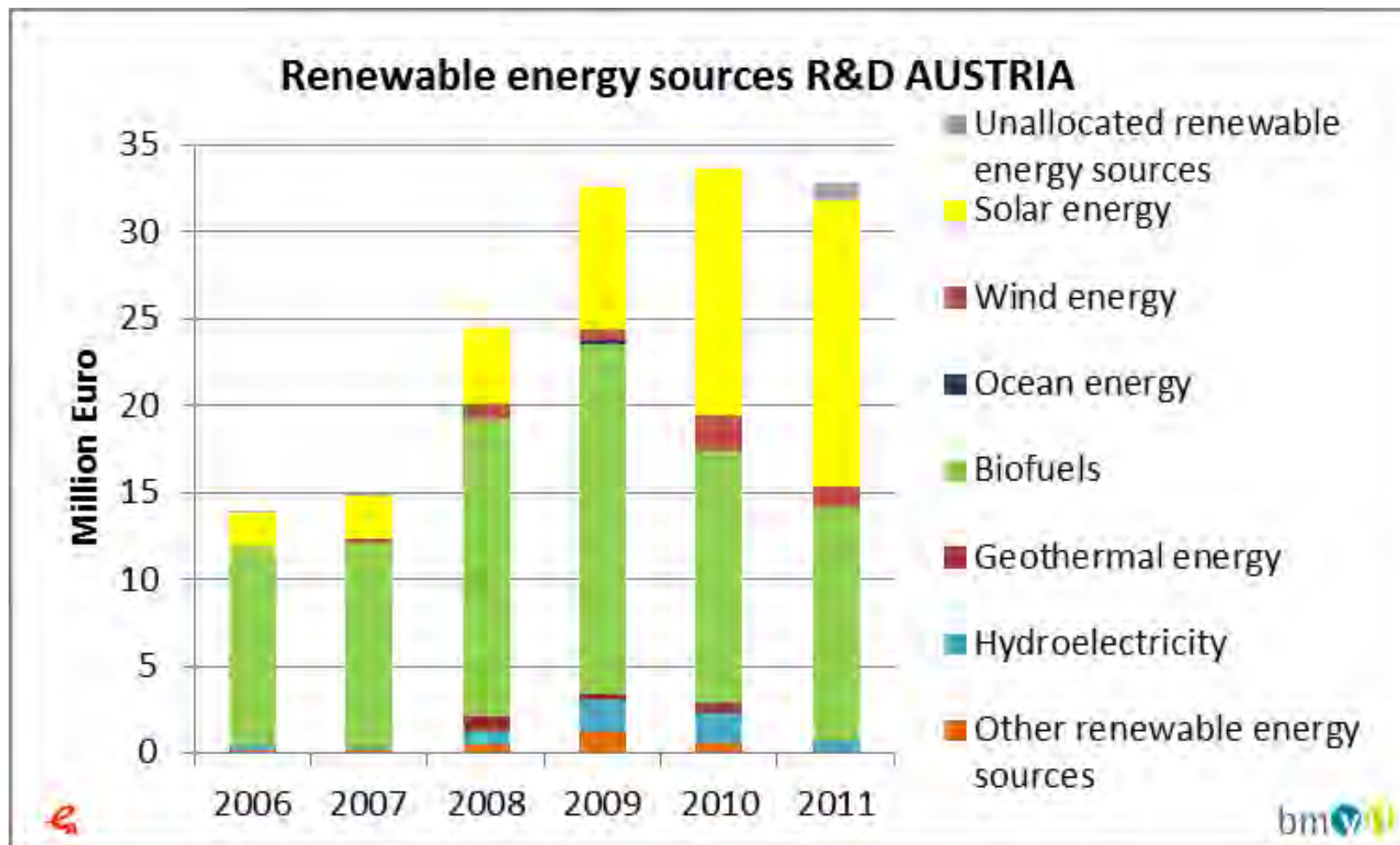


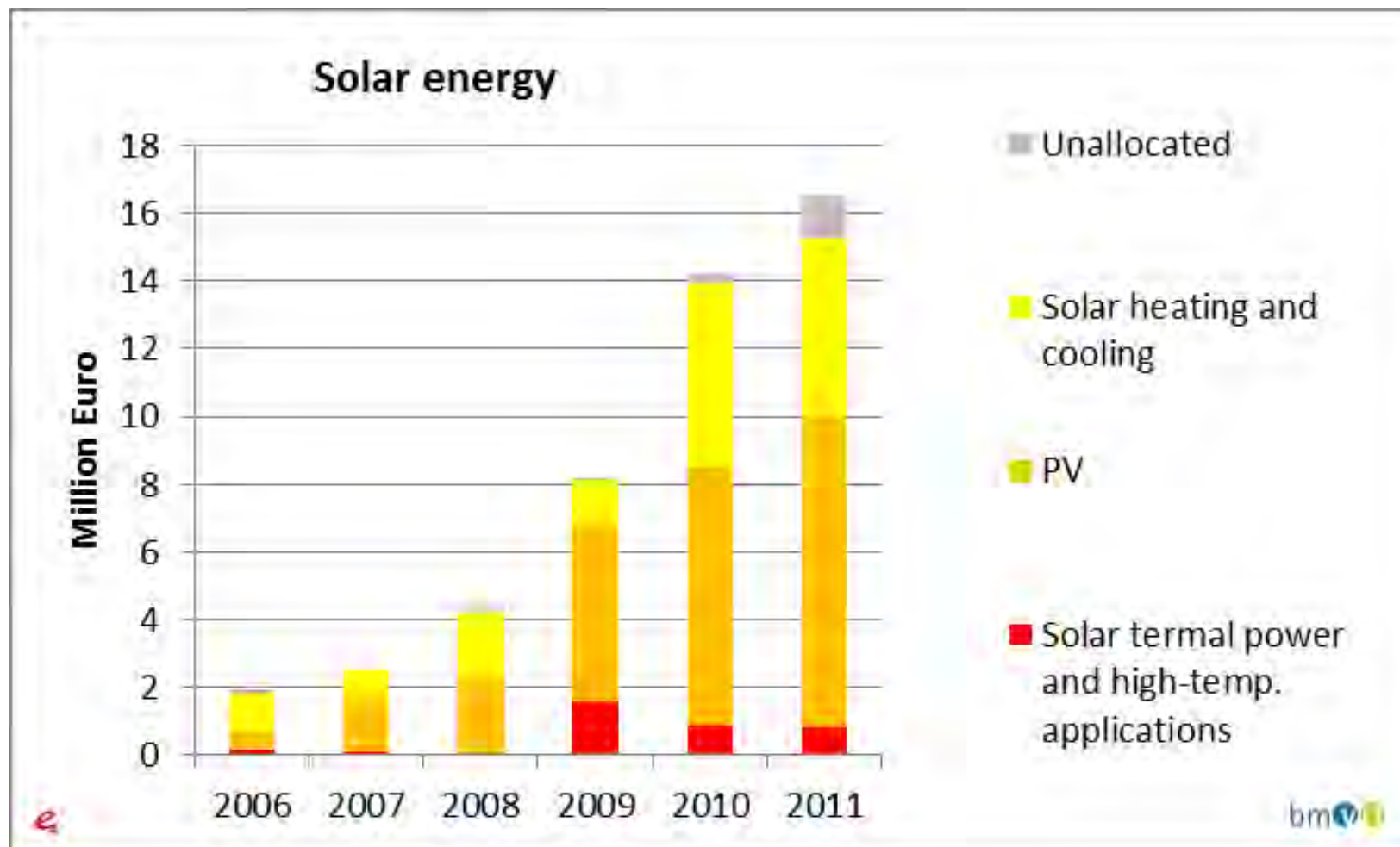
Trends in technology areas

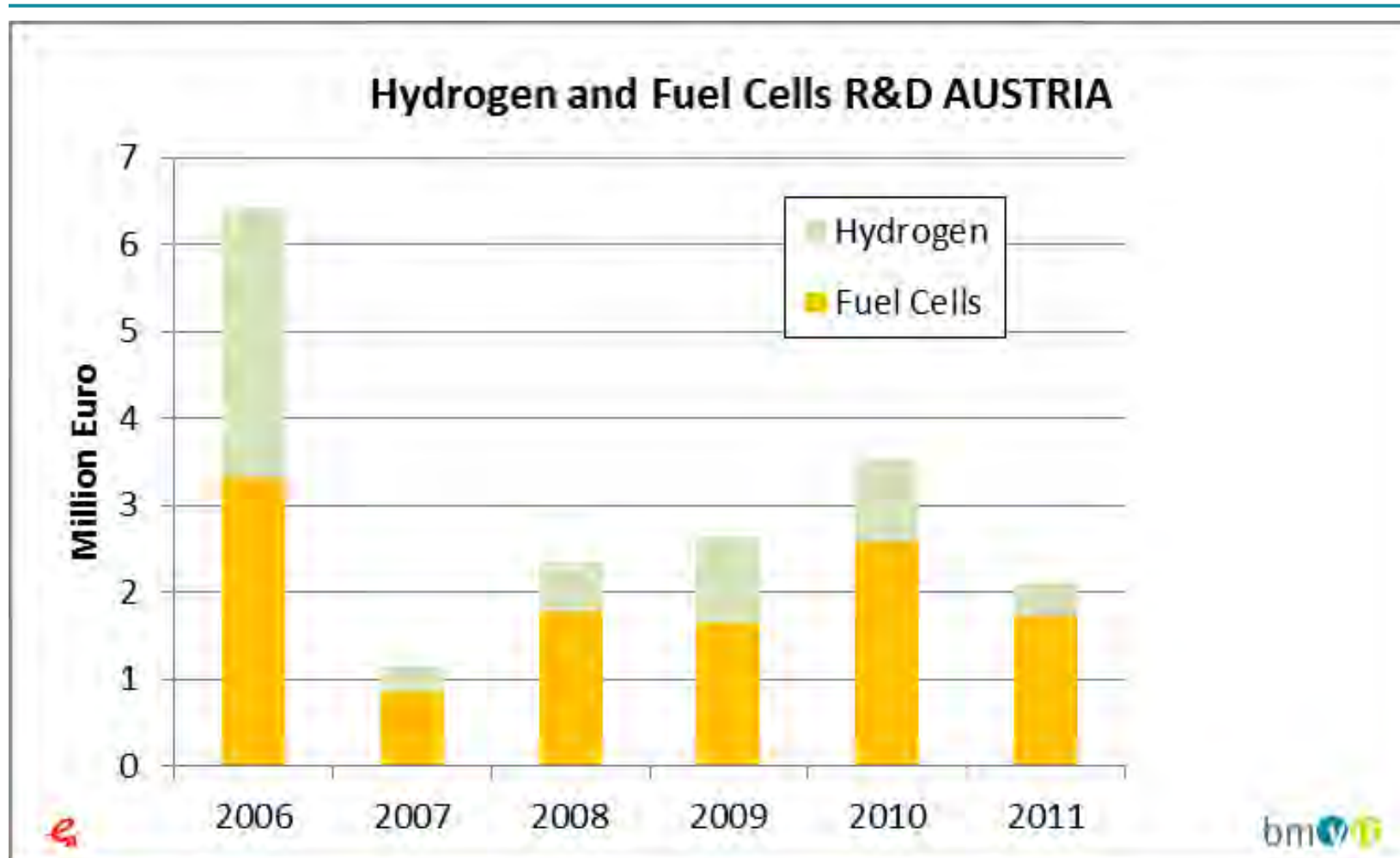
Topics according to the IEA code	Expenditure 2011 in Euro	Changes compared to 2010 in Euro	Changes compared to 2010 in percent
Energy efficiency	63,696,935	+8,019,266	+14%
Fossil fuels	1,111,034	+199,740	+22%
Renewable energy sources	32,772,796	-864,921	-3%
Nuclear fission and fusion	2,627,526	-439,375	-14%
Hydrogen and fuel cells	2,167,197	-1,361,052	-39%
Other power and storage technologies	12,230,966	-5,353,646	-30%
Other cross-cutting technologies or research	6,215,153	-358,050	-5%
Total	120,821,607	-158,038	0

