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Comment on the subject::

- (i) I think, one element of the EC Act , 2001 is to minimize loss and / or wastage of energy without compromising out put. The assessment of potential savings are normally influenced on the basis of current level of consumption which includes inefficiency, wastage, losses, negligence, lack of knowledge, unfair means etc along with other vital issues. So, for tangible implication of the Act it may be favourable if the BEE and its grass root level elements of the team (Energy Managers / Energy Auditors) in **initial years** inclined towards improvement of the existing dismal level of performance of the energy consuming equipments / utilities with more and more realistic approach.

Formalization of so called “ National Program “ (if approached) in very initial years may signaled as ambiguity on the level of optimum utilization and performance of existing energy consuming appliances / utilities which are seems to be not up to the mark.

In case of so called inefficient old compressor, there are different types of users, location of the equipment, house keeping by the users, besides different types of performance level and the financial status of the users. Wrong interpretation of the EC Act may grow among the stock holders on the view that – Energy Conservation means only to invest money to replace old equipments. There may every possibilities of demands from stock holders to provide financial assistance from Government for this type of National Program since the Government is already committed to reduce / control of Green House Gases besides Energy Conservation.

Further, it should be take care of the fact that, in no circumstances, the energy consuming utilities in particular and people in general merely consider the EC Act as influenced by the Manufacturers and Suppliers.

So , the suggestion / national program to replace old inefficient AC Compressor may be opted in **some later years** after full functioning of the Act with stringent adherence

Regarding the Table

- (ii) It is realized that the figure tabled for comparison is influenced by the interest of the manufacturer / supplier. Some facts are mentioned below:
- (a) Performance level of the A/C Compressor did not reflected perfectly along with the amount of energy consumption which is an essential component for evaluation .
 - (b) Some other parameters are also tabulated by me from which it may be discouraged to opt for replacement because the operating parameter from user to user and in different geographical and climatic location / condition , the amount of net savings will be less than what is presumed.
 - (c) Replacement option may invite some additional expenditure for installation, inventories, man power training which are not included in the new cost.
 - (d) Reference of only power consumption was considered which may not be the only bench mark.
 - (e) If we consider other parameters, then the option of replacement may be interpreted as not so much beneficial in case of some brand.

The comparison of data are tabulated in different form.

Comparison of Energy Savings vs. Compressor Used in a 1.5 Ton A/C

Sl.No.	Make	Kirloskar	Shriram	Voltas	Tecumseh	Carrier
	Model	CR22K6M	SR1622	6A23	AW1500Q	NE1900BB
1.a	Cooling effect (Btu/Hr.)	19000	18800	18840	19000	19600
1.b	Current (Amps)	7.8	12.2	11.2	8.5	9.6
1.c	Power (Watts)	1750	2250	2150	1875	1830
1.d	Cooling effect in KW Btu/Hr (1.a) x 0.0002931	5.57	5.51	5.52	5.57	5.74
1.e	Capacity in TR 1.d x 0.2843	1.58	1.57	1.57	1.58	1.63
1.f	Coefficient of Performance COP = 1.d / 1.c (a standard measure of efficiency)	3.18	2.45	2.57	2.97	3.14
1.g	Deviation in cooling effect With (CR22K6M) in % Diff. In 1.d / 5.57 x 100	---	- 1.08	- 0.9	0	+ 3.05
1.h	Specific Power Consumption KW / TR (1.c / 1.e)	1.11	1.43	1.37	1.19	1.12
1.i	Savings of SPC / hr. in KW If replaced (Ref. 4.b)	---	0.32	0.26	0.08	0.01
1.j	Reduction / Gain in 1.d		- 0.06	- 0.05	0	+ 0.17
1.k	Savings of SPC per day @ 10 Hours per day and 80% running time. (1.i x 10 x 0.8) in KWh	---	2.56	2.08	0.64	0.08
1.l	Annual savings (1.k x 26 x 12) In KWh		799	649	200	25
1.m	Annual cost savings Rs. 7.42 x 1.l		5929	4816	1484	185
4.b	Incremental cost of new KCL make CR22K6M compressor(Rs.)		4003	4653	3353	3703
4.c	Payback period in month		8	11	27	240

N.B. 1. Original data
2. Added data