Balancing Act:
China’s Oil Demand and Energy Mix to 2030
Balancing Act: China’s Oil Demand and Energy Mix to 2030 examines China’s current and future economic and political transitions and their implications for China’s energy mix and oil demand. As the title suggests, the study is about how China will strike a balance between its many economic, political, social, environmental and energy objectives.

This study provides:

- Chinese demand and net trading positions to 2030 for the following:
  - Gasoline
  - LPG
  - Diesel
  - Jet Fuel/Kero
  - Fuel Oil
  - Naphtha
  - Lubricant
  - Asphalt
  - Petroleum Coke
  - Ethanol
  - Biodiesel
  - Coal-to-Liquids

- Analysis of the transition to a consumption and service oriented economy
- How China will manage future energy consumption in a manner compatible with its high-profile commitment to fight climate change and combat urban smog
- Detailed analysis and forecast of energy demand by sector, and fuel type
- How the petrochemical sector’s technological challenges and complications in downstream industries will impact supply/demand and net trade positions of LPG and Naphtha
- The rapid expansion of private car ownership combined with less robust diesel demand reshape the outlook for China’s overall oil demand
- Refining investment and the role of independent refiners in China’s refining sector.
- How upgrading investment and slower demand growth will open the door for exports of some oil products.

Economic growth has slowed significantly in China and increasing instability in the financial markets, of which recent stock market volatility is a prime example, hints at structural issues that may have profound implications beyond just slowing growth. China’s leadership faces the daunting task of bringing about a “new normal,” both economically and politically, while simultaneously avoiding the “middle-income trap” and playing a larger, more assertive role in global events. Since energy demand is so closely tied to China’s economic performance, this period of transition requires a thoughtful re-examination of the outlook for China’s energy sector.

Balancing Act: China’s Oil Demand and Energy Mix to 2030 is organized into six sections:

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Forecast Methodology

The energy mix and oil demand forecast in this study is based on sectoral analysis that examines demand for each oil product in each economic sector. The Chinese economy is divided into seven sectors: agriculture (namely agriculture, forestry, husbandry and fishery), industrial, construction, commercial transportation (including storage and postal services), hospitality (restaurant, hotel, wholesale and retail), service (finance, IT, education, sports, culture, government, and non-profit etc.), and personal consumption.

It is important to understand the distinction between the commercial transportation sector and the personal consumption sector, especially for transport oil demand. The commercial transportation sector includes any vehicle or aircraft operation with the purpose of commercial service. By contrast, the personal consumption sector means the activities of individual citizens. For example, if a person buys a car to use for his or her own commute or holiday travel, the car’s gasoline use is personal consumption demand. But if this person uses the car as a taxi instead, to provide commercial transportation service, that car’s gasoline use is commercial transportation demand.

To conduct the sectoral oil demand analysis and forecast for China, this study uses a multi-dimensional methodology. 1) The first dimension is the macro economy. For example, as Dimension I shows, China’s economic transition will slow the growth in the industrial sector (the red arrow), and boost the growth in the personal consumption and service sectors (the green arrows). In the meantime, the economic transition will have mixed effects on the commercial transportation and construction sectors (the yellow arrows).

2) The second dimension is the interactions among the seven sectors. As the figure below shows, when China’s economy transitions, personal income growth and the change of lifestyle will encourage jet fuel demand (the green arrow) but will have mixed effects on gasoline demand in the commercial transportation sector (the yellow arrow). In addition, the overall slower growth in the industrial and construction sectors will have negative effects on diesel demand in the commercial transportation sector (the red arrows).
3) The third dimension is that these developments in the economic system are integrated into ESAI Energy’s fleet models for the two most important transport fuels – gasoline and diesel. In addition, policy changes related to fuel demand are also incorporated into the fleet models. The consideration of these economic and policy factors determine ESAI Energy’s assumptions on the three variables of gasoline or diesel demand: the number of vehicles, the fuel economy, and the vehicle mile travelled (VMT). The fleet models serve as a reference check for the sectoral demand analysis of gasoline and diesel. Figure below illustrates the third dimension (the black arrows) of the sectoral demand analysis methodology.
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About ESAI Energy LLC

ESAI Energy, LLC is an energy research and forecasting firm that focuses on global petroleum, alternative fuels and natural gas markets. The firm is an affiliate of Energy Security Analysis, Inc, which has conducted energy market analysis and price forecasting since the mid-1980s.

ESAI Energy’s petroleum, alternative fuel and natural gas analysis and forecasting is based on a data-heavy methodology that is designed to integrate available data with the expert judgment of regional specialists to determine supply and demand trends by product and country. Using actual data and estimates where data are unavailable, ESAI Energy’s regional analysts maintain historical databases for a variety of industry attributes: consumption, production, quality and inventories for crude oil and each of the main petroleum products, refinery capacity and throughput, alternative fuels supply and demand, and petrochemical and midstream blending inputs. Using these data, information and understanding of language and political economy in each region, analysts forecast developments in these markets from one week to 25 years.

The quantitative supply/demand analysis is complemented by detailed political, regulatory, and industrial analysis. ESAI Energy maintains a database of environmental specifications, taxes, tariffs and subsidies, and combines that information with ongoing political, financial, and regulatory research to determine future market trends in countries and regions. In addition, we study and interpret key geopolitical developments that impact the global energy markets.

ESAI Energy produces multi-client studies like Balancing Act several times per year. In addition, we provide our retainer clients, who include energy companies and national governments all over the world, with ongoing market analysis and forecasting.