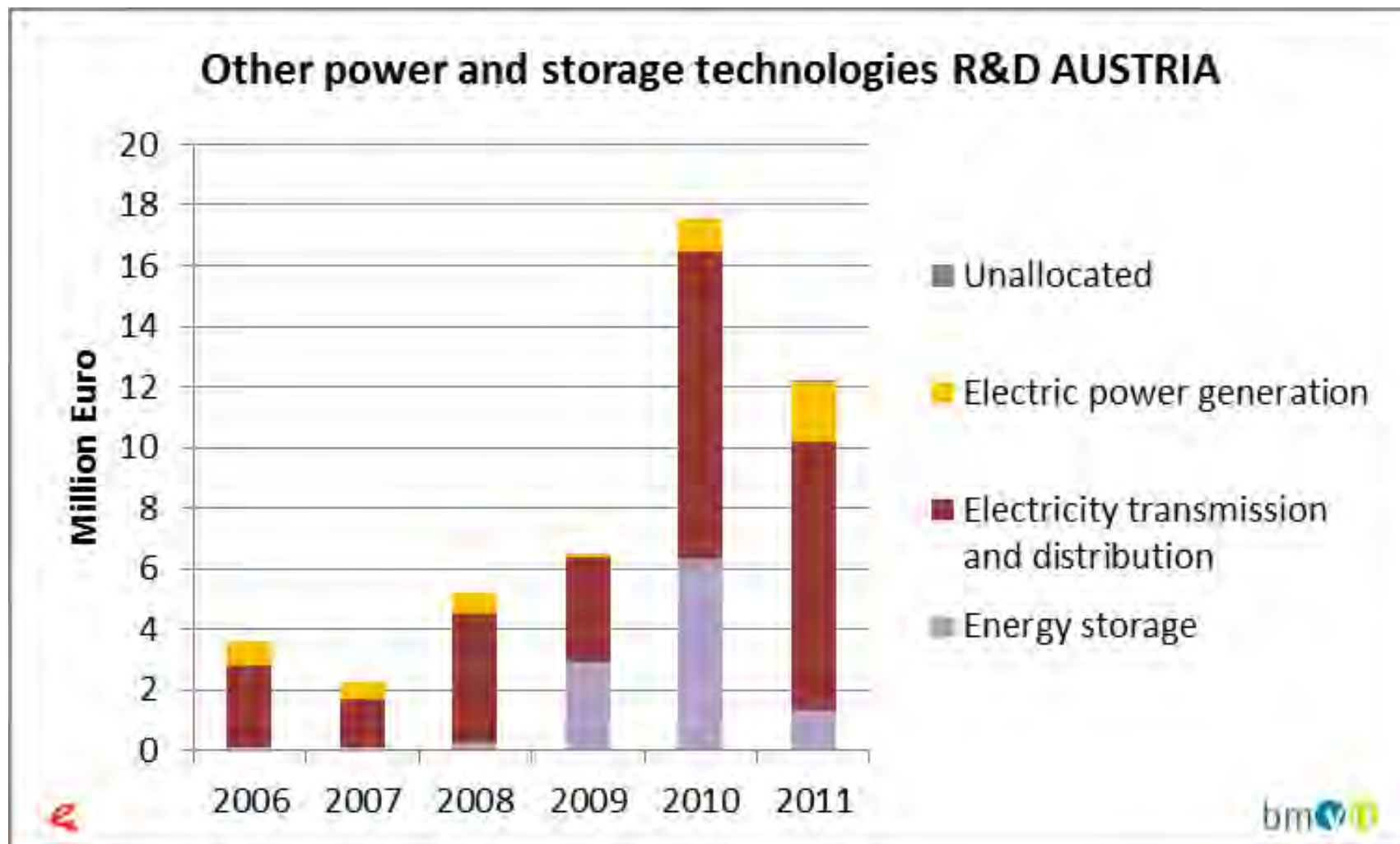




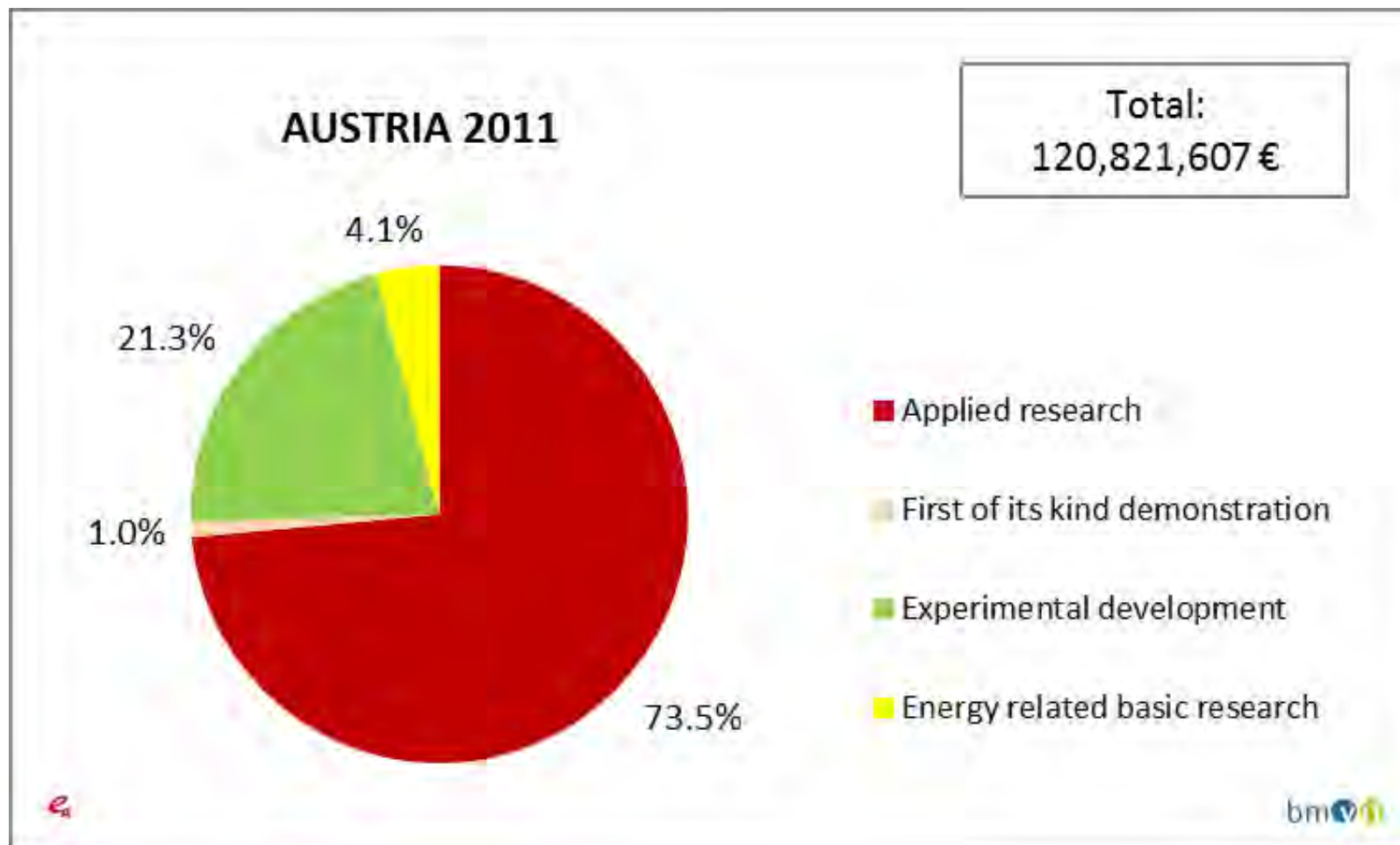




