

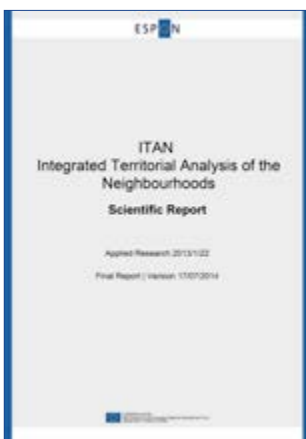
## Integrated Territorial Analysis of the Neighbourhoods

### ITAN major findings – ENERGY

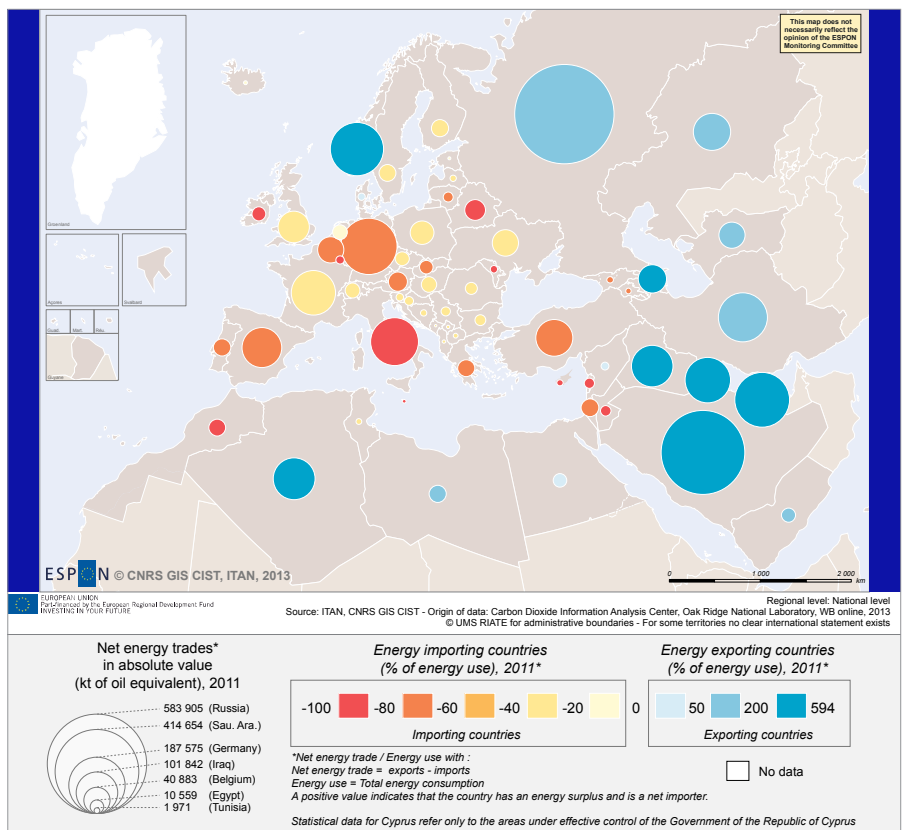
EU energy dependency was 44% in 1995; it will reach 65% by 2025 and even 80% for gas. Nuclear energy (mostly in France) and oil production in the North Sea (which is depleted) less and less cover the needs. According to the European plan on climate change adopted by the European Parliament on December 2008, Member States should reach 20% renewable energy in their energy mix in 2020 (the figure in 2012 is 11%), reduce their CO<sub>2</sub> consumption by 20% and improve their energy efficiency by 20% ("20-20-20 targets", in 2014 the renewable goal was upgraded to 27% in 2030)). But the path is unclear, because the Commission does not state exactly how binding these targets are. As a matter of fact, Member States do not agree on energy transition (in Germany ironically nuclear power falls but coal rises), nor on shale gas, nor on any common view on energy imports namely from Russia. Without a common energy policy, can EU Member States really have a common strategy vis-à-vis Russia, whatever the field?

