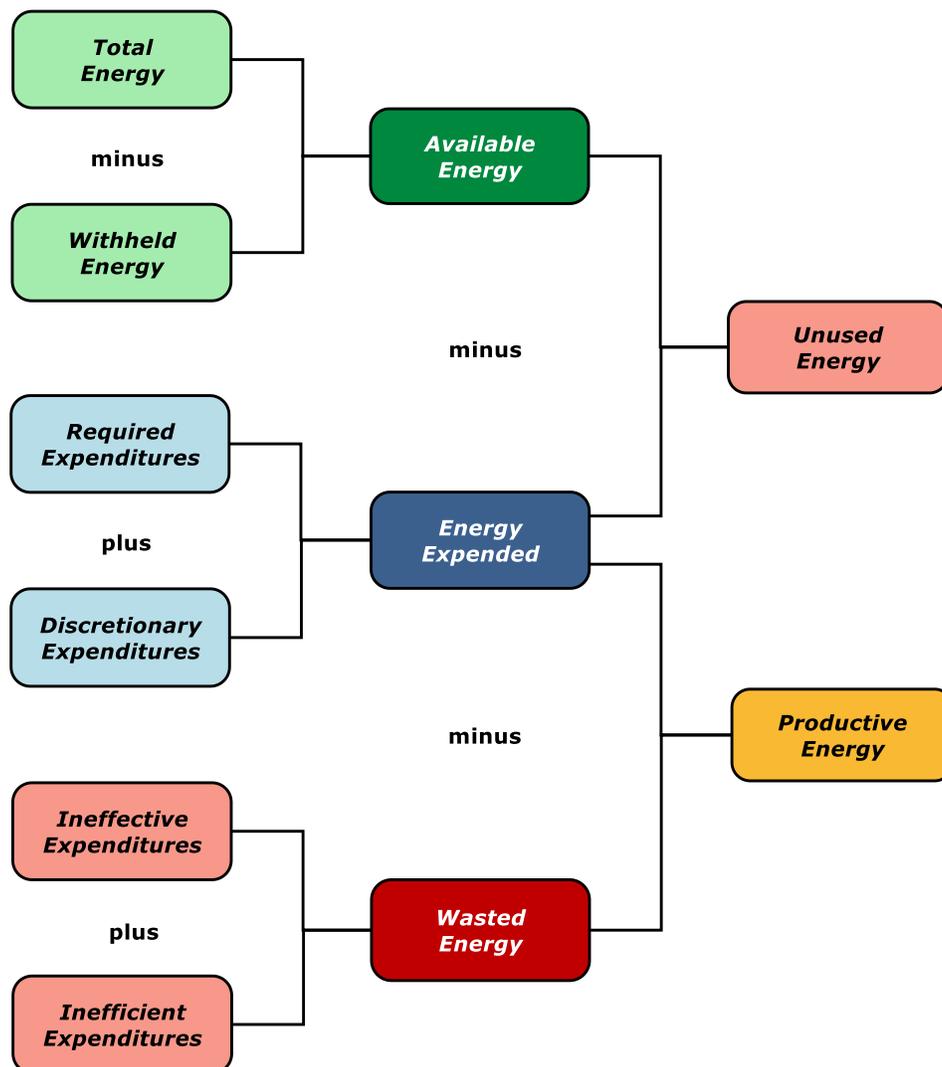


Knowledge Worker

The Energy Equations

(March 2018)

To work or perform is to expend energy in pursuit of selected ends. Energy, then, is at the heart of all work and performance, including that of knowledge workers. Regardless of the kind of work involved, and whether we are managing ourselves or being managed by others, the fundamental task of management is to “concentrate and channel energy along productive lines.” The “energy equations” shown below prompt some useful thinking and questions related to the tasks of managing and improving human and organizational performance and productivity. Let’s briefly review the equations, starting with *Productive Energy*.



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For energy to be productive, it must first be expended. Moreover, the productivity of *Energy Expended* is offset or reduced by any *Wasted Energy*. Hence, *Productive Energy* is equal to *Energy Expended* minus *Wasted Energy*. Obviously, two ways of improving productivity are to (1) increase the amount of *Energy Expended* and (2) reduce the amount of *Wasted Energy*. Let's tackle *Wasted Energy* next.

As can be seen from the diagram, *Wasted Energy* is the sum of *Ineffective Expenditures* and *Inefficient Expenditures*. Ineffective expenditures of energy are those that do not contribute to the result or outcome being sought. Inefficient expenditures are those that make excessive use of resources; in other words, the ratio of results to resources isn't as high as it could be.

Now, let's look at *Energy Expenditures*. There are two components to *Energy Expenditures*. The first are *Required Expenditures*, those required by management or by the work itself. There is some minimum level here below which the work won't get done and/or management will look askance at the person doing it. In addition to what is required, an employee can choose to go beyond what is required. These are *Discretionary Expenditures*. It is the expenditure of discretionary energy that lies at the heart of efforts to increase what is known as "Employee Engagement." To recap this point, *Energy Expended* is the sum of *Required Expenditures* and *Discretionary Expenditures*.

Let's move to the top of the diagram and focus on *Available Energy*. Employees choose to make available some amount of energy. They cannot make available more than the total energy they possess and they rarely work themselves to exhaustion. All employees withhold some amount of energy from the total stores they possess. Some is held in reserve, for unforeseen circumstances and some is withheld simply because they choose not to make it available. *Available Energy*, then, is what remains after *Energy Withheld* is subtracted from *Total Energy*.

Expended Energy cannot exceed what is available and not all energy that is available is expended. The required energy expenditures might not be significant and little in the way of *Discretionary Expenditures* is being made. In other words, the energy is available but it is not being used. There is *Unused Energy*. The "cushy job" is a case in point where the energy demands don't match the energy employees are making available.

Reflecting on the nature and relationships in the diagram above suggests some useful questions for examining the productivity of work from an energy perspective. For example: How can we increase productive energy expenditures? Where and how is energy being wasted and how can we reduce that waste? How can we capitalize on energy that is available but unused? What leads people to increase their discretionary expenditures of energy? What can and should be done to decrease the amount of energy being withheld? What can be done to increase total energy?

For more about the energy equations and how to use them, see my longer paper titled "Energy: That's What It's All About, Alfie!" by clicking [here](#).

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About the Author

Fred Nickols, CPT, is a knowledge worker, writer, consultant, and former executive who spent 20 years in the U.S. Navy, retiring as a decorated chief petty officer. In the private sector, he worked as a consultant and then held executive positions with two former clients. Currently, Fred is the manager partner of [Distance Consulting LLC](#). His website is home to the award-winning [Knowledge Worker's Tool Room](#) and more than 200 free articles, book chapters, and papers. Fred is a longtime member of ISPI and writes this monthly column for *PerformanceXpress*. A complete listing of all Knowledge Worker columns and access to them is available [here](#).