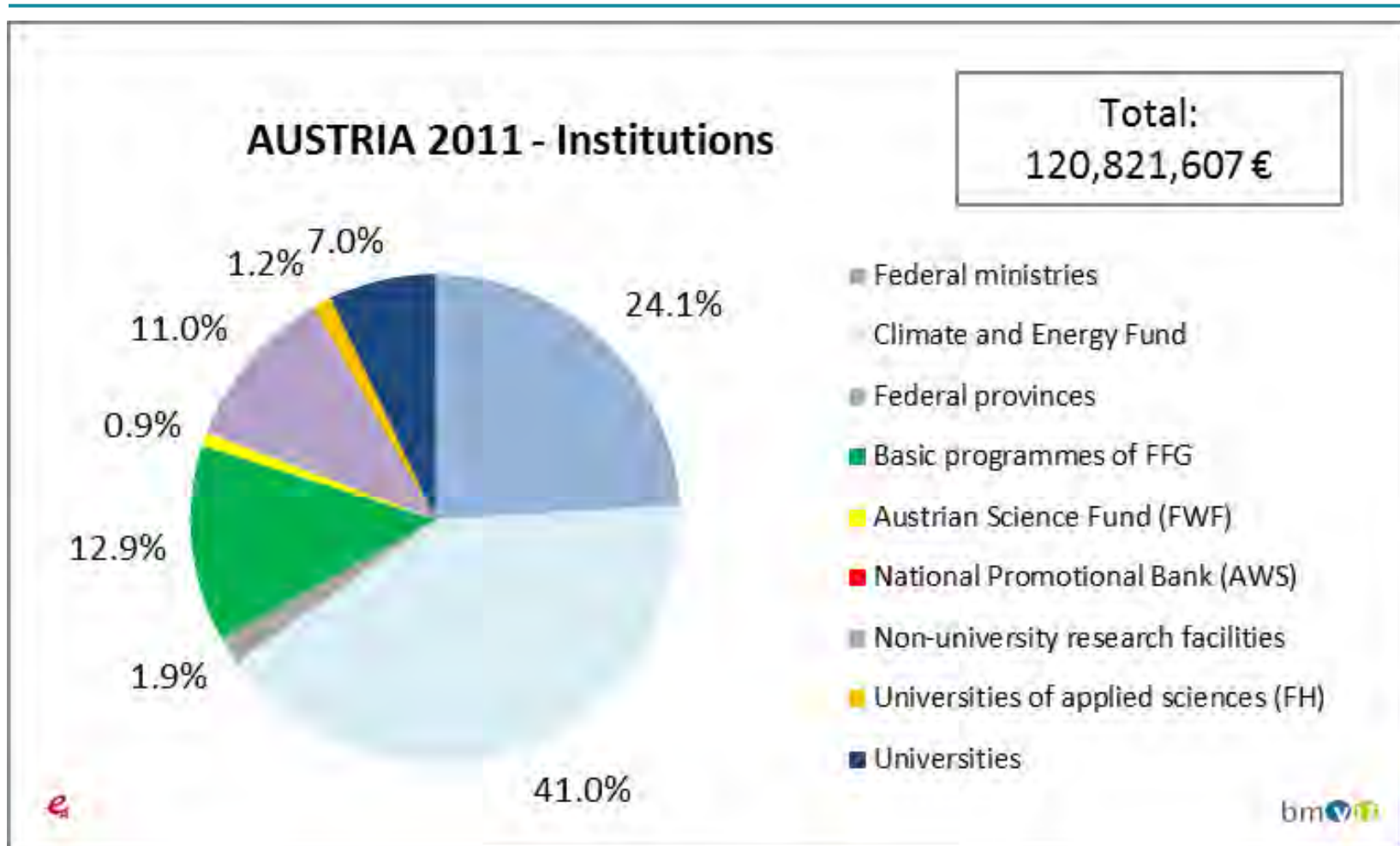




Type of research

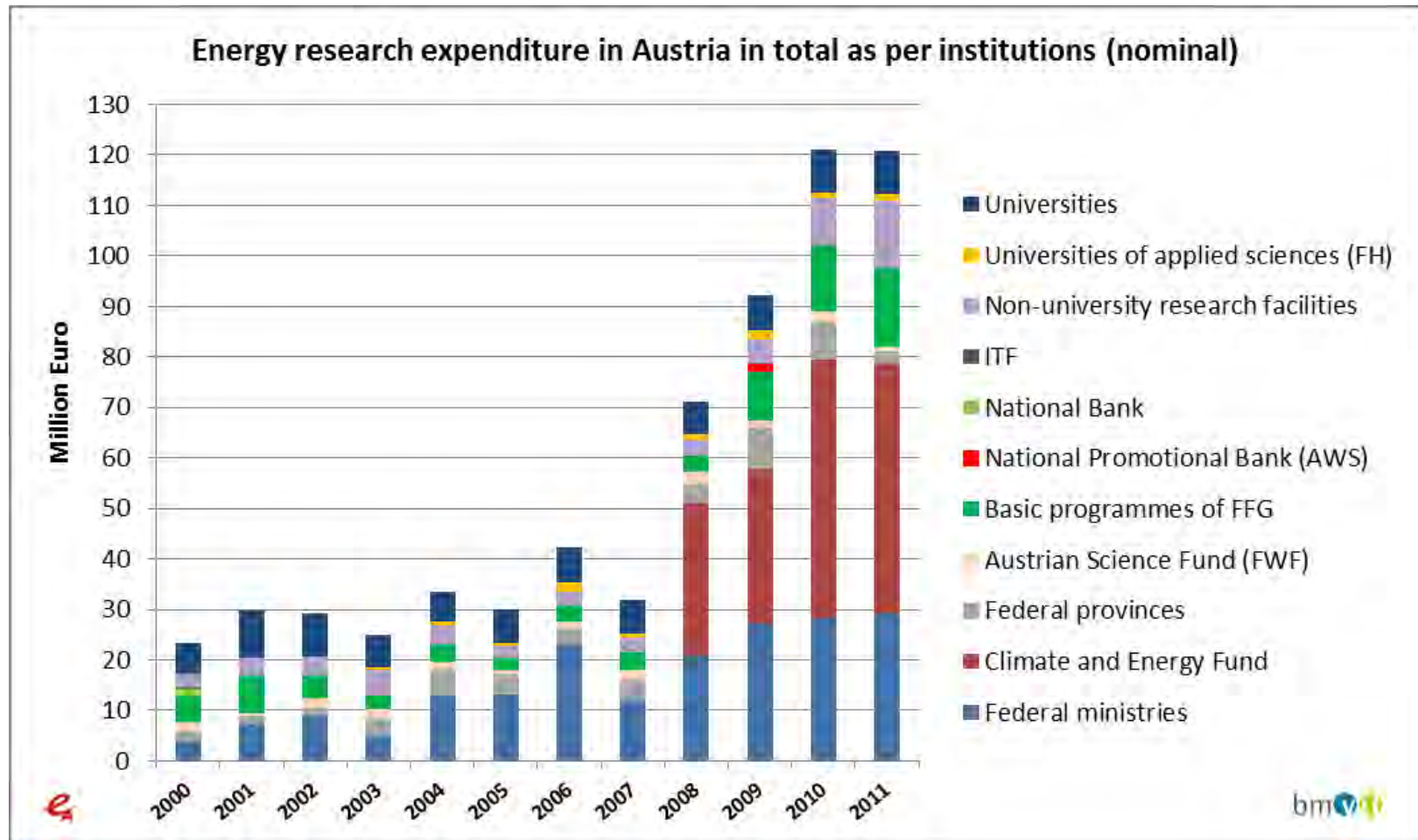


Who was financing?

