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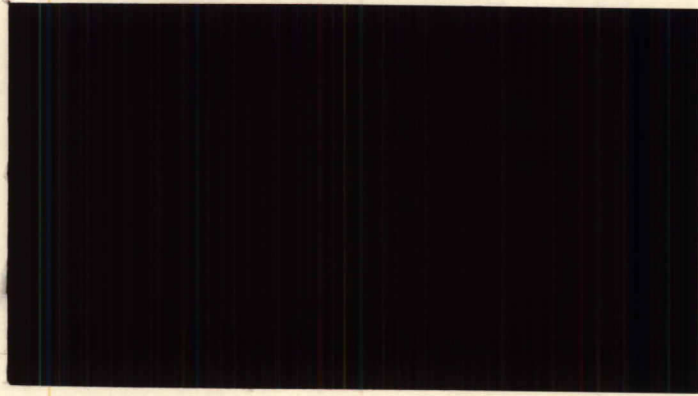
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EVALUATION OF ENERGUIDE

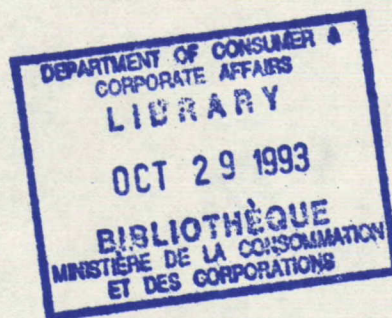
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EVALUATION OF ENERGUIDE



Program Evaluation Division
Audit, Evaluation and Control
Bureau of Policy Coordination

March 1985

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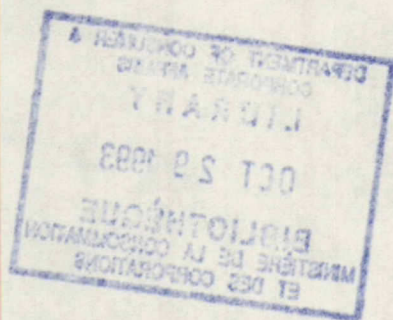


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EXECUTIVE SUMMARY

Program Profile: Energuide was designed to assist consumers in their decision-making and to accelerate the improvements in energy-savings features incorporated in six types of household appliances offered for sale in Canada. The program makes mandatory the labelling of these appliances according to their consumption of electricity (measured in kilowatt-hours). There is also an Energuide directory which is a compilation of tested appliances and their energy consumption ratings. The label and directory are meant to be used together in the appliance purchase decision. In 1981, program management proposed and Treasury Board agreed that the Energuide program would be terminated in March 1986. Federal expenditures required to extend the current program would be \$500K annually and one person-year. Costs to industry are estimated to exceed \$10 million annually.

Findings: The evaluation finds that the Energuide program may have had some impact on the energy efficiency of household appliances in the past. Today's appliances are generally more energy-efficient than when the program was put in place and there is evidence to suggest that Energuide made some contribution to accelerating the pace of these improvements. However, continuation of the program as is or in a modified form is not likely to provide good value-for-money. The evaluation evidence indicates that all practical improvements have now been made and extension of the program will not produce significant gains in the energy-efficiency of appliances. As for providing purchase

SOMMAIRE

Description du programme: Le programme Energuide a été conçu afin d'aider au processus décisionnel des consommateurs et que soient apportées plus rapidement des améliorations aux dispositifs d'économie d'énergie dont sont dotés six types d'appareils électroménagers vendus au Canada. Aux termes de ce programme, il est obligatoire qu'une étiquette de consommation d'énergie (mesurée en kilowatt-heure) soit apposée sur ces appareils. Il existe également un répertoire Energuide, qui est un inventaire des appareils mis à l'essai et des taux de consommation d'énergie de chaque appareil. L'étiquette et le répertoire ont été conçus de façon à être utilisés conjointement pour choisir un appareil électroménager. En 1981, les responsables du programme ont proposé - proposition qui fut approuvée par le Conseil du Trésor - que le programme actuel prenne fin en mars 1986. En vue de poursuivre le programme actuel, le gouvernement fédéral aurait à dépenser 500 mille dollars par année et une année-personne. Il a été estimé que les frais assumés par le secteur privé excèdent 10 millions de dollars par année.

Constatations: On a constaté lors de l'évaluation que le programme Energuide aurait pu avoir dans le passé quelques effets sur l'efficacité énergétique des appareils électroménagers. Les appareils fabriqués aujourd'hui offrent un meilleur rendement énergétique qu'au moment où le programme a été lancé et il y a des indications qui suggèrent que Energuide a quelque peu contribué à accélérer l'introduction des améliorations. Cependant, la poursuite du programme dans sa version actuelle ou selon une formule modifiée coûterait probablement beaucoup trop cher relativement aux bénéfices additionnels escomptés. Les résultats de l'évaluation indiquent que toutes les améliorations techniques ont été

information, survey data indicates that very few consumers use the program. Moreover, retailers in general do not make use of the Energuide information in the promotion or sale of appliances. To correct weaknesses that have been identified in program design would require extensive effort to improve problems with the program's legislative basis. In spite of the relatively large expenditures that would be required, there is only a low probability that the weaknesses that have been identified would be resolved.

Recommendation: The report recommends that the regulations be revoked and that program funding be terminated in March 1986. Any expenditure made during fiscal year 1985/86 should be directed only at activities essential for this termination.

apportées, et qu'une prolongation du programme ne donnerait pas de résultats notables quant à l'efficacité énergétique des appareils. En ce qui concerne l'apport d'information aux consommateurs lors de l'achat, des sondages indiquent que très peu de consommateurs utilisent cette information. De plus, la majorité des détaillants ne se servent pas des renseignements que renferme le répertoire en ce qui concerne la promotion ou la vente d'appareils. Il faudrait, pour remédier aux lacunes relevées au niveau de la conception du programme, consacrer des sommes importantes à des activités d'information ainsi que des efforts considérables à la solution de problèmes relatifs au fondement législatif du programme. En dépit des sommes relativement importantes qui seraient requises, il est très peu probable que l'on puisse remédier aux lacunes qui ont été relevées.

Recommandation: Les auteurs du rapport recommandent que les règlements soient abrogés et que cesse en mars 1986, le financement du programme. Toutes dépenses effectuées au cours de l'année fiscale 1985/86 devraient être allouées seulement aux activités essentielles à la terminaison du programme.

1. INTRODUCTION

Program description: The Energuide program requires the labelling of six consumer appliances -- refrigerators, electric ranges, dishwashers, freezers, clothes washers, and clothes dryers. The program was introduced by CCA in 1977. A directory of appliances showing their tested energy consumption levels is also a part of the program.

Program objectives: The objectives of the program are basically two-fold: to benefit consumers by providing information to facilitate decision making in buying appliances; and to accelerate the introduction of energy improvements in the appliance industry.

Purpose of report: This report presents the key findings and recommendations coming out of the Energuide evaluation which commenced in February 1984 and is now complete.

The report first sets out our recommendation, and then gives the main reasons for it. The expected consequences of implementing the recommended option are outlined. Five options, in addition to the recommended option, are presented.

2. RECOMMENDATION

Based on our studies of the existing program, and having considered various options for maintaining, improving or replacing it, we recommend that the Energuide program be terminated as planned. We recommend that the Energuide regulations be revoked in due course and that the contract with the Canadian Standards Association (CSA) for testing appliances not be renewed. No expenditure in fiscal year 1985/86 should be incurred, except for activities that are essential in support of the termination of the program. No such activities have been identified by the evaluation team. The person-year now allocated to the program should be maintained for a period of several months into fiscal year 1985/86, and every effort should be made to facilitate the incumbent's placement in another position.

3. METHODOLOGIES

Forward-looking analysis: Our examination of this program was forward-looking rather than retrospective. We looked at what has been achieved with regard to each of the program objectives, but did so in order to best estimate what results could reasonably be expected from this program over the next decade in relation to these objectives.

Multiple lines of evidence: We have brought together a wide variety of evidence from the various evaluation modules that were undertaken to look at Energuide over the past fourteen months. These modules are listed in Annex A to this Report and are bound together under separate cover.

Each module had its strengths and weaknesses as well as its specific focus. No single source can provide a complete perspective on a program such as Energuide. The relatively soft nature of the data base and the reliance to a large extent on individuals' perceptions as a source of information suggested a design incorporating multiple lines of evidence as the most appropriate for the evaluation. No one module was expected to resolve all the evaluation issues with certainty.

The different pieces of the evaluation differ in methods of data collection and analysis, and in some assumptions. The combination of evaluation modules that have been undertaken allowed for a validation and cross-checking of evaluation findings. The Evaluation Advisory Committee was an additional review mechanism. All modules were discussed with this committee along with program management. Past research and related evaluation work undertaken on the U.S. Energy-guide program also were carefully considered.

In the end, these various modules have been taken together and compared by the program evaluation team; their separate contributions have been considered, along with the various comments and expert advice received. Moreover, the interpretations given them by the evaluation team as well as the conclusions and recommendations that form the basis of this report have been given further review by an external expert source as a further validation of the evaluation findings (See Appendix I).

4. FINDINGS

Key findings of the evaluation are summarized in Table 1.

Table 1

KEY FINDINGS AND CONCLUSIONS

- . ENERGY EFFICIENCY OF APPLIANCES HAS IMPROVED SINCE INTRODUCTION OF ENERGIDE
- . LIMITED POTENTIAL FOR FUTURE IMPROVEMENTS
- . CHANGED ENVIRONMENT DIMINISHES NEED FOR PROGRAM
- . CONSUMERS GENERALLY DO NOT USE PROGRAM
- . LIMITED SUPPORT BY GROUPS IMPACTED BY PROGRAM
- . EVIDENCE OF NON-COMPLIANCE BUT ENFORCEMENT IS HAMPERED BY WEAK LEGISLATIVE BASE
- . POTENTIAL SOLUTIONS TO WEAK PROGRAM DESIGN ARE EXPENSIVE, BUT SUCCESS IS UNCERTAIN
- . EXTENSION OF PROGRAM IS NOT EXPECTED TO PROVIDE GOOD VALUE FOR MONEY

4.1 ACHIEVEMENT OF OBJECTIVES: Distinction between past achievements and future potential

Separate objectives: Findings focus on program objectives. The program has two distinct objectives. These are:

- 1) to facilitate informed consumer choice by providing information on the energy consumption of new appliances; and
- 2) to accelerate the introduction by manufacturers of major household appliances of more "energy efficient" appliances.

The first objective deals with consumer information for economical and efficient consumer choice. This could be viewed as promoting energy conservation by facilitating consumer selection of more energy-efficient appliances. However, in theory and, as we will discuss later, in practice, this does not necessarily bring about energy conservation. For example, a well-informed consumer may properly wish to choose an appliance that costs less to buy but uses more energy than an alternative, all other factors being the same. The full life-cycle cost of the cheaper, energy less-efficient appliance may be less. Also, certain product features may be valued higher than energy savings as the various product attributes are compared in a buying decision.

The second objective is squarely aimed at energy conservation. The government's purpose is to accelerate the introduction by manufacturers of energy efficiency improvements of appliances sold in Canada.

Consequently, while the objective of electrical energy conservation has perhaps been dominant in the program, especially in the context of the perceived energy crisis environment when the program was started, there are actually two separate objectives.

Past achievements: Overall there has been a marked improvement in the average energy efficiency of appliances manufactured and sold in Canada since 1977. Our surveys indicate that any improvements would have been related to the intended impact of the program on manufacturers, arguably accelerating the rate of introduction of energy efficiency improvements in the appliance industry in Canada. Regarding the consumer information objective, based on our surveys, the program has had little or no impact on consumer purchase behaviour.

Most of the appliances covered by Energuide -- refrigerators, electric ranges, dishwashers, freezers, clothes washers, and

clothes dryers -- are manufactured in Canada by three major companies which are subsidiaries, or are affiliated with U.S. firms. Except for the export of freezers which has increased somewhat in recent years and the import of dishwashers (20 percent of market), international trade in these appliances is not significant.