Map 1. Energy net trade: the complementarity between Europe and its neighbours, 2011

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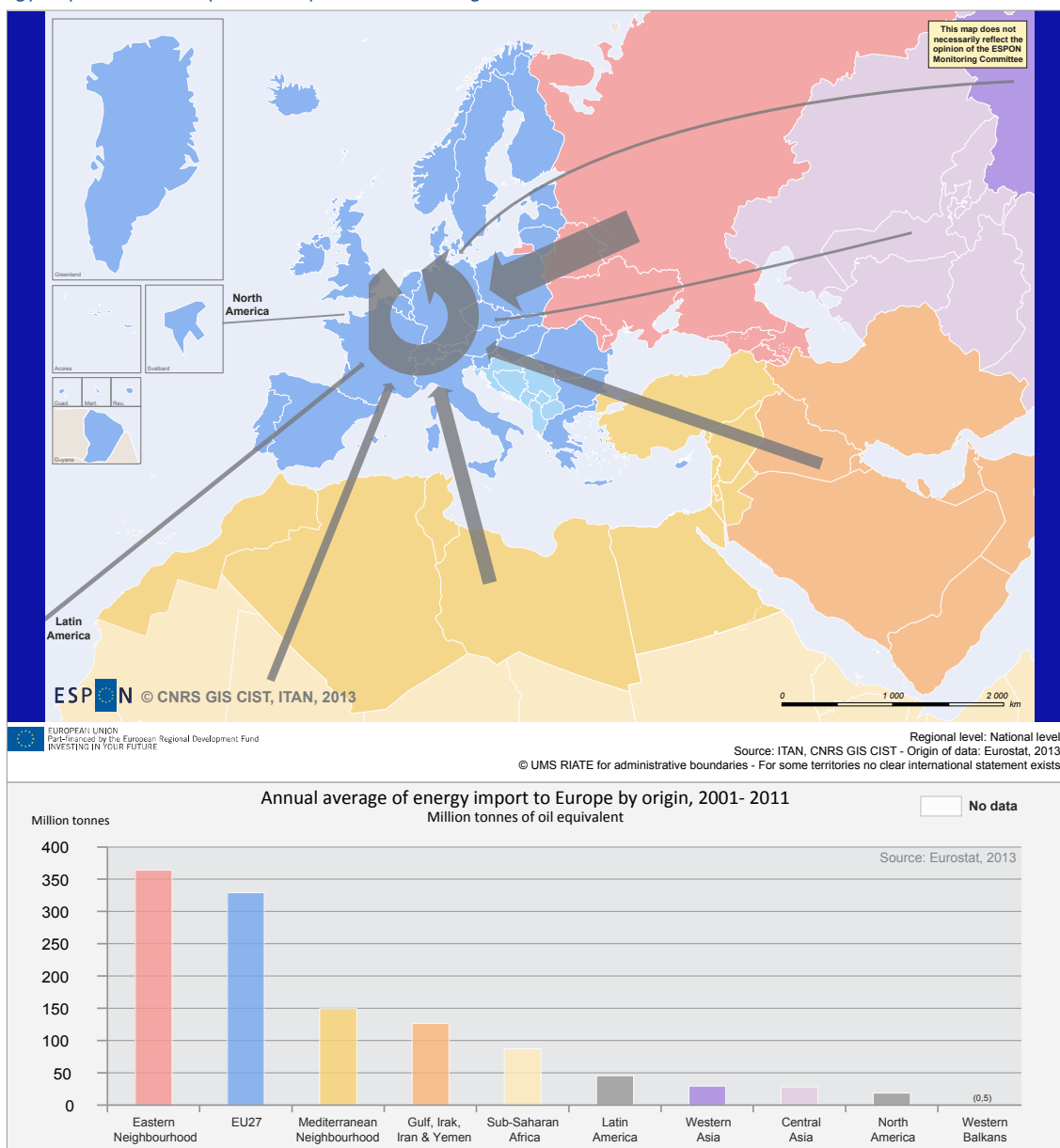
Outside Norway, EU energy providers are almost all in the neighbourhoods (in a broad meaning including the Arab Peninsula). Russia comes first. Notwithstanding Arctic potential resources, it holds 32% of the world proven natural gas reserves, 12% of the oil reserves and 10% of the coal reserves. It provides a third of the hydrocarbons imported by Europe and a quarter of its imported coal. The Russian market power is strong in Finland, central Europe, Germany and Greece; it is very strong in the Baltic States where almost all gas and oil come from Russia and where Russian companies possess a third of the local energy companies. South Mediterranean Neighbours come second: they possess 5% of the world oil resources and 3% of its gas; they supply a third of the gas and a quarter of the oil consumed in Europe, notwithstanding the role of Turkey for transit from Russian and Gulf production. Production and transit countries are similarly dependent on European consumer markets: 70% of North Africa oil

