THE CURRENT PROBLEMS OF FIXED ASSETS MANAGEMENT IN UKRAINIAN ENERGY COMPANIES

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Introduction
The Ukrainian power industry is a powerful, multifaceted and technological complex system which purpose is the production, transmission and distribution among individual consumers.

The main components of the electric power industry of Ukraine are: power generation facilities – power plants (TPP), combined heat and power (CHP), hydropower plants (HPP), pumped storage plant (PSP) nuclear power plants (NPP), power stations, renewable energy sources (RES); facilities of transformation and transmission of electricity (power substation, main, interstate and distribution networks, etc.).

The basis of power industry of Ukraine is the united electric power system (that provides centralized supply of its own customers and interacts with the energy of neighbouring countries, providing export and import of electricity.

Reliability, efficiency and environmental friendliness of power supply depend directly on the state of energy assets.

There are many studies, which deals with the problems of energy companies in Ukraine, e.g. about gas distribution companies (Goncharuk, 2014) and how high prices affect their efficiency (Goncharuk, 2013). Some studies relate to assets management (Dash, 2013). But none study considers how to improve the fixed assets management in Ukrainian energy sector.

So this study should find the ways to improve fixed assets management in Ukrainian energy companies.

Review of the Ways to Improve Fixed Assets Management
There is a high proportion of power machinery and equipment (~ 30%) and transfer devices (~ 30%) in energy due to the length of the power lines. The same structure is also in industrial power, but with a smaller proportion of transmission devices, as heating networks do not have a large extent. For engineering the high proportion of buildings, working machinery and equipment (40%) is typical.

By the end of 2014 most of the generating assets and transmission and interstate power grids is worn and ineffective:
83% of thermal power plants and CHP worked more than 200 thousand hours (ultimate resource). It is physically worn and obsolete and needs modernization or replacement. Depreciation of equipment leads to over-consumption of fuel, reducing operating capacity and deterioration of environmental performance;
NPP power units are approaching the end of their project operation: over 70% of nuclear power will require extension of the operation in the next 10 years;
The balance of power of united electric power system of Ukraine is characterized by deficiency of manoeuvrable and regulatory power; the share of HPP and PSP, which provide the bulk of the manoeuvrable power in the overall balance is
about 10%. As a result, thermal power plants and CHP units designed for work in basic mode, used to support variable schedule of load power;

90% of transmission lines with voltage of 220 kV and above and 55% of basic equipment of substations worked out the estimated technical resource (25 years) and 56% of transmission lines and 17% of substations operated for more than 40 years.

Late replacement of power plants and boiler facilities creates a real threat to the energy security of country and regions and can lead to technological accidents with serious social and economic consequences, especially in autumn and winter. Supporting of worn fixed assets of power industry in operating condition requires ever-increasing repair costs approaching the cost of newly assets.

Efficiency of fixed assets is characterized by the indicators of depreciation rate, capital productivity, capital intensity and return of assets.

For example, for the electricity distribution company "Odesaoblenergo" showed the analysis of accounting documentation, where depreciation rate at the end of the reporting period (first six months of 2015) was 0.6 when the normative values of less than 0.5. Comparing with the rate 0.58 at the beginning of the reporting period, we can say that the fixed assets are not used efficiently enough.

A special role in the effective management system of fixed assets must take the accounting service of a company. The quality of the whole system depends largely on quality of the service. The fundamental objectives of the accounting department in the management of fixed assets are:

- correct classification of fixed assets purchased (constructed) at their commissioning, involving for this purpose competent professionals technical services;
- organization of optimum accounting policy regarding fixed assets (setting optimal price limits between fixed and low-value non-current assets, the introduction of subaccounts in order to adapt the accounting and tax accounting, implementation of the most profitable enterprise depreciation policy;
- determination of life of the facilities (together with economic services);
- permanent reduction of accounting of fixed assets in line with market revaluations through the established procedure;
- maintenance of separate accounting and taxation of fixed assets, denial of priority regarding taxation accounting to simplify accounting procedures.