The energy efficiency improvements in the six appliances have varied considerably. Improvements in refrigerators and household freezers have been most significant. Some improvements have occurred in dishwashers. Laundry appliances have been improved to a lesser extent, and finally, little or no change has been seen in ranges. Past improvements of each of the six appliances along with anticipated technical improvements are detailed further later in this section.

Attributing past gains to Energuide: While a fraction of the improved product efficiency in the past may be attributed to Energuide -- by likely accelerating the rate of introduction of improvements -- the extent of this attribution is subject to debate. During the period 1977 to 1982, when most of the energy gains seem to have been made, the "energy crisis" was at its peak and was widely discussed, particularly by manufacturers both in Canada and around the world. All manufacturers were attempting to improve the energy efficiency of their products -- as a business response to the energy price changes. It is therefore important in evaluating Energuide to recognize that other factors, such as the gains made in the normal course of business, also likely impacted on the energy efficiency of appliances. These gains should not be erroneously attributed to Energuide.

Moreover, studies of consumer purchase behaviour have shown that appliance energy rating information, supplied through the Energuide label and directory, has not been an important influence to the consumer in making a purchase decision. This finding would also tend to limit the impact that Energuide per se has had on encouraging industry to improve the energy efficiency of appliances.

Although this issue cannot be resolved with complete certainty in an evaluation, our judgement is that the program should be credited with accelerating some part of the energy improvements since the program was put in place. However, a more critical issue for the evaluation is the expectation of the effect of the program in the future, an issue that can be addressed with more certainty.

The potential for future improvements: While a fraction of the improved product efficiency in the past may be attributed to Energuide, it does not necessarily follow that continua-

tion of the program will result in substantial future improvements. Interviews with all Canadian manufacturers lead to the conclusion that there are diminishing returns in the scope for re-design of appliances and so further improvements in efficiency will occur less easily and the impact of Energuide will be more tenuous. In the opinion of engineers, the possible gains of the next ten years are unlikely to match the recent past.

Nor are improvements expected through international trade, which aside from freezers and dishwashers, has not been significant in this industry in the past. Because of the nature of the industry and the products, trade is not expected to increase very much in the future.

The only major source for importation of technology would come with clothes washers, which, in order to be realized, would require a significant change in consumer tastes -- replacing top-load clothes washers with the front-load variety. This is quite unlikely to happen according to industry sources.

The significant technological change most likely to come about in appliances in general is the application of micro-processors in control circuits. These may reduce manufacturing costs and improve serviceability, but are unlikely to have much effect on the use of energy.

Energy improvements differ: According to expert sources, there is a practical and realistic prospect for further improvement in only two products now subject to mandatory labels: refrigerators and, to a lesser extent, freezers.

Table 2 summarizes the technical potential, over the next ten years, for additional improvements in energy usage for each of the six Energuide appliances. This assessment is based on the views of industry experts and engineers as to the feasibility of improvements in the Canadian industry.

The design of refrigerators has changed over the life of the program in two important ways. Manual defrost units with a

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1. There has been some suggestion that there could be international technology transfer also in the area of refrigerators where one U.S. manufacturer of refrigerators currently produces a unit which is more highly efficient than its competitors. However, while all other manufacturers are well aware of the technology, it has not been copied, presumably because the costs of making the change could not be recovered.

single door have declined in popularity relative to the two-door, frost-free model despite the higher energy consumption of the latter. At the same time, the energy efficiency of both has increased. There is also the prospect of further significant reduction in the use of energy and this will not require any major technical advances, but rather the application of well known practices now being considered by the manufacturers' engineers. Tooling costs, which could be significant, are the main obstacle in realizing these improvements.

Ranges have changed little and most manufacturers consider that there is limited scope for improvement in energy efficiencies.

Table 2		
TECHNICAL POTENTIAL FOR ADDITIONAL IMPROVEMENT IN ENERGY USAGE*		
Appliance	Potential	Remark
Refrigerators	Medium	Significant tooling costs are main obstacle.
Ranges	Nil	Technical limit has been reached.
Dishwashers	Nil-Low	Limited potential, not likely to be achieved.
Freezers	Low	Some potential but not economically justified at present.
Clothes Washers	Nil	Technical limit has been reached. Front-load washers more efficient but not popular with consumers.
Clothes Dryers	Nil	No feasible technical innovations.

* Based on over fifty interviews with industry experts and engineers, assessing the feasibility of improvements over the next ten years.

Dishwashers now made use less energy than those produced before the Energuide program. The gains have been largely through conservation of hot water. Some models have had insulation added and/or are using more efficient motors. It is generally agreed that few other improvements with a significant effect on energy use are likely to come about in the future.

Freezers researched, designed and built in Canada, are as efficient as any made anywhere. Further improvements, as in the case of refrigerators are possible, but are not considered economically justified at present.

Front load clothes washers would be more energy efficient than the commonly sold centre-post-agitator type, but are not popular in the North American market. The design changes made to date to clothes washers have been mainly concerned with the conservation of water, particularly hot water and are thought to have reached the practical limit. No major additional energy-saving feature appears to be in prospect.

Clothes dryers have not been changed significantly in terms of their use of energy. Little change is considered to be economically feasible.

Technical change may not be justified economically: Our surveys showed that while the managerial staff of the manufacturers, who had to be concerned with profitability, were skeptical about the usefulness of a continued emphasis on energy efficiency in their appliances, the engineering personnel seemed to regard the pursuit of more energy efficient products as worthwhile. In short, there is evidence of some technical capability and a degree of momentum for continuing the improvement of energy efficiency in the manufacture of some appliances, but this is dampened by a certain indifference on the part of management. Improvements must make sense from an economic as well as a technical perspective if they are to be implemented. According to industry and engineering sources, the economic realities of the marketplace pose a real constraint on the introduction of the improvements identified above for refrigerators and freezers.

Efficiency range for appliances will persist: In view of the fact that not all models of any given household appliances have incorporated all energy efficient features -- and therefore have a higher energy consumption than "state of the art" models -- it might be argued that there is a continued need for Energuide to encourage the retooling of those production lines now devoted to producing high consumption models. However, industry sources suggest that this spread in efficiency ratings for appliances will persist, with or without Ener-

guide. When it is observed that the company which produces the least efficient units also owns the production facilities producing some of the most efficient units, it becomes apparent that this situation is part of a planned corporate strategy of marketing appliances of varying efficiency and product cost. It is quite clear that there is a trade-off between energy efficiency, convenience features and product cost and that manufacturers are allowing consumers to make their own choice by offering a wide range of units. In the end, consumers benefit by being offered a wider range of product choice and price selection.

Limited future potential: The conclusion drawn from the above is that whatever the effect of the program in the past, it will be even less in the future. Even in the case of refrigerators and freezers, it is unlikely that the presence or absence of the Energuide program will have any significant impact on the rate at which improvements are implemented.

4.2 ENVIRONMENT: Conditions which gave rise to the program have significantly changed, diminishing the need for the program.

An important set of changes has occurred which relate to the energy conservation objective of the program. In particular, the energy and economic environments have changed.

Potential energy shortages are less of a problem now: While the world oil price is unpredictable -- because of the instability caused by the international oil market structure -- the situation today is radically different from the late 1970's.

Since 1979, OPEC's production has declined to about 19 million barrels a day, far below OPEC's capacity of about 35 million barrels a day. Spot oil prices are below the official prices and tending to fall. In addition, Canada now has shut-in oil capacity of some 100,000 barrels per day. Furthermore, in all of the continents of the world, and notably in North America, natural gas is in significant excess supply and this is exerting additional downward pressure on energy prices. Coal markets are extremely slack. Most Canadian electrical utilities have significant excess capacity. In addition, the major utilities in Canada are aggressively attempting to expand their markets, both for export and domestically. These changes do not mean that government cannot play a useful role through those conservation programs that are likely to produce valuable results; but they do mean that the perceived energy crisis of the 1970's -- calling for widespread government intervention in energy markets -- has passed. It is widely expected by energy experts that these markets will remain in an over-supply situation during the

next decade with a continued softness in world oil prices being the result.

Wide range of conservation programs elsewhere: The Energuide program was devised at a time when other conservation programs in Canada were just getting underway. Today, however, there is a wide range of conservation programs, such as those delivered by EMR conservation sector, provincial programs, the efforts of the utilities, the private sector and non-governmental, consumer and other voluntary organizations. The efforts of utilities in particular in sponsoring conservation programs are being enhanced through the consideration of such programs as an alternative to new construction in the future.

There was a sense of urgency when the program was put in place. All federal departments that could contribute to a solution to the energy crisis were encouraged to take action. CCAC was directed by Cabinet to undertake Energuide. Now, however, in view of the fact that a wide range of specialized conservation expertise and programs are available elsewhere, the need for CCAC's maintenance of this program is greatly diminished.

Although energy issues have taken a much lower profile, there is still a vocal constituency interested in energy conservation who believe that government programs in this sector are worthwhile. However, generally speaking, this constituency is interested in promoting conservation, not government intervention and especially where such intervention is not expected to produce or bring about conservation.

More energy conservation information is now available: Regardless of whether Energuide can be expected to achieve results in relation to its two stated objectives, it could be argued that there is some value simply to 'waving the flag' to make people think about conserving energy. However, since 1977 the amount of information available to consumers on topics of energy consumption, for example through consumer magazines such as Canadian Consumer (which is supported in part by federal funding), has increased substantially. The Canadian Consumer has expanded its circulation from about 145,000 to some 160,000 over the past few years, and more frequent articles are now available on energy conservation and appliances than before.

The Energuide program deals with electrical energy conservation but since the mid 1970's, all the provincial electrical utilities have become more active in electricity demand management through their programs of advertising, information and pricing. There is, therefore, a growing similarity in pur-

pose and effort between programs such as the federal Energuide and those of the provincial utilities, in terms of electrical energy conservation. The present momentum of provincial and electrical utility conservation programs suggests a much diminished need for the federal government to keep an initiative such as Energuide in this area.

Most energy improvements are now incorporated in appliances: Today's appliances are generally more energy-efficient than when the program was put in place. The evidence indicates that the improvements shown to be economically practical have now been made and are now generally utilized as 'state of the art' in the industry. Based on the findings, extension of the program will not produce significant results in that area.

This has always been anticipated by the designers of Energuide and was the basis for including a 'sunset clause' to terminate the program in March 1986. A small program budget of \$91 thousand and one person-year was budgeted for the final year of the program. Given the limited potential for the program at this point in accelerating the rate of introduction of energy saving features in the appliance industry, these resources should be used only if required for phasing out the program.

4.3 NEW PRIORITIES: Priorities of Federal Government have changed

Insulating Canadians from world prices: The Energuide program was introduced at a time when keeping a lid on energy prices was a government priority. Consequently there was seen to be a need for government initiatives to replace price signals in order to influence manufacturers and consumers. Present concerns are, where appropriate: to let the price signals get through to influence supply and demand; to generally reduce the regulatory burden on industry and consumers (bearing in mind the benefits of regulations); and to restrain government expenditures.

Reduced unemployment, increased growth are key issues: In addition, the overall economic environment has significantly changed -- from a time of high inflation, high interest rates and rising government expenditures to a time of low inflation, high persistent unemployment and government fiscal restraint. Economic growth and reduction of unemployment through a revitalization of the private sector are now the paramount issues.

4.4 PROGRAM DESIGN: Difficulties have become apparent related to the Energuide program design

Questionable legal basis: The legal basis of the program is open to debate. Advice on this issue has been provided to the Minister under separate cover.

Evidence of non-compliance: There appears to be a trend in segments of the appliance industry towards increasing non-compliance -- particularly with inaccurate energy consumption claims, failure to affix labels, and/or de-labelling -- by manufacturers and/or retailers.

