



Highlights of the 2013 U.S. Index of Energy Security Risk

The Energy Institute's annual Index of Energy Security Risk is the first quantifiable measure of America's energy security. The Index consists of 37 metrics broken down into four sub-indexes tracking major areas of concern: geopolitical, economic, reliability, and environmental.

The 2013 Index tracks historical energy security risks from 1970 to 2012 and projects risks out to 2040. The Index makes it possible to track trends and to identify historical events and policies that have an impact on energy security.

The U.S. Index by the Numbers

(A higher score = increasing risk, and lower score = decreasing risk)

Indexes of U.S Energy Security Risk	2012 Score	Highest Risk		Lowest Risk		30-Year Average (1970-1999)
		Year	Index Score	Year	Index Score	
Total Index	95.3	2011	102.0	1992	75.2	84.2
Sub-Indexes:						
Geopolitical	97.4	2008	103.1	1998	73.1	83.2
Economic	95.6	2011	103.3	1998	61.5	73.8
Reliability	102.2	2011	114.4	1992	75.2	86.1
Environmental	84.7	1973	110.7	2012	84.7	99.3

- Most of the drop in total U.S. risk in 2012 was related in one way or another to greater unconventional oil and natural gas output and moderating energy prices.
- The decline in total U.S. energy security risks in 2012 ends a run of two consecutive years of rising risk.
- Of the 37 metrics, 26 showed lower risk in 2012, 7 showed higher risk, and 4 showed no change.
- The metric showing the largest decrease in risk in 2012 is Energy Price Volatility (from 132.9 to 60.2).
- The metric showing the largest increase in risk in 2012 is Federal Energy Research and Development Expenditures (203.6 to 211.9).



The Sub-Indexes

- **Geopolitical:** Geopolitical risks declined from 2011's record high score of 102.0 points to 97.4 in 2012. Growing unconventional domestic oil and natural gas production helped reduce imports, accounting for much of the drop. Forecasts, however, suggest rising geopolitical risks driven by increasing crude oil prices and volatility.
- **Economic:** Much lower energy expenditure volatility and oil and gas import expenditures led to a substantial 7.7 point reduction in economic risks in 2012, to 95.6. While increasing economic risks are forecast, maintaining or increasing the growth of domestic unconventional oil and natural gas could lower projected risks considerably.
- **Reliability:** Energy security risks for this sub-index fell 12.3 points to 102.2 points due almost entirely to a dramatic drop in price volatility, with year-over-year crude oil price volatility remaining flat for the second year in a row. Future risks are expected to grow after the mid-2020's as the shares reliable coal and nuclear capacity in the electricity generating mix shrink.
- **Environmental:** A 2012 score of 84.7 points is the lowest score for this sub-index in the entire record going back to 1970. Lower CO₂ emissions were single biggest cause. The overall outlook for this sub-index is for steadily declining scores through 2040.

Key Takeaways from the 2012 Index

- A significant increase in domestic unconventional oil and natural gas production led to direct and indirect improvements in many metrics, including oil and natural gas import supplies and expenditures, energy price volatility, and carbon dioxide emissions.
- As a result of increased production, imports of crude oil and refined products declined by 900,000 barrels a day in 2012, leading to a 10.6 point improvement in petroleum import risk.
- The U.S. Index is projected continue to improve to 92.7 over the entire forecast period (from 2013-2040). The increase in oil and gas production has led to a revised forecast that is improved by 4 points over last year's projections.
- Reliability remains a major concern. Although 2012 saw an improvement, the lack of investment in new infrastructure and the potential for shrinking diversity of sources leads to elevated risk sources, with little relief in sight.
- Environmental risks are at an all-time low, led by decreased CO₂ emissions, which dropped to 1994 levels. The forecast calls for environmental risks to continue to improve.