The important financial tool to update and improve the technical level of assets (particularly their active parts - the equipment) is depreciation. Sinking Fund is a major source of investment resources.

Generating assets might comprise a significant number of components, many of which will have differing useful lives. The significant components of these types of assets must be separately identified. This can particularly be an issue for older power plants. However, some regulators may require detailed asset records, which can be useful for component identification purposes.

An entity might look to its operating data if the necessary information for components is not readily identified by the accounting records. Some components can be identified by considering the routine shutdown or overhaul schedules for power stations and the associated replacement and maintenance routines. Consideration should also be given to those components that are prone to technological obsolescence, corrosion or wear and tear more severe than that of the other portions of the larger asset.
All components should be depreciated to their recoverable amount over their useful lives, which may differ among components. The remaining carrying amount of the component is derecognized on replacement and the cost of the replacement part is capitalised.

The costs of performing major maintenance/overhaul are capitalised as a component of the plant, provided this provides future economic benefits. Turnaround/overhaul costs that do not relate to the replacement of components or the installation of new assets should be expensed when incurred. Turnaround/overhaul costs should not be accrued over the period between the turnarounds/overhauls because there is no legal or constructive obligation to perform the turnaround/overhaul. The entity could choose to cease operations at the plant and hence avoid the turnaround/overhaul costs.

Improvement of fixed assets enables plants to produce more energy at no additional cost in the construction of new facilities, increase the activity coefficient of power lines, reduce losses, as in the lines and in the transformation of energy, releases a large amount of energy for other purposes.

Improved use of production capacity in the energy sector is achieved through:
(a) correct determination of the design capacity of the power company and its main equipment;
(b) improving the quality of manufacturing equipment and its installation;
(c) improving the quality of repair, reducing its terms;
(d) improving the quality of equipment operation;
(e) rational in terms of technical and economic indicators of the power system as a whole;
(f) increase the number of hours of installed capacity, the load selections of turbines maximum load power lines and pipelines;
(g) optimization of load distribution and electricity between the power system.

Another way to improve assets management is the implementation of special management software.

Asset and service management is an approach that enables companies to maximize the performance of critical capital assets that have a direct and significant impact on achieving corporate objectives. It is a comprehensive approach that includes all types of assets and addresses how they are purchased, maintained and optimized throughout their useful life. Asset and service management is an enterprise-wide approach that gives corporate executives, for the first time, the ability to view and manage assets for the benefit of the corporation as a whole.

Today, key business drivers include regulatory compliance, operational efficiency, aging assets and an aging workforce. Increased regulatory compliance is the result of cyber security, physical security and reliability concerns affecting grid integrity, emissions, safety and, in some jurisdictions, new governance and accounting requirements.

Aging assets and aging workforces are also linked to technology as aging infrastructure is replaced with more technically sophisticated equipment, all capable of remote sensing and some able to self-diagnosis. In an effort to reduce costs, utilities need to capture the processes that long-time employees have in their heads and add these processes to business process automation tools.

Utility companies run the core of their business on just a small set of mission-critical software applications. This set of applications may include financial software,
customer management software, supplier and supply chain management software, and human capital management applications. As utility companies recognize the value and critical contribution that asset and service management can make to achieving corporate objectives, CIOs, CFOs and CEOs are including asset and service management solutions among the inner circle of applications on which they depend to drive the company.

**Conclusion**

So, it is clear that energy sector requires a program of fundamental renewal of the fixed assets, and basing on advanced technology. The problems of effective fixed assets management cannot be solved only through market mechanisms. The total technical renovation of industry objectively requires the use of all forms of effective management activities in the process.

**References**


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**Abstract**

The author discusses the problems of fixed assets management in energy companies. Different ways to improve the efficiency of fixed assets management are considered.

**Keywords**: energy companies, utilities, management, fixed assets, accounting policy, depreciation