Enforcement is constrained: The legal opinion is that strong cases could be made for or against the regulations. Thus, it is far from certain that the government would get a conviction for an infraction. This means, in effect, that the government is in a difficult position for enforcement of the regulations. Any court action would be uncertain and could have consequences which extend beyond Energuide. It is indeed possible that perception by some in the private sector of the questionable legal underpinnings of the program is already one of the causes of non-compliance. If a court case went against the Crown, the program would be severely damaged and this damage could spill over to other programs.

A lack of enforcement of Energuide regulations could well lead to more cases of non-compliance and a dissolution of program integrity. This is especially the case given that most consumers do not use the labels anyway, as is discussed below.

Most consumers do not use the label or the directory: Surveys have found that, while most consumers indicate that they are interested in energy costs, in practice, the majority ignore the Energuide labels during their purchasing of appliances. With prompting, many appliance purchasers can recall having seen the label but, based on survey data, they misunderstand it. It is often taken to be some kind of government "label of approval" and sometimes the numbers are misunderstood. The Energuide directory, which is designed to facilitate the consumer's consideration of energy cost, is virtually unused by consumers. It is said to be too complex and is usually not available in retail stores. The survey results show that only some 2 to 10 percent of consumers make any energy calculations for their purchase.

This lack of interest by consumers (and retailers) generally in the energy consumption of these appliances and particularly in the Energuide label is a central and key weakness in the present program. This shortcoming in program design

could only be overcome by incurring significant expenditures, with no guarantee of success, in the education of potential appliance purchasers as well as retail salespeople.

Low relevance of energy information to purchase decision: Although it would be a mistake, these survey results might be taken to suggest that consumers are irrational or perhaps unable or unwilling to make use of the Energuide label. For example, it was found that slightly more than half of consumers surveyed knew that a KWH is a measure of electricity, and a mere 6 percent knew the price that they paid for a KWH. However, we conclude quite the contrary; there are logical reasons why most consumers appear to accord such a low relevance to energy costs and to the Energuide labels in purchasing these particular appliances.

For example, in considering an appliance like a refrigerator, there is a variety of product attributes to be compared and valued, including price, size, performance, colour, guarantee, servicing, etc. as well as energy consumption. To take the example further, in practice, the consumer is weighing energy cost savings of the order of \$20 to \$30 per year in the process of buying an appliance worth some \$600 to \$1000, and which also has numerous other features of convenience, size and design to be taken into account. A keen consumer, for example, might seek out a discount on the purchase price of say 10 per cent -- a certain saving -- which could well offset the uncertain value of possible energy savings.

Moreover, the value of consumers' time will eventually limit the number of product attributes taken into account while comparative shopping, with lower-priority features, such as energy consumption of the appliance, expected to be absent in the average consumer's eventual decision-making.

The rating itself is generally misunderstood: Our evaluation work suggests that few persons (outside of the engineers that participate on the technical committees) understand the standards or the testing procedures. Even the retailers who sell the appliances do not generally understand the meaning of the rating, let alone the tests on which the rating is based. These test procedures are not simple, and are tailored to the specifics of each individual appliance. Performance is measured in a laboratory situation which is generally very different from normal usage by any actual consumer. This problem is further amplified because the present Energuide rating gives the perception of an accuracy which may not be realized due to permissible tolerances in the manufacture of appliances.

Program expectations are unrealistic: Even for those very few purchasers who do understand the label, the program design, oriented around the idea of a consumer who calculates life cycle costs, seems out of step with reality. The calculations themselves are complex and require discounting cash flows to one point in time. To highlight just one difficulty in such calculations, not even energy forecasting experts can agree on future electricity prices (or "social costs"). In addition, a "proper" calculation of life cycle costs should take into account the future salvage value (second-hand value) of the appliance, maintenance costs, and other factors, plus future electricity prices -- all other features of the alternative appliances being considered equal.

Energy consumption rating is misused: In a 1984 resolution, the Consumers Association of Canada (CAC) noted that Energuide ratings may not always be based on products having satisfactory levels of performance and that the ratings had tended to be misinterpreted by some consumers. They therefore advocated that CCA should implement mandatory performance standards for electrical appliances and establish Energuide ratings on the basis of such mandatory standards. Furthermore, they advocated that the Energuide program should be expanded to include additional types of electrical appliances. (See Appendix B)

The perceived inadequacies of the Energuide program which underlie this resolution are consistent with the findings of our surveys. The present labelling program is limited in its usefulness to consumers. It may even backfire when for example, the Energuide label is incorrectly treated as a quality label.

- 4.5 COSTS: Difficulties in justifying the cost of extending the program by the expected future results (benefits): The expected future benefits of extending the program must be compared to program costs.

Annual program costs: The direct cost of the program to the federal government is some \$400K per year (without the directory) -- a relatively small budget. However the indirect costs to the private sector and to consumers may be much larger. Looking at the six appliances in the program, some 2.3 million of these appliances are sold annually in Canada. The Energuide program may have induced additions to manufacturing costs, and may indirectly incur a variety of ongoing compliance costs. Our studies have estimated a range of additional manufacturing and compliance costs in the order of \$5 to \$25 per appliance or some \$10 million to \$50 million annually. Ongoing compliance costs would include such things as the operation of manufacturers' testing facilities, inspection, application of labels, etc.

Program administrative costs to date: The total dollar cost of the program since its inception has been estimated to range between \$77 million and \$334 million (1983 \$), of which about \$4.3 million (1983 \$) has been direct payments by the federal government. The federal expenditure in recent years has averaged between \$400K and \$500K annually. A continuation of the program as it is presently structured, would incur approximately the same level of federal government costs in the future. Modifications to the current Energuide program, addressing some of the weaknesses in program design, could increase direct costs substantially.

Social costs: Social costs entail a great deal more than just the program administrative costs. However, the extent to which any of the social costs -- a reduced range of choice of product lines, an increase in the purchase price of appliances, a reduction in the quality of performance of some appliances which apparently occurred -- can be attributed in whole or in part to Energuide is open to debate.

In addition, while not generally attributable to the Energuide program, the energy improvements that have occurred may have been accompanied by inadvertent pressures towards more concentration in the appliance manufacturing industry, thus lessening competition and possibly leading to pricing issues in the future.

Future net benefits: Our evaluation modules have shown, under a variety of assumptions and different scenarios, that the future net benefits from extending the program are likely to be much smaller than the benefits estimated to have been achieved to date. This reflects, in part, the evaluation finding that the most significant benefits from improving the energy efficiency of the appliances have already been achieved. It reflects in addition the present environment of more stable and perhaps declining real energy prices, as a result of which the economic benefits from energy savings have diminished.

Given the tenuous linkage between the program, acceleration of energy improvements, and consumer benefits, as we have previously discussed, the case for continuation of the program on the basis of estimated future net benefits is weak.

If the program were limited to fewer appliances, it is the consensus of the expert advice we have received that the most room for improvement and possible net benefits lies with refrigerators and, to a lesser extent, in freezers. It is unlikely however that the Energuide program would have any significant impact on achieving these impacts over the next ten years.

4.6 AFFECTED PARTIES: Limited support by groups affected by the program

The level of support shown by those parties directly affected by Energuide is detailed in Table 3. An important distinction should be made between support for the program to date and groups' views on the need and utility for continuing the program in the future.

Table 3	
<u>AFFECTED PARTIES: LEVEL OF SUPPORT FOR ENERGUIDE</u>	
Group	Comment
Consumers	Vast majority neither understand nor use program. Its disappearance would not be expected to significantly affect consumer behaviour. Consumers Association of Canada says it is supportive but recognizes weaknesses and wants program changed to performance standards.
Appliance Manufacturers	Have generally been supportive but indifferent to its discontinuation.
Retailers	Range from some support from largest firms to indifference to opposed and non-supportive. Virtually no support by retail sales staff.
Canadian Standards Association	would lose its testing/monitoring contract with program termination.
Utilities	Generally supportive but have not contributed to program funding.

Retailers: Most retailers, except the largest chains, have tended to be indifferent or non-supportive of the program. This may be mainly because energy efficiency ranks as one of the least important characteristics of an appliance when consumers are shopping. The unattractive design of the Energuide label -- perhaps not conveying a "quality" image -- has also detracted from its use by salespersons.

In general, it was found that retail sales staff do not understand the program or the label and they therefore generally cannot help even the relatively few consumers who seek energy efficiency information. This is true of the sales staff of even the largest chains who would be most likely to be supportive of the program. It is generally true that, at the retail level, the Energuide directory (which, if purchasers took the time to study it, could promote comparative shopping) is not available. A number of retailers are not supportive of the regulations and there is evidence that they are either removing labels or putting the wrong labels on appliances.

Manufacturers: The appliance manufacturers generally do not oppose the program but would not be expected to object if it were eliminated. They take note of the Energuide directory which lists the energy ratings of all appliances on the market but they find that, as an annual publication, it has only limited usefulness. It takes some months to be published and becomes out-of-date very quickly. They have also commented that the directory is more elaborate than they require.

Canadian Standards Association (CSA): CSA has received all contract funding allocated to the Energuide program. In the current fiscal year, this amounts to \$350K. CSA tasks range from running steering committees to standards development, testing and monitoring. If the recommendation to phase out the program as planned is implemented, CSA would likely regret losing such a significant contract. They could be expected to argue for some continuation of program funding, focussing their arguments on the potential for "slippage" or backsliding in the energy efficiency of certain types of appliances (notably refrigerators) in the absence of the Energuide label. While the study team does not support the prediction, CSA has suggested that "slippage" might be significant in the first year after termination of Energuide labelling. Advice received from other technical experts, suggesting that the probability of "slippage" was low, is much more consistent with the general findings of the evaluation. Having examined the nature of appliances and their manufacture, the specific technical design features that have led to energy savings, as well the economics of the domestic and international appliance markets, it is concluded that the potential for such "slippage" is minimal.

Consumers: Consumers surveyed generally do not use the program. Very few would notice the absence of the label if the program were terminated. The Consumers Association of Canada has supported the Energuide program since its inception but as discussed previously, the Association is now stating that there are weaknesses with the program in its current form and is advocating that it be changed to a system of mandatory performance standards. This modification has been addressed, in Ministerial correspondence with the CAC (See Appendix B), as not being practical and beyond the scope of the program.

Utilities: The electrical utilities have generally supported the program. They have attempted to make use of it to help foster conservation. However, they have not been burdened by its cost nor been directly involved with it, focussing their efforts on their own conservation and standards programs.

Provincial governments: The provincial governments have not played any significant role in the program although in terms of "promoting" conservation ideas, there is clearly a degree of similarity between it and some of their energy conservation initiatives.

Federal Department of Energy, Mines and Resources: Officials involved in the delivery of conservation programs at EMR have been consulted during the course of this study and assisted in our analysis through participation on the Advisory Committee. Those who followed the work done in this evaluation generally agree with the analysis that Energuide achieved more successful results in the past than could be expected if it were extended for say another five years.

Regarding issues of overlap and duplication within the federal government, EMR's Home Energy Program, which is now in the design and development stage, is intended to be a comprehensive approach to energy usage in the home, looking at the house as a total envelope -- including major appliances -- and will include a continuous monitoring and review process. The four thrusts of this integrated approach, which include (1) consumer education, (2) joint marketing with industry, retailers, (3) demonstration of technology transfer research, and (4) industry training, in effect consider appliances in relation to all the other energy using areas of home energy use. (After all, heat generated by appliances in a well-insulated house would reduce the load on space heating.)

In this context, this next "generation" of energy conservation programs being undertaken by EMR -- emphasizing Super Energy Efficient (SEE) housing -- accords appliance energy usage an important place within the overall program. From an appliance perspective, the aim is to encourage builders to

install the more energy efficient appliances available on the market in new houses. Including specific appliances is currently not mandatory in order to qualify for the minimum standards set by EMR's SEEH program. However, the contribution of the current Energuide program to SEEH is that information on appliance energy usage is made readily available through the Energuide label and directory. We question however whether a national compulsory labelling program of all appliances (about 2.5 million units annually) is a necessary or desirable way of arriving at a list of recommended appliances acceptable to the SEEH program (affecting less than 0.5 per cent of the appliance market).

