



energy

Department:
Energy
REPUBLIC OF SOUTH AFRICA



Integrated Energy Plan and Integrated Resource Plan Public Consultations Presentation by SAIEE at Port Elizabeth 14 December 2016

Presented on behalf of SAIEE by Bruce Munnings



Introduction

In response to the Department of Energy, Republic of South Africa, Integrated Energy Plan (IEP) and Integrated Resource Plan (IRP) 2016 Update draft documents, the following comments are given on behalf of the South African Institute of Electrical Engineers (SAIEE) in Port Elizabeth.

The IEP and IRP 2016 Update Documents are important in that they impact Government Policy, Application of Legislation by Regulators, State Owned Enterprises, Independent Power Producers, National Treasury and Electricity and Energy Customers in South Africa.

Comments

Comments will be given in general terms first and then in more specific detail on some of the items in the DOE draft documents. The presentation will be brief and focus on critical areas where the SAIEE considers that review or additional work is required on the draft documents.

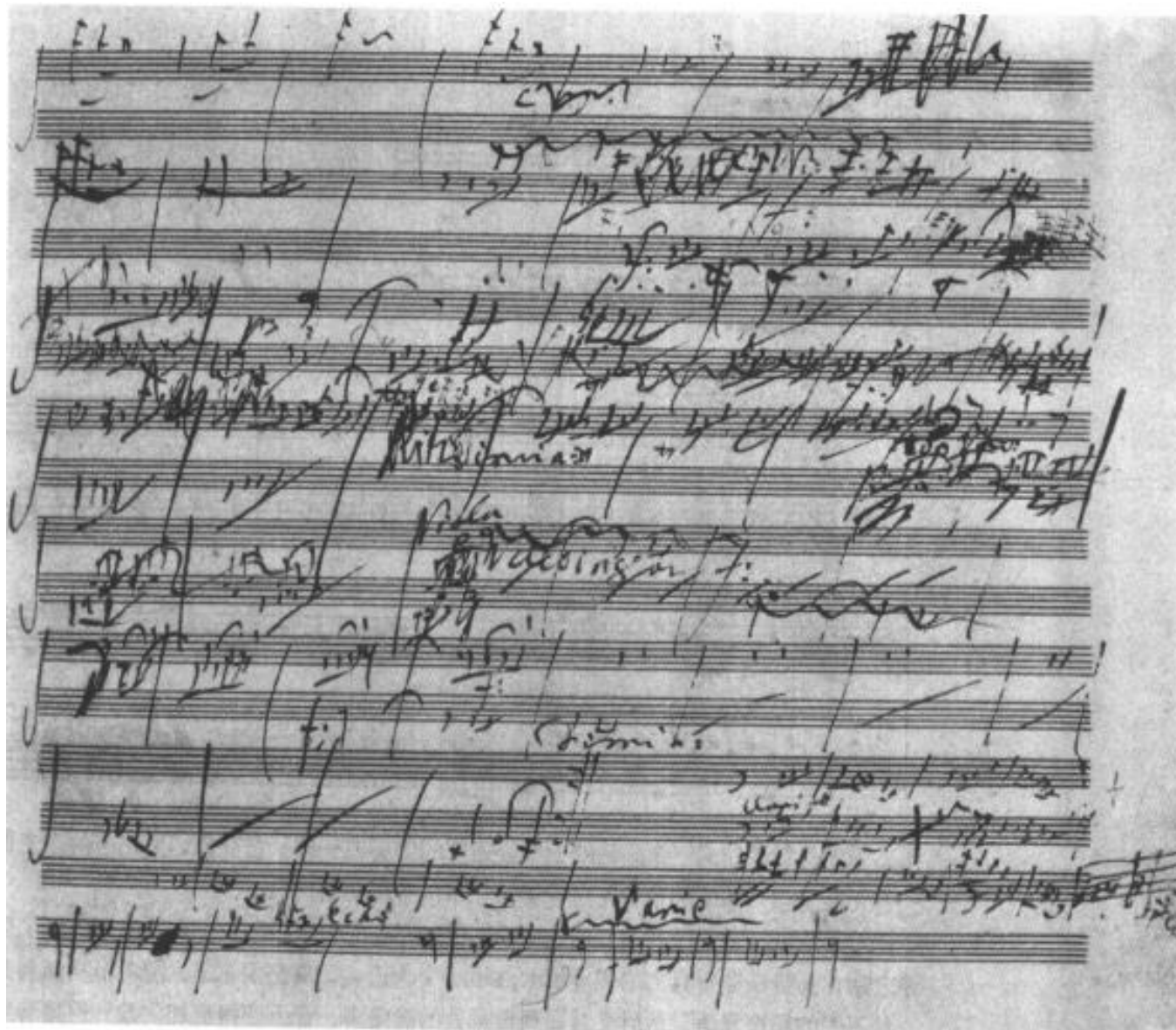
As an introduction a comparison will be made between the energy mix and a symphony orchestra.

General Comments

The draft documents are a good start, however, it is the SAIEE's view that they require considerable work and review on critically important items. Specific focus areas will be highlighted in the next section.

If the draft documents were to be compared to the music for a symphony orchestra, then we consider that the music is still in sketch stage. A sketch of Beethoven's Symphony No. 6 is shown on the next slide as an illustration.