exports and 90% of its gas exports are sent to Europe, despite the rising part of the US in Algerian sales. The potential for energy collaboration is therefore strategic. It could be the basis for an ambitious social (employment), industrial, technological and environmental partnership between Europe and its Neighbours.

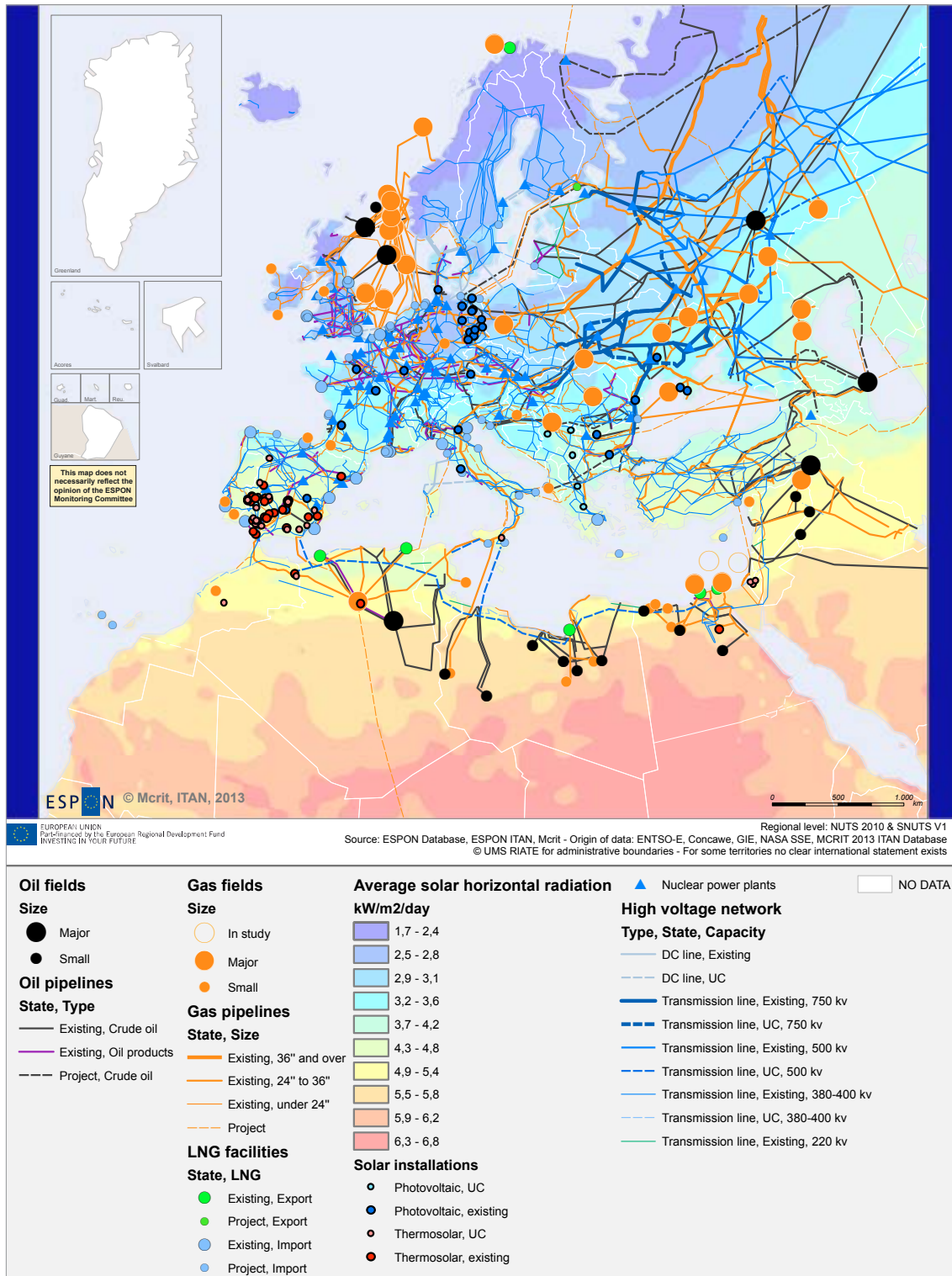
Energy, in particular gas pipelines, implies long-term partnership. Thus, closer ties of Russia to the Chinese market (see the recent *Power of Siberia* pipeline to Far-East) and the Algerian will to increase liquefied gas to be sold on the world market are to have a structuring impact.