If the continuation of the Energuide program on the basis of its original objectives is being questioned, then EMR must examine alternatives to achieving the objective of encouraging energy efficient appliances installed in certain types of housing. While the program evaluation team has not evaluated this issue, it seems that the current Energuide program, requiring the labelling of all appliances, including the less efficient as well as the more efficient, is more elaborate and expensive than what is required for SEEH.

In the absence of Energuide, the manner in which the appropriate appliance model numbers that qualify in the SEEH program could be established would depend in part on the incentive to manufacturers to supply the information voluntarily. If there was incentive -- created by a large demand for SEEH -- manufacturers might voluntarily provide energy consumption information of selected appliances, based on Energuide standard tests that have already been developed. These could be monitored by EMR or an independent lab on a selective sample basis to ensure accuracy of the manufacturers' ratings. Alternatively, if there is insufficient market demand, the government could finance the testing of selected models as determined by the manufacturers and/or EMR.

EMR officials contacted suggested that, in the absence of Energuide, they would consider putting in place such a monitoring system. While the evaluation results indicate that there is little apparent value within the current objectives of the Energuide program to maintain an informative/testing/monitoring program, nevertheless it may make sense within current or future EMR programs. A decision on the desirability of monitoring the energy efficiency of appliances on a periodic basis should consider this in the context of other conservation programs, and should be left to EMR.

5. OPTIONS

5.1 Can the program usefully be redesigned?

The Energuide program has not lacked in the effort and consideration given to its design and implementation. There are problems, but these stem mainly from the inherent difficulties of the program conception and objectives rather from a lack of thoughtfulness. One of the main difficulties is that appliance buying -- other than energy appliances like hot water heaters and furnaces -- involves too many dominant characteristics other than energy to be significantly enhanced by energy ratings. The recommended option is to terminate the program as planned; however, all options present some advantages and disadvantages, and many different possibilities can be considered. In addition to the option of terminating the program, five options are elaborated below:

- 1) Continue the program as it presently exists for another five years;
- 2) Expand the program and enact new legislation as necessary;
- 3) Reduce the program by focussing on fewer appliances;
- 4) Convert the program to one of minimum standards;
- 5) Convert to a voluntary program and monitor.

All options are summarized in Table 4.

Table 4

<u>COMPARISON OF OPTIONS</u>		
<u>OPTION</u>	<u>FEATURES</u>	<u>COMMENTS</u>
1. Terminate Program	<ul style="list-style-type: none"> . Revoke regulations . Terminate CSA contract . CCAC program budget re-deployed 	<ul style="list-style-type: none"> . Save \$400K to \$500K annually . Industry indifferent . Avoid possible legal problems . Co-ordinate effort through EMR
2. Continue Program (status quo)	<ul style="list-style-type: none"> . Renew for 5 years . Redesign communication program features . Reallocate use of budget 	<ul style="list-style-type: none"> . Advantage is low visibility . Few benefits . Cost minimum \$2.5 million . Estimated poor value for money . Possible compliance/legal problems
3. Expand Program	<ul style="list-style-type: none"> . Renew for 5 years . Redesign communication program features . Include new appliances . Enact new legislation 	<ul style="list-style-type: none"> . See Option 2 . No good candidates to add to program
4. Reduce Program	<ul style="list-style-type: none"> . Renew for 2 to 5 years . Include only refrigerators, freezers . Redesign communication program features 	<ul style="list-style-type: none"> . Few benefits . Cost would not reduce proportionately . Poor value for money . Increased compliance/legal problems
5. Convert Program	<ul style="list-style-type: none"> . Mandatory performance standards 	<ul style="list-style-type: none"> . Requested by CAC . Rejected in Canada and U.S. . Significant legal and technical obstacles
6. Convert Program	<ul style="list-style-type: none"> . Voluntary program 	<ul style="list-style-type: none"> . Low incentive for participation . Net benefits doubtful . Consider monitoring appliance efficiency selectively

- 5.2 Terminate the program: Program funding would be terminated in due course, as planned; the Energuide regulations would be revoked; the contract for testing appliances and related activities with the Canadian Standards Association would not be renewed at March 31, 1985; and the small CCAC program budget for 1985/86 (\$91K) would be used only if essential for the phase-out of the program. The one person-year now allocated to the program would be maintained for several months into fiscal year 1985/86, and every effort should be made to facilitate the incumbent's placement in another position. The intention to revoke the regulations would be published in the Canada Gazette as early as possible, and any compliance actions should cease.

To summarize the key findings of the evaluation:

- . the need for the program has greatly diminished;
- . priorities of the federal government have changed;
- . difficulties have become apparent in the Energuide program design;
- . the continued effectiveness of the program is in doubt;
- . there are difficulties in justifying the cost of extending the program by the expected future results; and
- . there is limited support by groups involved in program.

These factors lead the evaluation team to conclude that the potential benefits from terminating the program are greater than any other alternative.

- 5.3 Continue the program at the current funding level: One advantage of continuing the program in its current form is that short term disruption would be minimized. Little attention would be drawn to the program and the Department would be seen as continuing its support of energy conservation. Some of the program's weaknesses could be addressed and perhaps improved. Making best use of expenditure at the current funding level would require some reallocation of resources away from the testing/monitoring functions (currently performed by CSA), to be redirected towards efforts aimed at increasing consumers' and retailers' awareness and use of the program.

Improve the label: If it were decided to continue the program, the Energuide label should be redesigned so that it would be easier to understand and use, and be more attractive to consumers. Preliminary work has suggested that a colour-

coding may be useful. The label might be more useful if it were to show bands of say 50 kWh, rather than the actual kWh rating. The risk is that such an improved label might well be taken incorrectly, more and more like a stamp of approval and thus undermine its intended purpose. The use of a dollar figure, representing the estimated life cycle costs, was used in the United States Energyguide program but is fraught with problems and has not been well received by consumers.

Improve the directory: The Energuide directory could be replaced or modified, for example by a computer printout, produced in limited numbers, only for manufacturers, retailers, consumer groups and housing authorities; and/or a one time pamphlet directed at consumers; and/or information kits for retailers to better explain the program.

Program promotion: A marketing campaign to improve consumers' and retailers' awareness and use of the Energuide program would address one of the major weaknesses of the current program delivery. Selective ads and in-store point-of-sale materials explaining the use of label information could be coupled with enhanced program promotion with the aid of the utilities and consumer magazines. The desire to operate the program within the current overall funding levels would, however, limit the size and perhaps the effectiveness of this communication effort.

Use the tender process for contracts: Some cost savings would likely be achieved if bids were requested for many of the tasks now contracted to CSA. The evaluation has identified a number of qualified bidders which could be invited to make proposals for several major tasks.

Testing of prototypes/labelling new models: Currently, before labelling new models, manufacturers are required to test five prototypes to establish the Energuide rating. Then, the model rating is verified by CSA by testing one of these prototypes. Elimination of the prototype verification test currently conducted by CSA would decrease the direct costs of the program by an estimated \$150K. Instead, first production models could be tested by the manufacturer or any other accredited test laboratory to CSA test procedures and the tested rating would go onto the Energuide label.

Monitoring/verification of Energuide ratings: The current arrangement requires that a randomly selected production unit that is tested by CSA must be within 10 percent of the rating appearing on the label. Based on expert advice received, this tolerance is overly narrow. If the current arrangement were maintained, the accepted tolerance of these verification tests should be relaxed to 15 percent (accepted tolerance in other countries).

Correct the legal difficulties: Continuation of the program does not necessarily call for amendments to the regulations, collaboration with the provinces to obtain a national consensus for these regulations, or new legislation. However, these matters, and in particular, new legislation, might be considered in order to put the program on a sounder legal footing. We describe possible new legislation below in the context of the next option -- to expand the program.

It would, however, be counterproductive to ameliorate the program if it were not extended for a number of years, rather than just year to year. Therefore the extension would imply a renewed five year mandate. Consequently, the commitment to extension would involve significant total expenditures (by both government and industry), over a period of years during which it is likely that the integrity of the program would slide further.

Assessment of option: The Canadian Standards Association could continue to benefit from testing appliances under the CCA budget and it is likely that none of the groups involved would complain loudly. Renewed pressure for modified and additional government intervention, by groups such as the Consumers Association of Canada, would probably arise.

Given the limited potential for efficiency improvements of the appliances currently covered, few benefits would be expected even if consumer interest was kindled with a renewed communication effort. As noted earlier in the report, it is doubtful whether even a large communications effort could succeed. Considering in addition the potential legal problems left to be resolved, it is estimated that this option would not provide good value for money.

- 5.4 Expansion of the program could take the form of covering more appliances or allocating more resources to the present appliances, or some combination of the two.

Difficult legal issue: It would be imprudent to expand the program, however, on its present legal base. A necessary first step would be to strengthen the legal hand of the federal government so that enforcement would be practicable. For this purpose we have been advised that the best legal strategy would be to enact a new statute. This would take time and effort within government and Parliament.

Difficult to identify new appliances appropriate for inclusion: The best candidate appliances for addition to the program are hot water heaters and furnaces -- particularly if the main goal of the program is energy conservation because these appliances are paramount in household energy consump-

tion. Private action is already being taken in these areas. The electrical utilities have already promoted water heater efficiency through their CASCADE standard label. The Canadian Gas Association has standards for gas water heaters and is planning to introduce standards for gas furnaces. Performance standards for electrical furnaces already exist. This action could, therefore, appear to be contrary to the efforts of the government to reduce overlap and duplication with non-federal programs.

Microwave ovens were considered as well. A CSA standard already exists which could be used as the basis for an Energuide rating; however, we recommend against mandatory energy labelling of microwave ovens. It appears that energy consumption does not vary much from one brand to another; nor is there much potential for improvement in energy efficiency. Including air conditioners might make sense if they were large energy consumers in Canada but they are not. For example, a typical unit in Toronto would only operate (compressor on) for an estimated 200 hours per year. Thus the cost-effectiveness of including air conditioners in Energuide would likely be very low.

The light bulb was also considered but this seems a case where quality, price and durability would be difficult to interrelate in a meaningful Energuide measure and, furthermore, most energy loss of light bulbs is recaptured as inadvertent but useful household heating. To summarize, we have not identified any obvious candidate appliance that could usefully be added to the program. Generally, it would seem that an increase in the number of appliances in the program would expand its costs without a commensurate expectation of benefit.

Questionable value of increasing the program budget: Consideration could be given to boosting the program budget; for example, to try to educate retailers about the usefulness of the program, or to educate potential appliance purchasers. The evaluation has found that, it is these very areas which are not receptive to the fundamentals of the program. A worthwhile communications/education program would require significant resources with no guarantee of success.

On balance, while it could be attempted and would give a signal that the government was very interested in energy conservation and improved consumer information, an expansion of the program -- either through adding appliances or through expanding the budget with present appliances -- holds little promise of providing net benefits to consumers or of significantly influencing energy conservation in the future. In this sense, the expected benefits do not appear to justify

the associated costs to the government and the industry in question.

- 5.5 Reducing the number of appliances covered by the program seems a reasonable alternative which would avoid some of the difficulties of the program at the consumer interface, and also reduce some of the monitoring and compliance costs. For example, the coverage could be limited to refrigerators and freezers, the only areas identified in the evaluation for potential efficiency improvements in the foreseeable future. Costs, both to the government and to the industry (and thence to consumers) however, would remain unchanged. These appliances account for the bulk of the testing and monitoring costs of the current CSA contract budget. Testing procedures would have to be maintained for these appliances; the various committees would remain; the federal budget and person-year would remain, and for the most part the retailers would be largely unaffected. Work would have to continue in the area of improving communication, the label and its usefulness. The legal difficulties of the regulations would remain to be addressed.