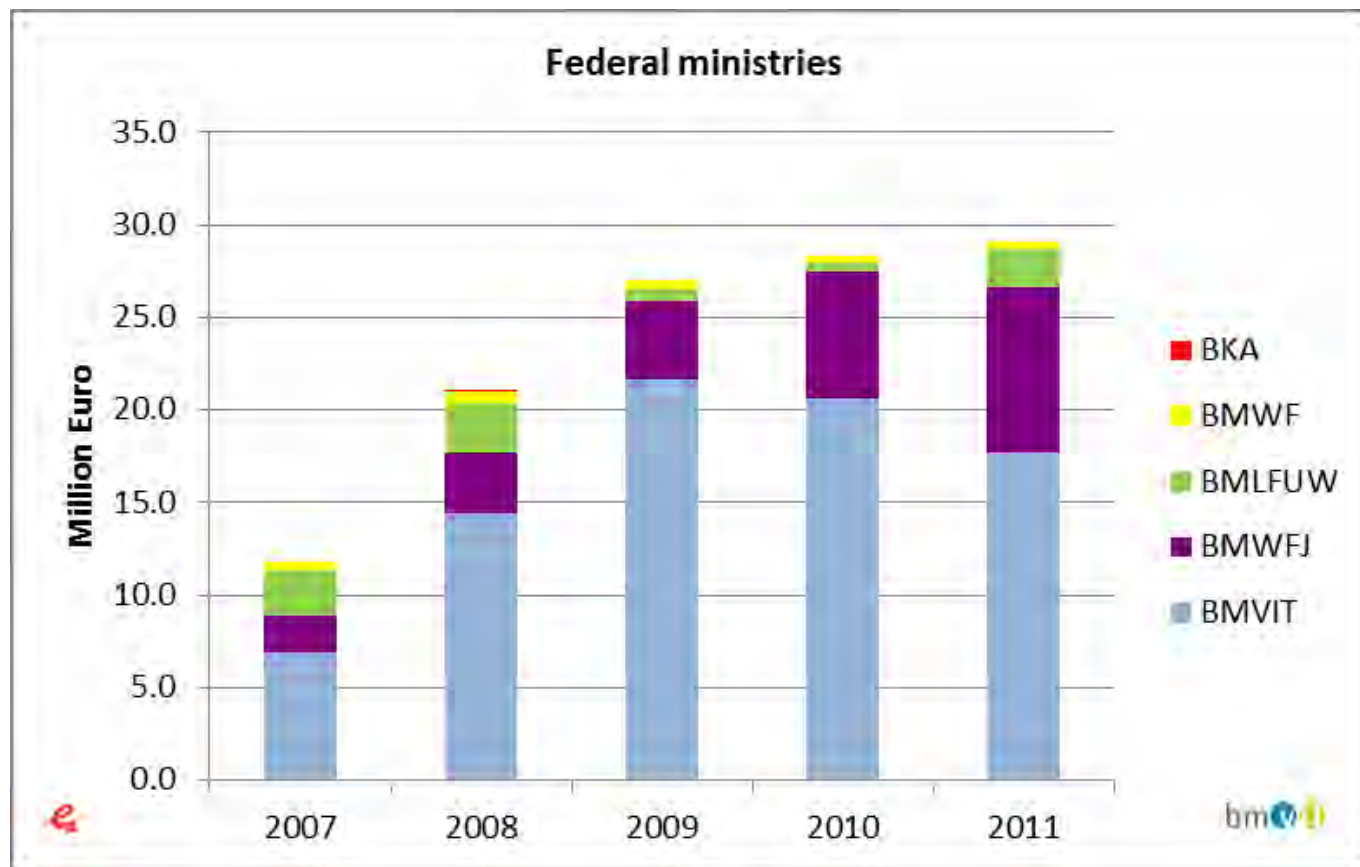


Recent trends

Institution	Expenditure 2011 in Euro	Changes compared to 2010 in Euro	Changes compared to 2010 in percent
Federal ministries	29,109,691	+793,411	+3%
Climate and Energy Fund	49,484,424	-1,725,823	-3%
Federal provinces	2,270,106	-5,075,208	-69%
FFG (Research Promotion Agency) basic programmes	15,645,919	+2,583,240	+20%
FWF (Austrian Science Fund)	1,067,927	-1,014,368	-49%
Non-university research facilities	13,237,631	+3,883,453	+42%
Fachhochschulen (FH) (universities of applied sciences)	1,490,883	+304,971	+26%
Universities	8,515,026	+92,285	+1%
Total	120,821,607	-158,038	0

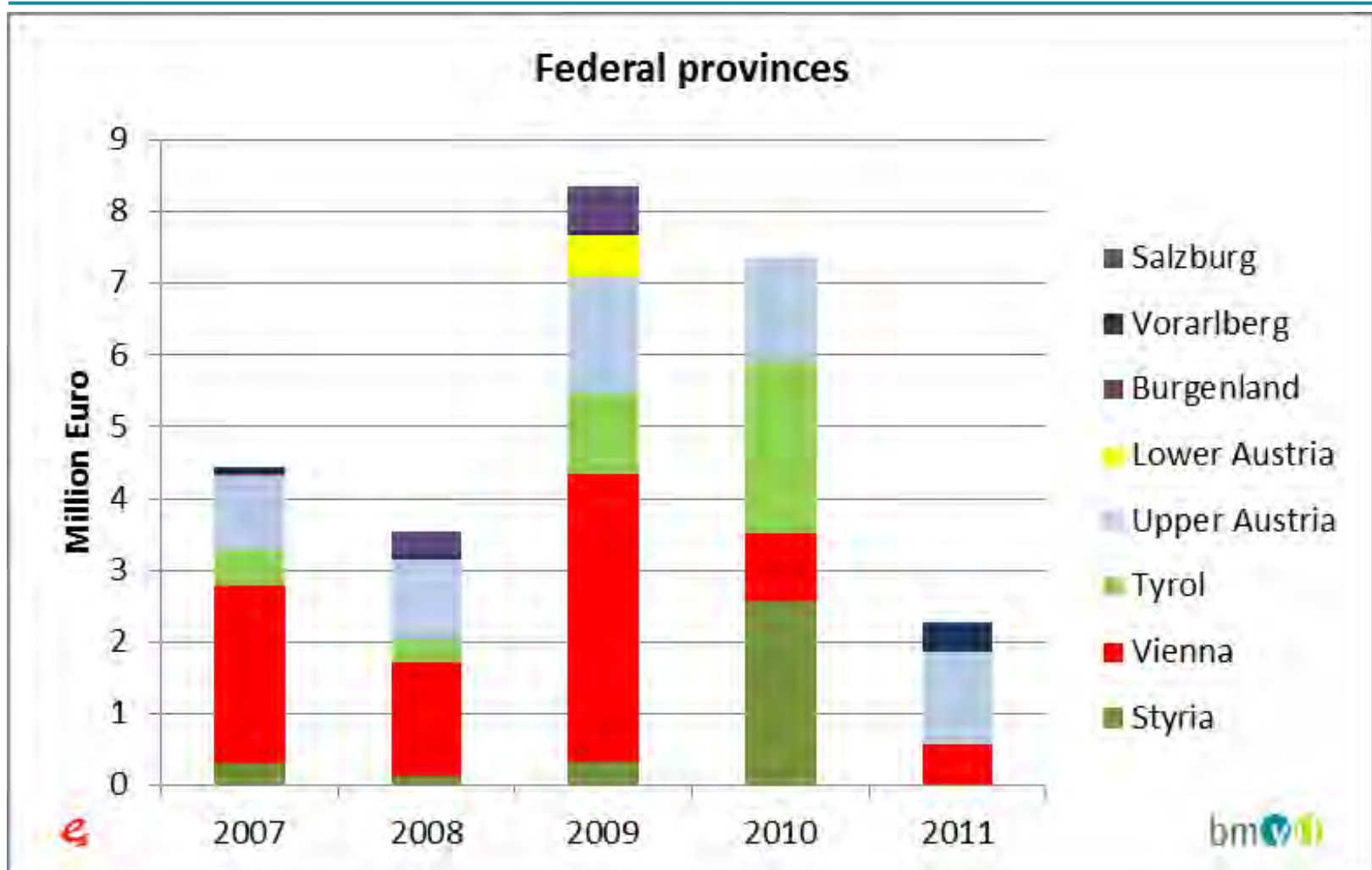


- The energy research expenses of the FH had been of little importance until the year 2002 being included in to the expenses of the non-university research facilities. A separated illustration has now been provided since 2003.