Four lessons can be learnt from Map 3 on energy networks. First, networks are very dense within the EU, which paves the way to a common energy policy. The second relates to important networks from Russia and rising ones from the Mediterranean Neighbourhood, which contribute to inte-

Map 2. Energy imported in Europe: the key role of the Neighbourhoods



Map 3. Energy networks in the wider European region, ca 2010

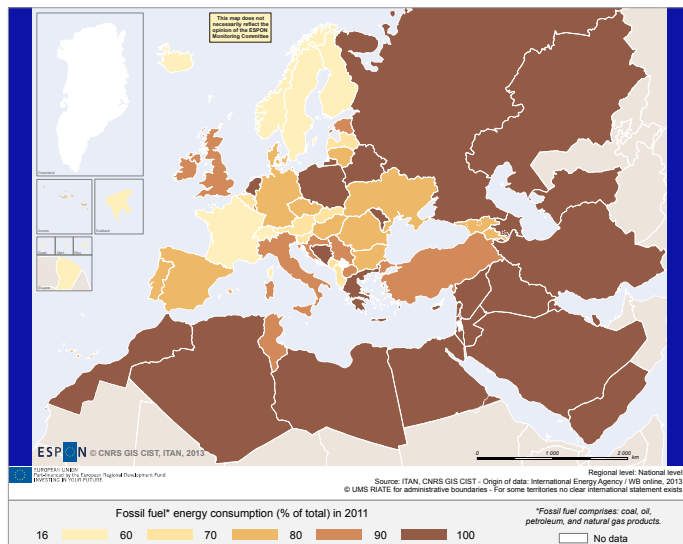


grating this wider region. Nevertheless obstacles remain: the EU tries to lower the Russian market power thanks to the Baku-Tbilisi-Ceyhan pipeline, and to the *Nabucco* gas project via Turkey –yet it could not compete with the Russian *South Stream* pipeline under the Black Sea, and has been replaced by a less ambitious project called TAP-TANAP. For its part, Russia attempts to circumvent Ukrainian transit; it has launched the *North Stream* pipeline under the Baltic Sea directly to Germany –bypassing the Baltic States. The third lesson is the liquefied gas facilities in Northern Africa, since