One difficulty with a reduction in appliance coverage could be the perception that this would give to manufacturers and retailers of indecisiveness on the part of the federal government and the subsequent increase in non-compliance which might be expected. This would put pressure on the government to strengthen the legal basis of the program -- just as in the case of expanding the program.

An advantage of this option could be that a more focussed program of marketing could be done in the area of refrigerators and freezers rather than all six appliances. Retailers and consumers might respond better as well, because both appliances offer some scope for future energy improvements and are less differentiate themselves as to performance characteristics than the other appliances.

This option would allow more resources to be concentrated on the two appliances that seem the most amenable to benefits from the program. However, it would not circumvent the program difficulties such as the legal basis and the need to redesign the Energuide label. In view of the work required, if this option were selected, we would have to suggest that the allocation of federal funds to the program be increased substantially over the status quo. In spite of the higher cost, such an effort would be more worthwhile than continuing the present program. Notwithstanding the increased program expenditure, there are fewer gains to be expected in the future compared with the past. Federal expenditure would be increased substantially, but given that labels would be

required for only two appliances, compliance costs to the appliance industry as a whole would likely be reduced from current levels.

Attempting to maintain this program for only two appliances could well give rise to strong pressures being put on the government to scrap the remaining two appliances by those sectors of the industry that would be left in the program. They would use arguments related to the lack of use of the program by consumers and the program's weak legal basis, and may not be satisfied by a "good intention" to attempt to improve those aspects of the program's shortcomings.

- 5.6 Convert to mandatory performance standards: In view of the difficulties with the current program noted in its resolution, the Consumers Association of Canada advocates transforming the Energuide program into mandatory performance standards and expanding the transformed program to other appliances. Such a thrust would however, be fraught with problems -- legal and technical -- as well as involving substantial budget increases. Having examined the experience in the United States, where national standards were considered and then rejected, and in Canada where they were originally considered but then rejected as being unconstitutional, we do not recommend mandatory standards and especially not mandatory performance standards. There is a risk that establishing a "minimum" may reduce the incentive for this level to be exceeded, that is, the minimum becomes the industry norm. Furthermore a strong negative reaction from industry would be expected.

Energy efficiency standards are better handled through surrogate standards and overall performance certification programs. Performance standards could follow the format now used for electric water heaters (CSA C191. - M1983) in which safety, reliability, capacity, energy efficiency and other attributes are all covered in a single standard. Energy efficiency is only one among several important factors. Through a voluntary certification program, all manufacturers are encouraged to meet the standard and in return are allowed to use the program label. The "Cascade" program of Ontario Hydro contributed to bringing the energy efficiency of electric water heaters up to today's standards. If almost all manufacturers follow a performance standard, a minimum energy efficiency standard, in effect, applies.

Ontario Hydro is also working on their "Enermark" performance certification program. Ultimately it would include all electrical appliances but is likely to take several years to put in place. While Enermark requirements will certainly include energy efficiency, it is uncertain whether the Enermark label would include energy consumption.

Other certification policies and programs can be introduced which could have some of the key benefits of a standards program. For example, certain types of housing certification programs such as housing which receives an R-2000 label (SEEH) could be required to select kitchen/laundry appliances with an appropriate level of energy efficiency. Similarly, bulk purchasing by governments, including municipal and regional housing authorities could be another avenue where minimum efficiency standards could, in effect, be imposed.

Such an approach would however be distinct in its objectives from the current Energuide program whose focus is on the consumers' buying decision. As such, it would not be necessary to maintain a mandatory national labelling program in order to identify efficient appliances. While the testing standards developed for the Energuide program could continue to serve as the basis for identifying energy efficient appliances, establishing ratings could be done on an "as required" basis. For example, a list of approved appliances, meeting a minimum energy consumption level, may be much less expensive to test for than setting an exact consumption rating. Moreover, as discussed earlier in this report, the cost associated with this testing might be borne by the private sector, government, or shared jointly.

5.7 Convert to voluntary program: The government could withdraw substantially from this area by converting the current program of mandatory labelling to a voluntary scheme fuelled and monitored in effect by the private sector. This would involve among other things:

- . elimination of the current prototype test as discussed earlier;
- . elimination of the current monitoring system used to verify label ratings and replacement with a "challenge" mechanism. In place of the current CSA monitoring, a "challenge" test, based on the existing Energuide standard tests, could be carried out at any accredited test laboratory at the "loser's" expense;
- . maintenance of some forum to encourage the active participation of manufacturers, retailers and consumers. This could be the current CSA SCOPEP or some other similar committee.

One advantage of this option is that government would not be seen as withdrawing completely from an area of energy conservation. It would also reduce government expenditure substantially from the current program budget. Support for a forum for discussion would likely cost the government approximately

\$50K annually. In addition, federal government presence could be limited to attendance at committee meetings, substantially less than the full person-year currently devoted to Energuide.

According to evidence from the evaluation modules however, there is considerable doubt whether private sector support for a voluntary program would be forthcoming. Aside from the question of shifting costs from public to private sector, industry generally will have little incentive to participate if they believe, as they appear to, that consumers make little use of the current Energuide information. Moreover, this option does not address some of the major weaknesses of the Energuide program. To do so would require substantial investment in a program of consumer/retailer education. While this might elicit more support from the private sector, it would also increase costs to the government. In the end however, it is doubtful if any further net benefits would be achievable for the existing Energuide appliances.

It may be considered appropriate to use this option as a mechanism for maintaining a "watching brief" on the state of appliance efficiency in Canada. Monitoring of appliance energy efficiency could be undertaken on an ad hoc basis annually or alternatively, every three to five years. Since it would be difficult to ascertain whether the voluntary program was effective, the main motive for this monitoring would be to check for "slippage" or backsliding in the energy efficiency of appliances. Although there has been some suggestion that backsliding is a potential threat in the absence of mandatory labelling requirements, the evaluation's conclusion is that such slippage, if it were to occur, would be minimal.

In any case, if it were considered to be of sufficient value, this could be verified using independent laboratories and employing the existing Energuide testing standards. Since the cost of such monitoring would have to be borne by the federal government and since little change would be detectable over the short term, it would be advisable to selectively test appliances only every five years.

6. CONSEQUENCES OF RECOMMENDATION

The expected consequences of following the recommended option are detailed in Table 5.

Table 5

EXPECTED CONSEQUENCES OF RECOMMENDED OPTION

- . Reduced regulatory burden on industry
- . Additional expenditure by government avoided
- . Consumers generally unaffected
- . Industry (manufacturers, retailers) indifferent
- . Consumer groups and special interest groups might be critical
- . Canadian Standards Association loses an important contract
- . Potential for minimal, though insignificant, backsliding in energy efficiency of some appliances
- . Potential for increased competition, greater product diversity and lower prices in appliance market

Overall, termination of the Energuide program and removal of the regulations will reduce regulatory burden on the appliance manufacturing industry in Canada, with associated cost savings to industry and, thus to consumers. The federal government will avoid expenditure in the order of \$400K to \$500K annually.

It is expected that individual appliance purchasers would be unaffected, for the most part, by this change in terms of loss of purchase information. The Consumers Association of Canada (CAC) and special interest groups might be critical. The CAC, however, is critical of aspects of the current program and perhaps would never be totally satisfied with any of the proposed options. Criticism would also be expected to come from those associated with the Canadian Standards Association (CSA) since it would be losing an important contract with discontinuation of the program.

EMR has suggested that energy efficiency rating information of the type offered through Energuide, is a valuable addition to their SEEH program. While differing in objectives from the current Energuide program, nevertheless EMR might consider it desirable to their energy conservation programs to maintain some type of monitoring of appliance energy efficiency. This need not be incompatible with terminating the Energuide program.

Manufacturers themselves would be expected to be indifferent to program termination, while retailers, who for the most part have never been closely involved with the program, would not be expected to object.

APPENDIX A

STUDY MODULES

APPENDIX A

STUDY MODULES USED TO EVALUATE ENERGUIDE

The evaluation of Energuide is based on multiple lines of evidence using independant teams in several evaluation modules. These study modules included:

Literature Review: An extensive review of the literature that included an examination of labelling programs in other countries including the Energyguide programs in the U.S., past research studies on the Canadian Energuide programs, and marketing studies oriented to product labelling, and consumer information.

Canadian Manufacturers: All major and some minor actors in the Canadian appliance manufacturing industry were surveyed in the latter part of 1984. Some 40 in-depth interviews were conducted with chief executive officers, marketing managers, and chief engineers of firms engaged in producing household appliances. Hot water heater and furnace manufacturers were included in this survey. A major U.S. manufacturer was also included in this survey. In all cases, the focus was on establishing the potential for Energuide as well as industry's perceptions of the program and its delivery.

Consumers: Evidence on consumers' perceptions and use of Energuide was drawn from a variety of sources including: an in-person survey, national in scope, conducted in February 1984, of some 400 recent purchasers of major household appliances; interviews with Consumers Association of Canada as well as consumer representatives on the CSA's TECHPEP Committee (dealing with Energuide); 12 focus groups conducted in November-December 1984, that included 110 consumers across Canada, addressing consumer behaviour and buying patterns in a general sense; and two recent studies, conducted in 1984 by the U.S. government, examining consumers' perceptions and use of the U.S. energy labelling program of appliances.

Retailers: Information on retailers' knowledge and perceptions of the Energuide labelling program was based on: a formal in-person survey, conducted in March 1984, of sales staff in some 76 retail outlets (that included all the major chain stores) across the country; a simulated shopping exercise conducted in these same locations over this same period, addressing three of the six Energuide appliances (refrigerators, dishwashers, freezers); interviews with the Retail Council of Canada and retail representatives on the CSA's SCOPEP Committees; and a limited number of in-person interviews with retailers conducted over the latter part of 1984.

Expert Opinion: Primarily focussing on technical issues, expert opinion came from the Canadian Standards Association (8 interviews), testing laboratories (4), industry associations (Canadian Gas Association, Canadian Electrical Contractors Association), government personnel (EMR and CMHC, in particular), and the American Council for an energy efficient Economy. Advice on the legislative basis of the Energuide program was also gathered through consultation with government and non-governmental experts.

Modelling and Simulation: Scenarios were elaborated under a range of economic assumptions. Examined program design and logic and the key variables that influence the size of potential program benefits.

Program Files: Program management played an important role in providing background documents about the program and clarifying the issues for the evaluation.

APPENDIX B

MINISTERIAL CORRESPONDENCE WITH CONSUMERS ASSOCIATION OF CANADA

DEC 14 1984

Ms. Sally Hall
President
Consumers' Association of Canada
703-251 Laurier Avenue West
Ottawa, Ontario
K1P 5J6

Dear Ms. Hall:

Thank you for your letter of November 7, 1984, in which you bring to my attention the points raised in the C.A.C.'s 1984 Annual Meeting concerning the present Energuide program.

I note your Association's recognition of the consumer benefits of the program and its request that the program be strengthened by the adoption of mandatory performance standards to accompany the energy consumption rating system. I also note the suggestion that other types of electrical appliances be added to the present program.

As you know, the essential element of the Energuide program is to require the application of the Energuide label to refrigerators, freezers, clothes washers, clothes dryers, dishwashers and ranges to show the average monthly electrical consumption in kilowatt hours for each appliance model. The objectives of the program are to facilitate effective consumer choice when purchasing new appliances by providing information on which the comparison of monthly operating costs can be made and to encourage manufacturers of major household appliances to design appliances having lower energy consumption. In the development of the program, it was decided not to incorporate performance testing other than to ensure that the appliance served the function for which it was intended. In this way, the costs of the development of standards for performance testing could be eliminated and, furthermore, the program would not interfere with the competitive forces which often link brand names to quality and price. The latter are matters which are not otherwise regulated other than through the controls which exist over deceptive or misleading advertisements.