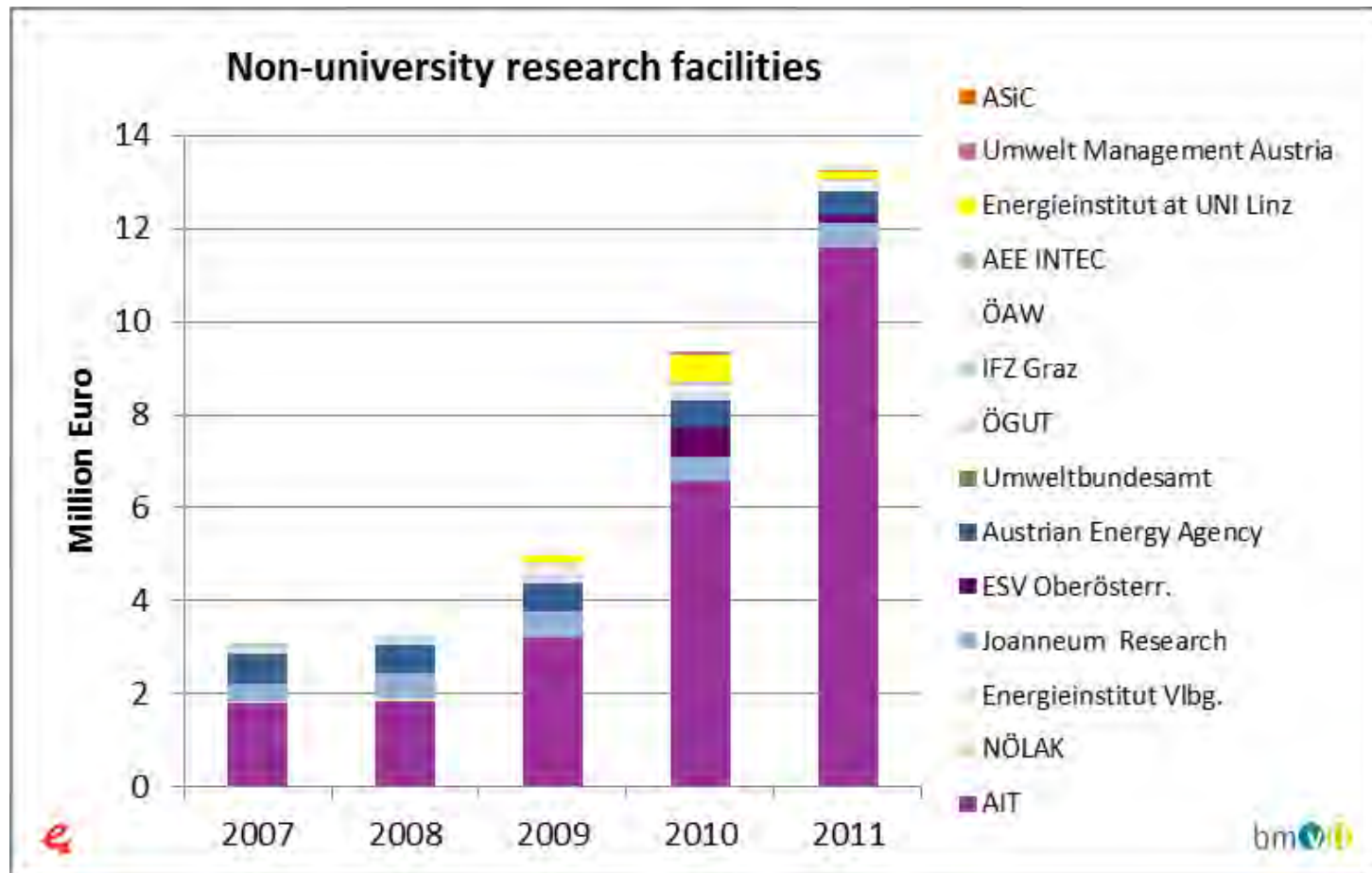


- BKA: Austrian Federal Chancellery (minor activities in 2008)
- BMWF: Austrian Federal Ministry for Science and Research
- BMLFUW: Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management
- BMWFJ: Austrian Federal Ministry of Economy, Family and Youth
- BMVIT: Austrian Federal Ministry for Transport, Innovation and Technology