Sketch of Symphony No. 6 (Beethoven)



General Comments

To take the comparison to the music for a symphony orchestra further, each generator type listed in the IRP 2016 Update draft can be compared to a musical instrument in a symphony. Each instrument has a part to play in the symphony. The timing of the notes that each musician plays on their instrument is key to producing either a cacophony or a masterpiece. Every musician needs to know what notes to play, must listen to the rest of the orchestra and most importantly needs to watch the conductor to know when to play.

General Comments

Some of the data referred to in the draft documents is out of date and not sufficiently accurate for important decision making.

Timing and the right mix is critical for both electricity generation and energy for other uses.

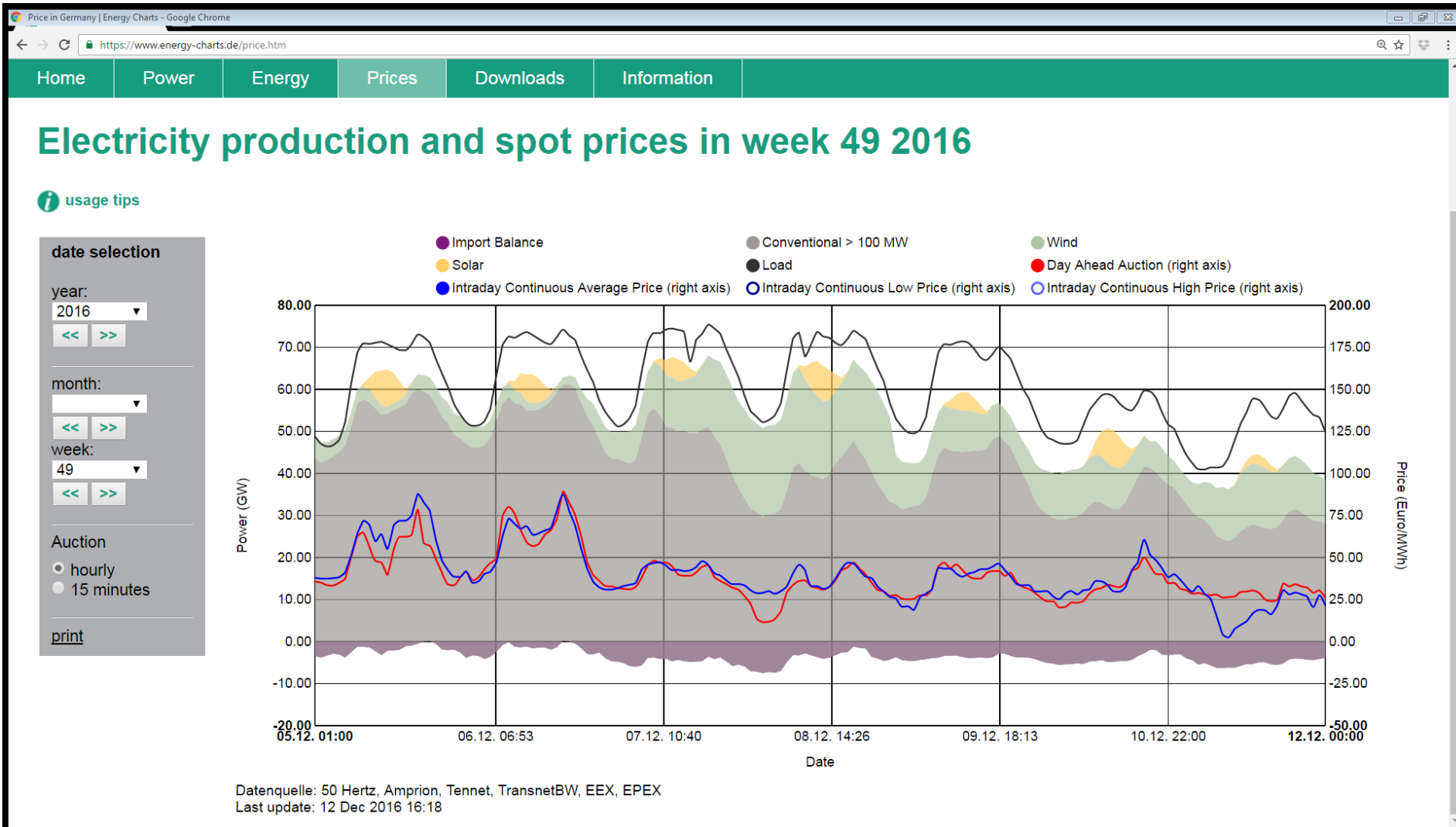
The next section will focus on specific comments.

Specific Comments – Weekly Profiles

Reference to hourly and weekly power patterns similar to the one shown on the next slide by Fraunhofer ISE, is considered a critical item that is missing in the draft IRP update document.

Planning for annual energy production without reference to hourly supply and demand profiles is likely to create hourly, weekly or seasonal problems.

Specific Comments



<https://www.energy-charts.de/price.htm>

Specific Comments – Accuracy of Data

The estimated peak demand in 2020 is stated as 44.9GW (page 18 on IRP Update Presentation).

Based on data from Eskom's Reports the Demand in 2020 has been estimated by the SAIEE to be 37.6GW which is significantly different.

The demand estimate for 2050 is therefore also considered significantly higher than the value stated in the draft report of 85.8GW.

Conclusion

Thank you for the opportunity to make this presentation.

In summary it is the view of the SAIEE that there is still considerable work to be done on the draft documents and specific focus is required on key issues as detailed in the presentation.