...2

- 2 -

The Energuide program is presently undergoing an evaluation which is to be completed in early 1985. A decision will be made at that time as to whether or not it is still required as a legislated program and, if it is to continue, what form it will take.

I appreciate your bringing to my attention your Association's views on the Energuide program and I can assure you that its recommendations will be considered in the course of the program review.

Yours truly,

ORIGINAL SIGNED BY
ORIGINAL SIGNÉ PAR

Michel Côté

CCAC Viewpoint Why Energuide is Essential

Most consumers recognize that major home appliances are a significant expense, but not everyone takes the cost of running the appliance into consideration when making a final decision. It was for reasons like this that the Energuide rating program was devised. When you buy a refrigerator, for example, you can compare the average monthly energy consumption of the models in the store. This enables you to choose the most efficient of the best-performing fridges.

But Energuide ratings may no longer appear on home appliances. The program, initiated in 1977 by Consumer and Corporate Affairs Canada (CCAC), is currently under review. A decision will soon be made on whether to continue its project funding.

CCAC has strongly supported the development and implementation of the Energuide program since its conception. To date, refrigerators, freezers, washing machines, clothes dryers, stoves and dishwashers must be labelled with an Energuide rating. The program has a dual purpose:

- to provide consumers with energy consumption figures; and
- to encourage competition among manufacturers to design increasingly efficient appliances.

Energuide ratings assume typical operating conditions. Though they may not predict the actual energy consumption in your home, they do allow you to compare models objectively and to know the approximate energy consumption expected.

Manufacturers have responded to the program by designing and producing more efficient appliances, resulting in major savings for consumers. The average monthly energy consumption of the six major appliances included in the program has diminished significantly since Energuide labelling began.

Refrigerators are now equipped with more efficient compressors and better insulation. In 1978, they had Energuide ratings averaging 138 kilowatt-hours (kW-h) per month on average; in 1983, they averaged 115 kW-h per month. It's estimated that a further 19 to 33 per cent savings is possible by 1989. Dishwashers have shown similar decreases in ratings.

For the consumer, this means significant savings. The February 1984 *Canadian Consumer* test comparing six brands of refrigerators shows that the most energy-efficient machine will cost \$450 less to run than the least energy-efficient machine. Obviously, we need more than purchase price to judge what an appliance will cost.

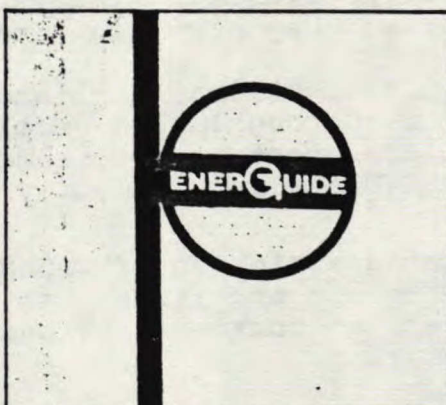
The Energuide directory for washing

CAC Product Test: Frost-Free Refrigerators

Brand	Price*	Energuide rating	15-year operating cost	Total cost	CAC rating
General Electric Medallion	\$860	110 kW-h	\$990	\$1850	good
Kenmore 53970	\$935	105 kW-h	\$945	\$1880	good
Frigidaire FTC 153	\$830	101 kW-h	\$909	\$1739	satisfactory
White Westinghouse WT 154	\$900	127 kW-h	\$1143	\$2043	satisfactory
Moffat MRF 1531	\$880	128 kW-h	\$1152	\$2032	satisfactory
Admiral N681	\$915	165 kW-h	\$1485	\$2400	poor

*prices as of February 1984; information for the purposes of illustration only.

"CAC has strongly supported the development and implementation of the Energuide program since its conception."



machines shows that similar machines have ratings ranging from 45 to 160 kW-h — this would produce a difference of about \$510 in energy costs over 10 years. As energy prices inevitably increase, these differences will be magnified.

The way ahead

Energuide's success is clear. Why, then, is its curtailment even under consideration? One reason is that the program was originally designed to complete its job within a few years. Manufacturers were supposed to produce the ultimate in energy-efficient major appliances and the program would stop there. Experience has shown that improvements are a slow, steady process and that there is still room for improvement. Without a recognized Energuide program, manufacturers will have no incentive to improve their products. Without a recognized program, consumers will again be forced to rely on manufacturers' advertising material for information.

Not only should the Energuide program continue to be funded; its mandate should be expanded. The ratings should take into consideration appliance performance. What good is a dishwasher, for example, that is energy efficient but doesn't clean dishes?

The Canadian Standards Association (CSA) *Standard for Household Refrigerators and Combination Refrigerator/Freezers* has recently been revised to ensure that these machines keep food sufficiently cold, that they're electrically safe and that their energy ratings are clearly displayed for consumer information. We hope that more such integrated standards are forthcoming.

CAC not only wants performance standards included in Energuide ratings; we also want to see more electrical products covered by the program. We suggest that water heating tanks, heat pumps and lamps be considered for addition to the program.

The Energuide program costs the government about \$500 000 a year to promote and administer — a small price for the huge savings it delivers to consumers. CCAC is now reviewing the program internally, and a recommendation on its future is expected to be delivered soon to Consumer and Corporate Affairs minister Michel Côté.

CAC urges the federal government to provide adequate funding for Energuide and to use all avenues at its disposal to advertise the program.

Consumers can show their support for the program by discussing Energuide ratings when making appliance purchases. When all other factors are equal, buy the appliance that uses energy most efficiently. If enough of us use Energuide ratings in our buying decisions, manufacturers, retailers and government will soon get the message.

Sally Hall
President:

Sally A. Hall



**Consumers'
Association
of Canada**

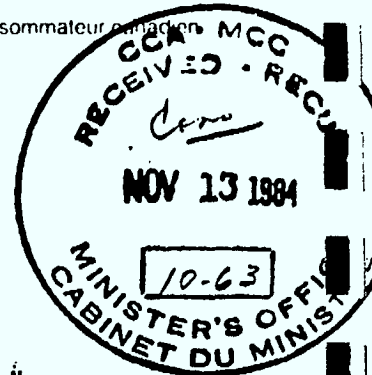
**Association
des consommateurs
du Canada**

- 41 -
National Consumer Policy Society

703-251 Laurier Avenue West,
Ottawa, Ontario K1P 5J6
Telephone (613) 232-9661

Publishers of Canadian Consumer and Le consommateur canadien

November 7, 1984



The Honourable Michel Côté
Minister of Consumer and
Corporate Affairs
House of Commons
Ottawa, Ontario
K1A 0A6

Dear Mr. Côté:

At the Annual General Meeting of the Consumers' Association of Canada held in Vancouver in June 1984, resolutions were adopted concerning Energuide ratings. CAC accepts the following points:

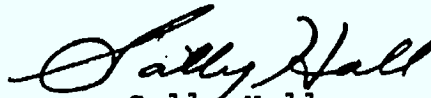
- a) Energuide ratings may not always be based on products having satisfactory levels of performance;
- b) Energuide ratings have been misinterpreted because some consumers believe they are measurements based on optimum performance;
- c) consumers expect electrical appliances to perform their stated function thoroughly and completely and expect true value for dollars spent on appliances;
- d) Energuide ratings are required only on a limited number of appliances;

and that the Consumers' Association of Canada in recognizing the potential for more efficient appliances has promoted the Energuide program which has benefited consumers by encouraging design changes to lower energy consumption.

We therefore request you to develop with Canadian Standards Association committees and/or other applicable standard setting bodies within the national standards system, additional mandatory performance standards appropriate to the electrical appliance. Furthermore, we request that you establish Energuide ratings on the basis of mandatory performance standards. We also urge that the Energuide program be expanded to include additional types of electrical appliances.

Should you desire to enter into discussion on this topic, please feel free to contact us at your earliest convenience.

Yours sincerely,


Sally Hall
President

Encl.

1984 RESOLUTIONS

STANDARDS

16. ENERGUIDE RATINGS

- WHEREAS Energuide ratings may not always be based on products having satisfactory levels of performance, and
- WHEREAS Energuide ratings have been misinterpreted because some consumers believe they are measurements based on optimum performance, and
- WHEREAS consumers expect electrical appliances to perform their stated function thoroughly and completely and expect true value for dollars spent on appliances, and
- WHEREAS Energuide ratings are required only on a limited number of appliances, and
- WHEREAS CAC in recognizing the potential for more efficient appliances has promoted the Energuide program which has benefited consumers by encouraging design changes to lower energy consumption; therefore,

BE IT RESOLVED that CAC request Consumer and Corporate Affairs Canada to develop with Canadian Standards Association committees and/or other applicable standard setting bodies within the national standards system, additional mandatory performance standards appropriate to the electrical appliance, and

BE IT FURTHER RESOLVED that CAC request Consumer and Corporate Affairs Canada and the Canadian Standards Association to establish Energuide ratings on the basis of mandatory performance standards, and

BE IT FURTHER RESOLVED that CAC urge that the Energuide program be expanded to include additional types of electrical appliances.

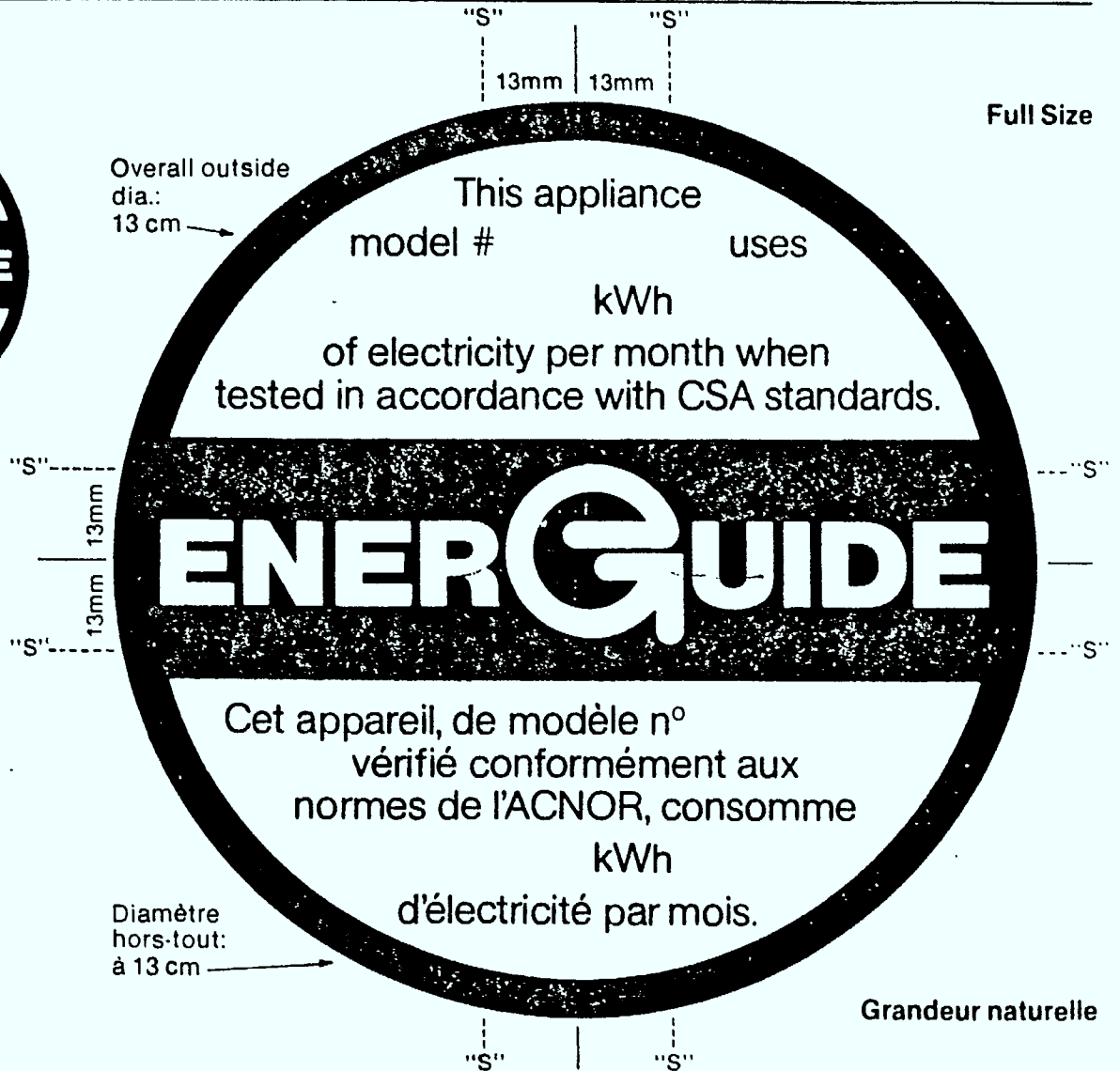
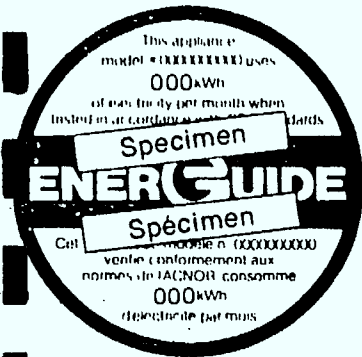
ADOPTED JUNE 1984

