

"toast" reflects net energy profit

The true value of energy to society is the **NET ENERGY PROFIT**, which is that remaining after the energy costs of getting and concentrating that energy are subtracted, much like net money profit.



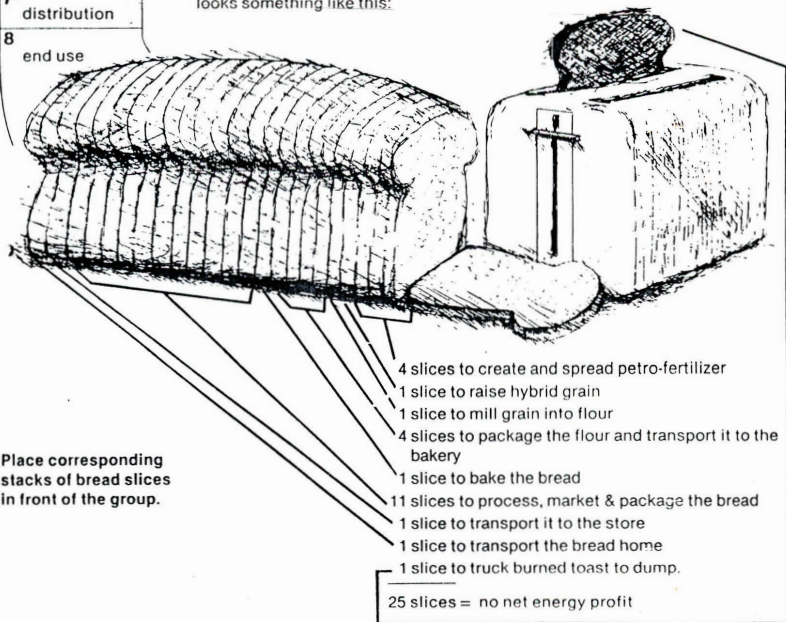
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|---|--------------|
| 1 | exploration |
| 2 | extraction |
| 3 | transport 1 |
| 4 | processing |
| 5 | transport 2 |
| 6 | conversion |
| 7 | distribution |
| 8 | end use |

Most of the fossil fuel energy that has powered our culture has come from concentrated and easily obtainable reserves. Now we must dig deeper, transport further, upgrade dilute energies (uranium, oil shale, etc.) to obtain our energy supply. Much energy has to be used directly and indirectly to support the machinery, people, supply systems, etc.. to deliver the energy.

If it takes 10 units of energy to bring 10 units of energy to the point of use, then there is **no net energy profit**.

One of modern mankind's most disturbing uses of fossil fuels is the energy used in the preparation and marketing of food, for which we often get no return in food value. The film "toast" traces the production and distribution of a loaf of bread from oil wellhead to end use.

If we let that loaf of bread (most 1 lb. loaves contain 25 slices) represent the amount of fossil fuel necessary to produce it (not counting solar energy) it looks something like this:



Place corresponding stacks of bread slices in front of the group.

1. It is said that in more simple cultures, one calorie invested in farming produces from 5 to 50 calories of food, and this one calorie is mostly animal or man power. In our society we use from 10 to 20 calories of fossil fuel to produce only one calorie of food. How large would the first slice be if the bread were produced in India?
2. Where could we save the most energy in producing bread?
3. Would these changes alter our quality of life or lower sanitation standards significantly?
4. How can we instigate these changes in commercial procedures?
5. What other prepared foods do you suspect are high consumers of energy?
6. What portion of the price of bread does the wheat or grain make up?

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