

Executive summary

In this report we present our assessment of climate-smart investment opportunities in a vast region that is both contributor to and victim of climate change: Europe, Central Asia, and the Middle East and North Africa (EMENA). Geographically varied, EMENA spans 49 countries and has of late seen unprecedented increases in energy demand, population growth, and urbanization, as well as an acute need for improved infrastructure for more efficient industry, transport, and utilities.

Our report differs from others in that we sought out, pragmatically and specifically, private sector investment opportunities related to climate change mitigation and adaptation. Where are these opportunities, and will they deliver healthy returns? These are important questions, not least because in the wake of the global financial crisis, overstretched governments often need private sector help to meet climate business goals.

Our proprietary analysis of climate-smart investment opportunities in EMENA, in collaboration with A.T. Kearney, the global management consulting firm, and Eco Ltd, sustainable energy sector specialists, estimates a conservative investment potential of **\$640 billion** up to 2020 distributed across the region in the following sectors:

- **\$270 billion in renewable energy generation, rehabilitation of power infrastructure, and improved**

transmission and distribution.

- **\$240 billion in energy efficiency in the commercial and consumer sectors, via building insulation, appliance upgrades, lighting, and water and space heating.**¹
- **At least \$60 billion in cement, metals, and manufacturing, via improved industrial processes and equipment upgrades.**
- **About \$70 billion in improved water usage, including for power.**²

Smart investors are already seizing the opportunities. In the Middle East and North Africa (MENA), renewable energy investments reached \$2.9 billion in 2012, up 40 percent from the previous year. Investments in the Russian and Kazakh power and industrial sectors are at an all-time high. And across the Balkans and Eastern Europe, annual growth rates in the renewable energy sector have exceeded 100 percent in recent years. Given these positive developments, we also produced a less conservative estimate for climate-smart investments of almost **\$1 trillion** by 2020, which assumes greater reductions in energy-related subsidies and ambitious and consistent public incentive schemes, including funds, tax exemptions, feed-in tariffs, and mandatory efficiency standards.

Climate change is real. Fortunately, it's also creating very real private sector investment opportunities across EMENA.

Emerging Europe looks West

- Renewable energy is a \$76 billion investment opportunity, including \$35 billion for wind energy
- The building sector accounts for an investment opportunity of \$60 billion
- Industrial efficiency accounts for a \$12 billion investment opportunity

Morocco

- Investment potential of \$13.4 billion in renewable energy
- 42% renewable energy target by 2020
- Potential of \$2.3 billion in wastewater treatment and \$0.7 billion in agricultural irrigation

Green boom in MENA

- Climate smart investment potential in selected industrial upgrades exceeds \$18 billion
- Renewable energy is a \$45 billion investment opportunity up to 2020
- In North Africa, building-scale solar water heaters for buildings have low market penetration
- More than 1,350 green construction projects are underway in the Arabian Peninsula

Ukraine

- Heavy industries have investment potential of \$2.1 billion
- Power sector modernization is a \$3.9 billion investment opportunity
- Biomass opportunities estimated at over \$6 billion

Modernizing the CIS

- \$48 billion of investment potential in electricity transmission, infrastructure modernization
- Over \$8 billion in cement industries and \$12 billion in metal industries in Kazakhstan, Russia, and Ukraine
- 43 billion cubic metres of associated petroleum gas awaiting commercialization

Russia

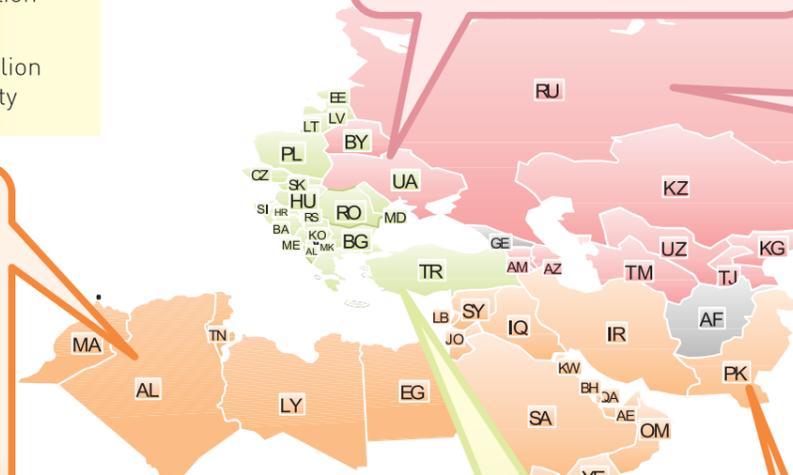
- \$31 billion of investment potential in heavy industries
- Important legislative changes in the buildings sector
- Energy generation, transmission and distribution have investment potential of over \$48 billion

MENA's water-energy nexus

- In the GCC, independent water and power projects present \$14 billion of investment potential
- Water treatment and reuse is a \$16 billion investment opportunity
- \$30 billion of investment potential in water efficiency in agriculture

Pakistan

- Wastewater treatment is a \$13.8 billion opportunity
- \$2.3 billion investment opportunity in biomass energy
- Wind and solar power increasingly attractive



Turkey

- Investment potential in energy generation accounts for almost \$42 billion, of which \$22 billion is in renewables
- Industrial and consumer energy efficiency are estimated at \$4.5 billion and \$30 billion, respectively

¹ In terms of energy efficiency investments, our analysis considered only the low-hanging fruit and big ticket items, such as building insulation, lighting, and major industries like cement. In reality, opportunities exist in practically every sector and across all technologies and processes. Our energy efficiency estimates should thus be seen as a lower boundary.

² This report largely discusses water as a proxy for climate change adaptation. The topic is much broader, and the investment opportunities likely greater, yet the possibilities remain somewhat unclear for the private sector. Thus, we have taken water as a starting point, and focused only on a few applications, like wastewater treatment and improvements in soil management and water efficiency.