APPENDIX C

THE ENERGUIDE LABEL

ENERGUIDE Label Specifications

Size:	
Diameter:	13 cm - tolerance $\pm 0,5$ mm
Adhesive:	to be specified by appliance manufacturer (depending on the finish used on the appliance)
Paper stock:	55-60 lb., white with high gloss finish
Ink color:	black, high gloss PMS 433 — Or equivalent
Type sizes:	for label - exactly as shown for model numbering - 4 mm min. height for kWh values - 6 mm min. height
Self-destruct features:	score horizontally and vertically at points marked "S" (for "score line") each 13 mm from centerline Print model numbering and kWh value in the spaces provided.



Dimension: Spécifications pour les étiquettes ENERGUIDE

Diamètre:	13 cm - tolérance $\pm 0,5$, mm
Adhésif:	à être spécifié par le fabricant de l'appareil (en fonction du fini utilisé sur l'appareil)
Papier:	qualité 55-60 lb, blanc au fini très brillant
Couleur de l'encre:	noir, très brillant PMS 433 — Ou équivalent
Dimensions des caractères d'imprimerie:	• pour les étiquettes - tel qu'illustré • pour les numéros de modèle - 4 mm hauteur minimale • pour les données en kWh - 6 mm hauteur minimale
Mesures contre la falsification:	strier horizontalement et verticalement aux points marqués "S" (stries) 13 mm chacune de la ligne médiane Imprimer les numéros de modèle et les kWh dans les espaces réservés à cette fin

APPENDIX D

PROGRAM PROFILE

Appendix D

PROGRAM PROFILE

Energuide is generally described as an informational program for consumers. Labels are affixed to major household appliances (refrigerators, ranges, dishwashers, freezers, clothes washers and dryers) indicating electrical energy consumption in kilowatt hours. The Energuide directory, designed as a companion to the labels, is a compilation of label information and also describes the calculations needed to compare life cycle energy costs of appliances. The program takes a two-pronged approach aimed not only at consumers but also at manufacturers. It is expected that if consumers are given energy consumption information then they will respond by purchasing the appliance which gives best value considering both the purchase price and the energy-related operating costs over the life-time of the appliance. Manufacturers are expected to view energy efficiency as described by the Energuide label as a sales feature and to compete on that basis in addition to the standard competitive features. Early program documentation suggests that the intended impacts of the program were reduced energy costs for consumers and a positive contribution to national energy conservation.

Development of the Energuide program was initiated by a Cabinet directive issued in 1975. The regulations were passed under the Consumer Packaging and Labelling Act, hence the program has been administered by Consumer and Corporate Affairs Canada (CCAC). The Department of Energy, Mines and Resources was involved in a consulting role in the early stages of the program. Energuide labels first appeared on appliances in late 1978. Because the program was meant to give an initial impetus to accelerate the introduction of more energy efficient appliances and to encourage consumers to purchase more energy-efficient appliances, funding for the program had been scheduled to terminate in March 1986.

APPENDIX E

ESTIMATED COSTS OF THE PROGRAM

Appendix E

Estimated Cost of Program**

	Annual Cost Range (\$000)**	
	<u>Low Estimate</u>	<u>High Estimate</u>
Direct Federal Expenditure	\$400	\$500
Average Added Cost*		
@ \$ 5 per appliance	\$11500	
@ \$25 per appliance		\$57500
Average Compliance Cost (Manufacturer)**		
@ \$.50 per appliance	\$ 1100	
@ \$1.00 per appliance		<u>\$2300</u>
TOTAL	\$13000	\$60300

* Based on annual sales of appliances of 2.3 million in Canada, assuming a 'no-growth' scenario.

** Costs of the program to industry are based on interviews with manufacturers and expert opinion. Range of costs are estimates only to demonstrate potential magnitude of regulatory costs. It is very reasonable to expect that actual costs lie within the estimated range. For purposes of management information it was not felt necessary or worthwhile to allocate additional evaluation resources to narrow the possible range. Figures are in 1985 dollars with no discount factors applied.

APPENDIX F

FORECAST OF APPLIANCE SALES IN CANADA

Appendix F

Appliance Sales - Historical and Projected
(000 Units)

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Refrigerators	616	586	542	499	372	583	518	532	548	565	578	592
Freezers	318	335	341	322	272	279	288	295	300	305	310	310
Dishwashers	291	333	308	274	215	246	262	274	291	303	320	332
Clotheswashers	558	537	534	484	404	465	481	496	508	520	529	539
Electric Dryers	389	380	375	341	277	325	341	353	363	375	385	395
Electric Ranges	508	470	430	402	315	404	414	426	440	455	468	481
TOTAL	2680	2641	2530	2322	1855	2222	2304	2376	2450	2523	2890	2649

Source: Canadian Appliance Manufacturers Association, Industry Forecast 1984

APPENDIX G

ENERGUIDE REGULATIONS

(extract from a consolidation of the
Consumer Packaging and Labelling Act)

APPENDIX G

FROM

CONSUMER PACKAGING AND LABELLING ACT AND REGULATIONS

Energy Consumption of Refrigerators

41. (1) In this section,

"declaration of energy consumption" means a declaration in the form set out in Schedule III that complies with the specifications set out therein and that states the quantity of electrical energy used monthly by the refrigerator on which the declaration appears when the refrigerator is tested in accordance with Standard C-300-M1978, established by the Canadian Standards Association;

"refrigerator" means an electrically operated household refrigerator or combination refrigerator-freezer manufactured after September 30, 1978 and having a net refrigerated volume, defined and measured in accordance with section 3 of Standard C- 300-M1978, established by the Canadian Standards Association, of 200 litres or more;

"refrigerator compartment" means that part of a refrigerator designed for storage of food in a refrigerated but not a frozen state.

(2) Subsection 7(1), paragraphs 7(2)(c) and 10(a), subparagraph 10(b)(iii) and section 13 of the Act apply to a refrigerator that is ordinarily sold to or purchased by a consumer in the manner described in subparagraph 18(1)(h)(i) or (ii) of the Act.

(3) Where a dealer sells or imports into Canada a refrigerator

(a) that bears a label on the outside of the door or one of the doors of the refrigerator, the label shall show a declaration of energy consumption, or

(b) that does not bear a label on the outside of the door or one of the doors of the refrigerator, every other label applied to the refrigerator shall show a declaration of energy consumption,

unless a declaration of energy consumption appears in any other prominent place on the outside of the door or one of the doors of the refrigerator or on the inside of the refrigerator on the front half of the wall of the refrigerator compartment to which the hinges of the door to the said compartment are attached. SOR/78-651, s. 1.

Energy Consumption of Freezers

42. (1) In this section,

"declaration of energy consumption" means a declaration in the form set out in Schedule III that complies with the specifications set out therein and that states the quantity of electrical energy used monthly by the freezer on which the declaration appears when the freezer is tested in accordance Standard C359-M1979, established by the Canadian Standards Association;

"freezer" means an electrically operated household freezer manufactured after November 30, 1979 and having a net freezer volume, defined and measured in accordance with clause 3 of Standard C359-M1979, established by the Canadian Standards Association, of 100 litres or more.

(2) Subsection 7(1), paragraphs 7(2)(c) and 10(a), subparagraph 10(b)(iii) and section 13 of the Act apply to a freezer that is ordinarily sold to or purchased by a consumer in the manner described in subparagraph 18(1)(h)(i) or (ii) of the Act.

(3) Where a dealer sells or imports into Canada a freezer

(a) that bears a label on the outside of the door or one of the doors of the freezer, the label shall show a declaration of energy consumption, or

(b) that does not bear a label on the outside of the door or one of the doors of the freezer, every other label applied to the freezer shall show a declaration of energy consumption,

unless a declaration of energy consumption appears in any other prominent place on the outside of the door or one of the doors of the freezer. SOR/79-844, s. 1. (established as section 43 by SOR/79-844)

Energy Consumption of Dishwashers

43. (1) In this section,

"declaration of energy consumption" means a declaration in the form set out in Schedule III that complies with the specifications set out therein and that states the quantity of electrical energy used monthly by the dishwasher on which the declaration appears when the dishwasher is tested in accordance with Standard C373-M1980, established by the Canadian Standards Association;

"dishwasher" means an electrically operated household dishwasher manufactured after October 31, 1980;

"front surface" means, in the case of a dishwasher to which a decorative panel is affixed after being shipped by the manufacturer, its front surface before the panel is affixed.

(2) Subsection 7(1), paragraphs 7(2)(c) and 10(a), subparagraph 10(b)(iii) and section 13 of the Act apply to a dishwasher that is ordinarily sold to or purchased by a consumer in the manner described in subparagraph 18(1)(h)(i) or (ii) of the Act.

(3) Where a dealer sells or imports into Canada a dishwasher

(a) that bears a label on its top on the case of a portable dishwasher, or that bears a label on the upper three quarters of its exterior front surface, in the case of any dishwasher whether or not it is portable the label shall show a declaration of energy consumption; or

(b) that does not bear a label described in paragraph (a), every other label applied to the dishwasher shall show a declaration of energy consumption,

unless a declaration of energy consumption appears in any other prominent place on the outside of the door of the dishwasher.

Energy Consumption of Clothes Washers

44. (1) In this section,

"declaration of energy consumption" means a declaration in the form set out in Schedule III that complies with the specifications set out therein and that states the quantity of electrical energy used monthly by the clothes washer on which the declaration appears when the clothes washer is tested in accordance with Standard C360-M1980, established by the Canadian Standards Association;

"clothes washer" means an electrically-operated household clothes washer manufactured after October 31, 1980, other than a wringer washer or a twin tub washer/spinner.

(2) Subsection 7(1), paragraphs 7(2)(c) and 10(a), subparagraph 10(b)(ii) and section 13 of the Act apply to a clothes washer that is ordinarily sold to or purchased by a consumer in the manner described in subparagraph 18(1)(h)(i) or (ii) of the Act.

(3) Where a dealer sells or imports into Canada a clothes washer

(a) that bears a label on its top or on the upper three-quarters of its exterior front surface, the label shall show a declaration of energy consumption, or

(b) that does not bear a label described in paragraph (a), every other label applied to the clothes washer shall show a declaration of energy consumption,

unless a declaration of energy consumption appears in any other prominent place on the outside of the front or top of the clothes washer."