Federal provinces

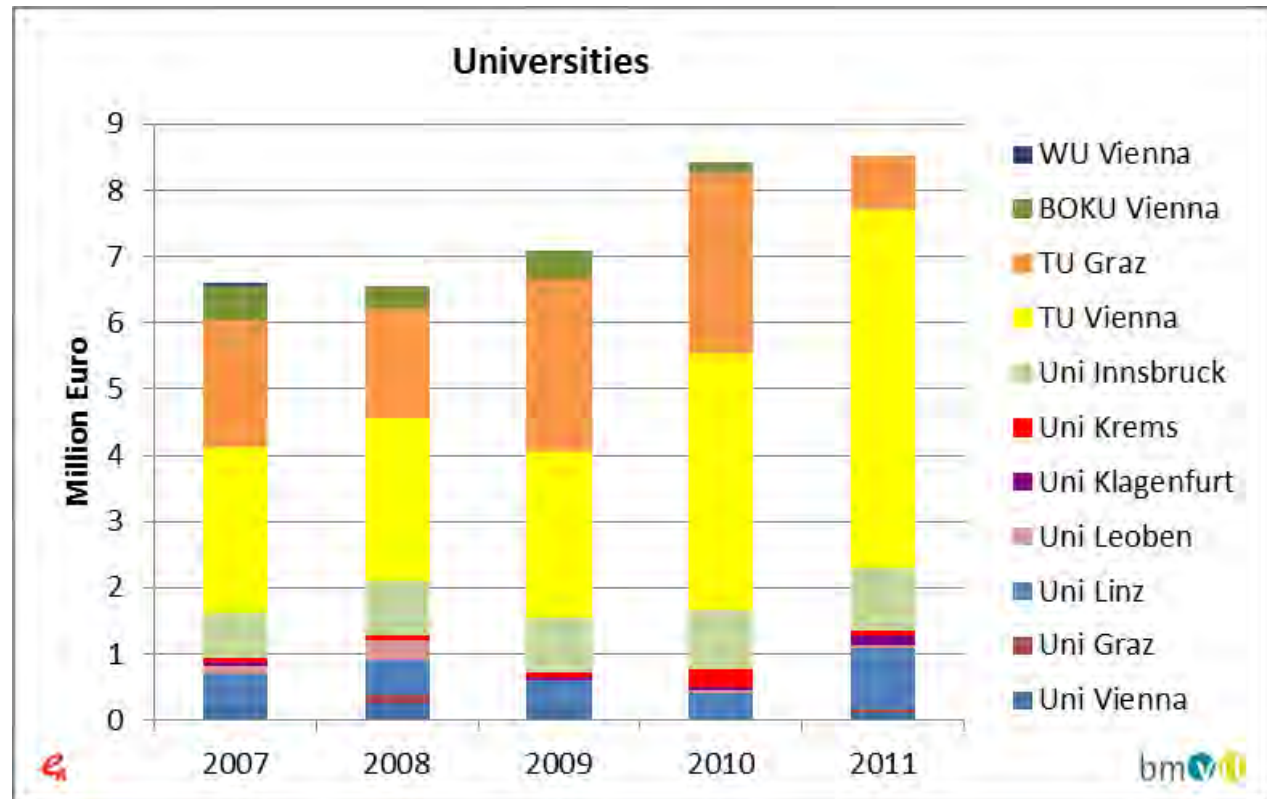


Non-university research

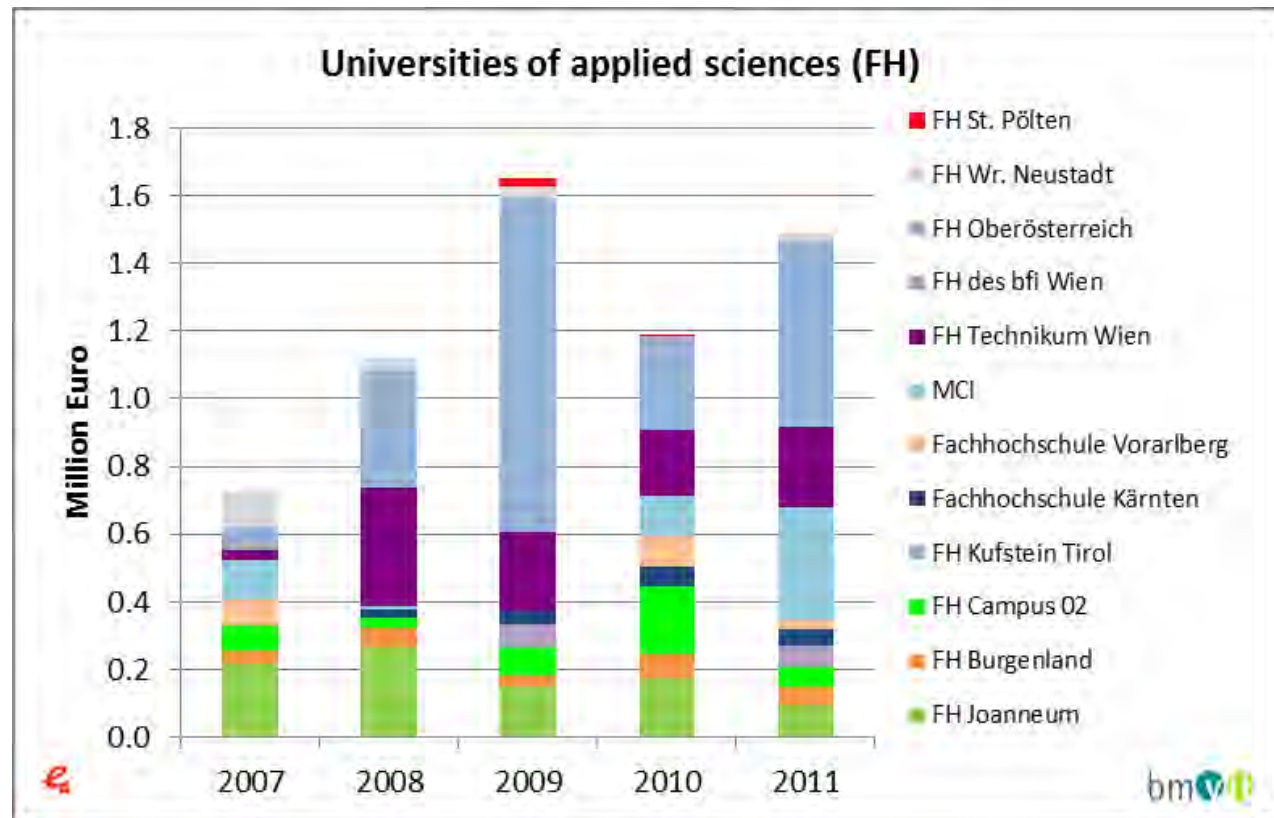


- Expenditures from own equity capital provided by the public owners
- No third party financed R&D included

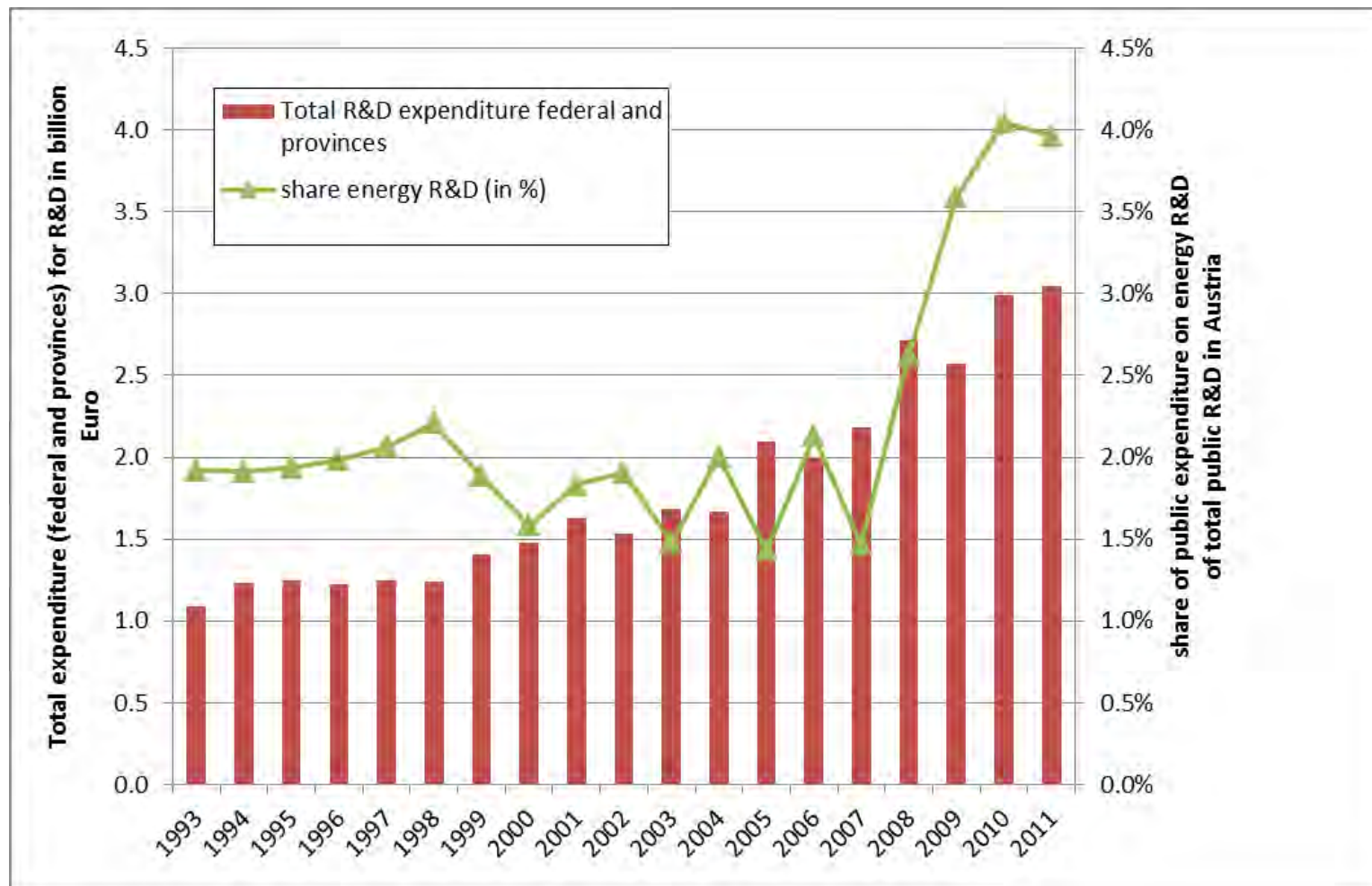
- 11 out of 22 public universities carry out energy related research
- Expenditures from own equity capital provided by the public (GUF etc.)
- No third party financed R&D included



- First Universities of applied sciences (FH) established in 1994
- 12 out of 21 FHs carry out (mostly applied) research
- Expenditure from own equity capital provided by the public
- No third party financed R&D included