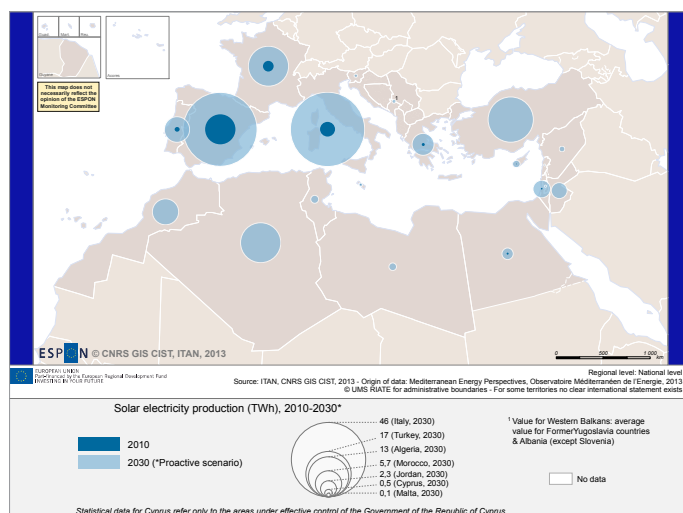
the EU reduces the long term agreements for gas procurement (pipelines) and promotes spot procurements (liquefied gas). The last lesson is the solar potential of North Africa, which could prove a decisive asset for European energy transition if Europe and its Neighbours develop trans-Mediterranean power lines.

Europe has begun its transition to lower carbon energy. But the way will be long. First, because EU Member States act in dispersed order, see on Map 4 the case of coal in Poland.

Map 4. Share of fossil fuel in the energy consumption, 2011



Map 5. Solar electricity production 2010-2030 in the Mediterranean countries



## ITAN project

[www.espon.eu/main/Menu\\_Projects/Menu\\_AppliedResearch/itan.html](http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/itan.html)

### ITAN project funding

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### ITAN consortium

- CNRS / CIST (International College of Territorial Sciences), France [www.gis-cist.fr](http://www.gis-cist.fr)
- IGEAT, Université Libre de Bruxelles, Belgium – [igeat.ulb.ac.be](http://igeat.ulb.ac.be)
- MCRIT, Barcelona, Spain – [www.mcrit.com](http://www.mcrit.com)
- NORDREGIO, Stockholm, Sweden – [www.nordregio.se](http://www.nordregio.se)
- + close cooperation with a network of scientists of all the Neighbour countries

Second, because nuclear electricity issue is far from being tackled. Third, because the emerging shale gas issue could complicate the alternative toward renewables. Last, because the map shows that efforts should focus on the Neighbourhoods: if one wants to reduce CO<sub>2</sub> emissions, it is much more efficient to cooperate with Neighbour countries so as to help them enhancing a clean economy and to implement jointly better energy efficiency, rather than focusing on the sole Europe.

If one wants to promote solar electricity (Map 5), one has to develop the resource from the more accurate territories, that is to say in South Mediterranean. Though, even in the "proactive" scenario, the Observatoire Méditerranéen de l'Énergie (OME) says that in 2030 carbon energy resources –hydrocarbons and coal– will still make out three-quarters of the energy consumed in South Mediterranean Neighbour countries and two-thirds in Mediterranean EU countries (including France). Promoting solar energy implies a large common will in the region, a strong funding of research in that field, a shared technological and industrial filiere and trans-Mediterranean power lines that the region anyhow highly needs. Is it on tracks?

## ITAN objectives

- Providing territorial evidence for a better knowledge of the Neighbourhood territories (from Morocco to Russia and the Arctic territories), their dynamics, flows between these regions and the ESPON territory
- Building a sustainable database: diverse data types (statistical, network, spatial, grid data) at local level in each country of the European Neighbourhoods, and mapping analyses
- Giving recommendations on territorial cooperation to be picked-up in the territorial agenda of the EU Member States, Iceland, Liechtenstein, Norway and Switzerland and the Neighbour countries, and to be included within the European Neighbourhood Policy