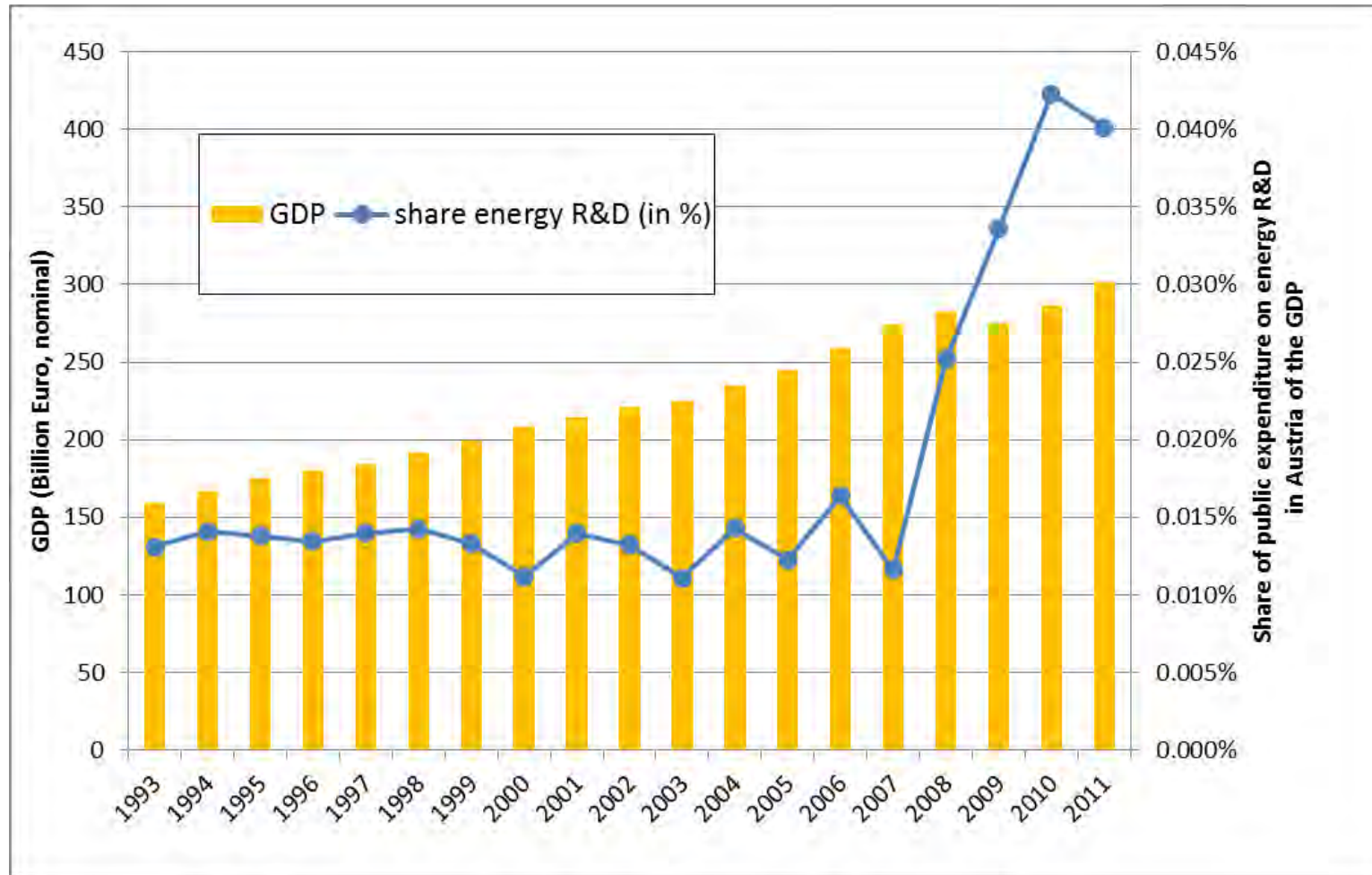


Share – overall public R&D



- Data: AEA, Statistik Austria

Share – GDP



■ Data: AEA, Statistik Austria

-
- Austrian companies and researchers succeeded in European programmes with new projects in 2011 with an EU contribution of about 8 million Euro
 - 7th Framework Programme for RTD: 3 million Euro (Data: proviso)
 - Intelligent Energy – Europe: 5 million Euro (Data: AEA)
 - Also relevant: Research Funds for Coal and Steel (RFCS)

- Andreas Indinger, Marion Katzenschlager, Energieforschungserhebung 2010 – Ausgaben der öffentlichen Hand in Österreich. In: BMVIT (Hrsg.) Schriftenreihe 47/2011
- Andreas Indinger, Marion Katzenschlager, Energieforschungserhebung 2009 – Ausgaben der öffentlichen Hand in Österreich. In: BMVIT (Hrsg.) Schriftenreihe 74/2010
- Andreas Indinger, Marion Katzenschlager, Energieforschungserhebung 2008 – Ausgaben der öffentlichen Hand in Österreich. In: BMVIT (Hrsg.) Schriftenreihe 36/2010, Download unter <http://www.nachhaltigwirtschaften.at/publikationen/view.html/id745>
- Andreas Indinger, Tanya Poli-Narendja, Energieforschungserhebung 2007 – Ausgaben der öffentlichen Hand in Österreich. In: BMVIT (Hrsg.) Schriftenreihe 07/2009, Wien 2009, Download unter <http://www.nachhaltigwirtschaften.at/results.html/id5607>
- Andreas Indinger, Tanya Poli-Narendja, Energieforschungserhebung 2006 – Ausgaben der öffentlichen Hand in Österreich. In: BMVIT (Hrsg.) Schriftenreihe 12/2008, Wien 2008, Download unter <http://www.nachhaltigwirtschaften.at/results.html/id5217>
- Andreas Indinger, Tanya Poli-Narendja, Energieforschungserhebung 2005 – Ausgaben der öffentlichen Hand in Österreich. In: BMVIT (Hrsg.) Schriftenreihe 74/2006, Wien 2006, Download unter <http://www.nachhaltigwirtschaften.at/results.html/id5020>
- Andreas Indinger, Tanya Poli-Narendja, Reinhard Jellinek, Energie – Forschung und Entwicklung, Ausgaben der öffentlichen Hand in Österreich – Erhebung 2004. In: BMVIT (Hrsg.) Schriftenreihe 31/2005, Wien 2005, Download unter <http://www.nachhaltigwirtschaften.at/results.html/id4022>
- Andreas Indinger, Tanya Poli-Narendja, Reinhard Jellinek, Energie – Forschung, Entwicklung und Demonstration, Ausgaben der öffentlichen Hand in Österreich – Erhebung 2003. In: BMVIT (Hrsg.) Schriftenreihe 11/2005, Wien 2005, Download unter <http://www.nachhaltigwirtschaften.at/results.html/id3837>
- Gerhard Faninger, Energie – Forschung, Entwicklung und Demonstration, Ausgaben des Bundes, der Länder und der Industrie in Österreich – Erhebung 2002. In: BMVIT (Hrsg.) Schriftenreihe 26/2003, Wien 2003
- Gerhard Faninger, Energie – Forschung, Entwicklung und Demonstration, Ausgaben des Bundes, der Länder und der Industrie in Österreich - Erhebung 2001. In: BMVIT (Hrsg.) Schriftenreihe 31/2002, Wien 2002
- Gerhard Faninger, Energie - Forschung, Entwicklung und Demonstration, Ausgaben des Bundes, der Länder und der Industrie in Österreich – Erhebung 2000. In: BMVIT (Hrsg.) Schriftenreihe 39/2001, Wien 2001