Energy Consumption of Ranges

45. (1) In this section,

1980-3504
81-32
22/12/80

"declaration of energy consumption" means a declaration in the form set out in Schedule III that complies with the specifications set out therein and that states the quantity of electrical energy used monthly by the range on which the declaration appears when the range is tested in accordance with Standard C358-M1979, established by the Canadian Standards Association;

"range" means an electrically-operated household range manufactured after December 31, 1980, including

- (a) free-standing ranges equipped with surface elements and one or more ovens,
- (b) built-in combinations of surface elements and one or more ovens,
- (c) wall-mounted ovens with one or more ovens, and
- (d) counter-mounted surface element assemblies,

but excluding portable units designed for an electrical supply of 120V and microwave ovens.

(2) Subsection 7(1), paragraphs 7(2)(c) and 10(a), sub-paragraph 10(b)(iii) and section 13 of the Act apply to a range that is ordinarily sold to or purchased by a consumer in the manner described in subparagraphs 18(1)(h)(i) or (ii) of the Act.

(3) Where a dealer sells or imports into Canada a range

(a) that bears a label on its top surface or on the upper three-quarters of its exterior front surface, the label shall show a declaration of energy consumption, or

(b) that does not bear a label described in paragraph (a), every other label applied to the range shall show a declaration of energy consumption,

unless a declaration of energy consumption appears in any other prominent place on the front or top of the range.

Energy Consumption of Clothes Dryers

46.(1) In this section,

"declaration of energy consumption" means a declaration in the form set out in Schedule III that complies with the specifications set out therein and that states the quantity of electrical energy used monthly by the clothes dryer on which the declaration appears when the clothes dryer is tested in accordance with Standard C361-M1982, established by the Canadian Standards Association;

1982-985
82-377
01/04/82

"clothes dryer" means an electrically-operated household clothes dryer manufactured after March 31, 1982 other than a commercial clothes dryer or combination washer-dryer.

(2) Subsection 7(1), paragraphs 7(2)(c) and 10(a), subparagraph 10(b)(iii) and section 13 of the Act apply to a clothes dryer that is ordinarily sold to or purchased by a consumer in the manner described in subparagraph 18(1)(h)(i) or (ii) of the Act.

(3) Where a dealer sells or imports into Canada a clothes dryer

(a) that bears a label on its top or on the upper three-quarters of its exterior front surface, the label shall show a declaration of energy consumption, or

(b) that does not bear a label described in paragraph (a), every other label applied to the clothes dryer shall show a declaration of energy consumption,

unless a declaration of energy consumption appears in any other prominent place on the outside of the front or top of the clothes dryer.

APPENDIX H

SAMPLE PAGES FROM THE ENERGUIDE DIRECTORY

THE ENERGUIDE PROGRAM

The ENERGUIDE program was developed to inform Canadians of the amount of electricity consumed by major household appliances and to help them to save money and energy. Under the program, major electric household appliances are tested to determine how much energy they consume. Their consumption rating can be found on an ENERGUIDE label placed on each new unit. When you are shopping for a major household appliance, such information will help you to determine which will consume the least amount of energy and still meet your needs.

By using this directory, consumers, retailers and manufacturers can compare the energy consumption of appliances that are similar in dimension and features, and thereby make "energy-wise" decisions when purchasing, distributing or manufacturing a new appliance.

Consumer and Corporate Affairs Canada has worked closely with consumer associations, manufacturers and electrical utilities to develop the ENERGUIDE program, and to inform Canadians of the test results. The energy consumption ratings in this directory and on the ENERGUIDE labels have been verified by the Canadian Standards Association (CSA).

Details of the standards and test methods are available from Canadian Standards Association, 178 Rexdale Blvd., Rexdale (Toronto), Ontario M9W 1R3, (416) 744-4000.

HOW TO USE THE ENERGUIDE DIRECTORY

On the following pages, all refrigerators, freezers, ranges, clothes washers, clothes dryers and dishwashers sold in Canada are grouped according to type of appliance and listed in alphabetical order, by brand name.

Each entry under a brand name provides the manufacturer's name and address, the model numbers of the appliances available, some important features and the monthly electrical consumption, expressed in kilowatt-hours (kWh). Each section is preceded by a glossary explaining the symbols used in the list.

LE PROGRAMME ENERGUIDE

Le programme ENERGUIDE a été mis sur pied afin d'informer les Canadiens de la quantité d'électricité utilisée par les gros appareils électroménagers et de les aider à épargner argent et énergie. Dans le cadre de ce programme, tous les gros appareils électroménagers sont vérifiés afin d'en déterminer la consommation d'énergie. Cette estimation est inscrite sur l'étiquette ENERGUIDE placée sur tous les nouveaux appareils visés par le programme. L'information vous sera certainement très utile lors de votre magasinage pour identifier l'appareil électroménager qui, tout en satisfaisant vos besoins, consommera le moins d'énergie électrique possible.

En se servant de ce répertoire, consommateurs, détaillants et fabricants peuvent comparer la consommation d'énergie des appareils qui sont semblables, quant à leurs dimensions et caractéristiques, et de ce fait prendre de meilleures décisions lors de l'achat, de la distribution et de la fabrication d'un nouvel appareil.

Consommation et Corporations Canada a travaillé en étroite collaboration avec les associations de consommateurs, les fabricants et les compagnies distributrices d'électricité, afin d'élaborer le programme ENERGUIDE et d'informer les Canadiens du résultat des essais. Les évaluations de consommation d'énergie contenues dans ce répertoire et sur les étiquettes ENERGUIDE ont été vérifiées par l'Association canadienne de normalisation (ACNOR).

Vous pouvez obtenir les détails de ces normes et méthodes de test en contactant l'Association canadienne de normalisation, 178, boul. Rexdale, Rexdale, (Toronto), Ontario M9W 1R3, tél.: (416) 744-4000.

COMMENT SE SERVIR DU RÉPERTOIRE ENERGUIDE

Dans les pages qui suivent, vous trouverez la liste de toutes les marques de réfrigérateurs, congélateurs, cuisinières électriques, machines à laver, sècheuses et lave-vaisselles, vendues au Canada. Cette liste est dressée par groupe d'appareils et par ordre alphabétique selon la marque de commerce.

Une entrée au répertoire vous donne pour chaque marque de commerce, le nom et l'adresse du fabricant, le numéro des modèles disponibles,

ENERGUIDE DIRECTORY (Continued)

The purpose of this directory is to enable consumers, once they have decided on the main features of the appliance they want to buy, to determine which model consumes the least energy but still meets their needs. It should be noted that the energy ratings in this list are valid as of April 1, 1983.

ENERGY CONSUMPTION: A FACTOR

Although it does not mean to suggest that energy consumption should be your only consideration when selecting a new household appliance, Consumer and Corporate Affairs Canada strongly advocates that this factor be taken into account along with others before you make your final decision to purchase.

Did you know that the savings in energy consumption of one appliance compared to another over the life of that appliance may be enough to offset its purchase price?

To compare operating costs of the various models, you merely have to multiply the monthly consumption figure by the kWh cost in your area.

$$\begin{array}{l} \text{Monthly} \\ \text{cost} \\ \text{(in cents)} \end{array} = \begin{array}{l} \text{kWh per month} \\ \text{(ENERGUIDE)} \end{array} \times \begin{array}{l} \text{cost of 1 kWh (in cents)} \\ \text{in your area} \\ \text{(electrical utility)} \end{array}$$

One more easy calculation will give you the total energy cost for a ten-year period:

$$\begin{array}{l} \text{Total cost*} \\ \text{of electricity} \\ \text{(in dollars)} \end{array} = \frac{\text{Monthly cost} \times 12 \text{ months} \times 10 \text{ years}}{100}$$

*It should be noted that total cost is based on the current cost of a kWh. The cost provided is thus a minimum figure.

The following chart, based on the preceding calculations, illustrates total electricity costs over a ten-year period.

RÉPERTOIRE ENERGUIDE (Suite)

quelques caractéristiques importantes ainsi que la consommation mensuelle d'électricité exprimée en kilowattheures (kWh). Chaque section débute par un glossaire des symboles utilisés dans le tableau.

L'utilité première de ce répertoire est de permettre au consommateur, une fois qu'il a établi les principales caractéristiques de l'appareil qu'il désire acheter, d'identifier le modèle qui, tout en rencontrant ses exigences, consommera le moins d'énergie. A noter que ce répertoire vous donne les cotes de consommation telles que mesurées au 1er avril 1983.

ÉNERGIE: CRITÈRE DE SÉLECTION

Loin de vouloir suggérer que la consommation d'énergie devrait être l'unique critère de sélection de votre nouvel appareil électroménager, Consommation et Corporations Canada vous encourage fortement à ajouter ce critère à votre liste avant de faire votre choix final.

Saviez-vous que la différence de consommation d'énergie de certains appareils électroménagers est suffisamment grande pour que l'économie représente, sur la période de vie utile de l'appareil, le prix d'achat de celui-ci?

Si vous désirez comparer le coût de fonctionnement de différents modèles, il vous suffit de multiplier la consommation mensuelle par le coût d'un kilowattheure dans votre région:

$$\begin{array}{l} \text{Coût} \\ \text{mensuel} \\ \text{(en cents)} \end{array} = \begin{array}{l} \text{kWh/mois} \\ \text{(ENERGUIDE)} \end{array} \times \begin{array}{l} \text{coût de 1 kWh (en cents)} \\ \text{dans votre région} \\ \text{(compagnie distributrice} \\ \text{d'électricité)} \end{array}$$

Par une simple opération supplémentaire, vous pouvez obtenir le coût total en énergie pour une période de 10 ans:

$$\begin{array}{l} \text{Coût* total} \\ \text{d'électricité} \\ \text{(en dollars)} \end{array} = \frac{\text{Coût mensuel} \times 12 \text{ mois} \times 10 \text{ ans}}{100}$$

*Noter que le coût total est basé sur la valeur actuelle d'un kilowattheure. Il faut donc voir ce coût comme un minimum.

Vous trouverez plus bas un graphique, basé sur les équations qui précèdent, vous donnant le coût total d'électricité sur une période d'utilisation de 10 ans.

2¢	\$120	\$180	\$240	\$300	\$360	\$420	\$480
3	180	270	360	450	540	630	720
4	240	360	480	600	720	840	960
5	300	450	600	750	900	1,050	1,200
6	360	540	720	900	1,080	1,260	1,440
7	420	630	840	1,050	1,260	1,470	1,680
8	480	720	960	1,200	1,440	1,680	1,920
9	540	810	1,080	1,350	1,620	1,890	2,160
10	600	900	1,200	1,500	1,800	2,100	2,400
50	75	125	175	225	275	325	375

Ten Year Electrical Energy Bill Comparison Chart

EXAMPLE:

For an appliance that consumes 150 kWh per month in an area where the cost per kWh is 4 cents, the total ten-year energy bill will be at least \$720. However, if the appliance consumes 100 kWh per month, the energy bill will only be \$480. This means a saving of \$240.

2¢	\$120	\$180	\$240	\$300	\$360	\$420	\$480
3	180	270	360	450	540	630	720
4	240	360	480	600	720	840	960
5	300	450	600	750	900	1,050	1,200
6	360	540	720	900	1,080	1,260	1,440
7	420	630	840	1,050	1,260	1,470	1,680
8	480	720	960	1,200	1,440	1,680	1,920
9	540	810	1,080	1,350	1,620	1,890	2,160
10	600	900	1,200	1,500	1,800	2,100	2,400
50	75	125	175	225	275	325	375

Tableau comparatif du coût de l'électricité sur une période de 10 ans.

EXEMPLE:

Considérons un appareil consommant 150 kWh/mois dans une région où un kilowattheure coûte 4 ¢. La facture énergétique totale pour 10 ans sera d'au moins \$720; si l'appareil consomme 100 kWh/mois, elle sera de \$480, donc une économie de \$240.

REFRIGERATORS

Glossary of Symbols

The following symbols will appear under the "Type" column heading.

- A** Single-door Refrigerator with interior mounted freezer section where the refrigerated surface(s) partially enclose the freezer section and cool the fresh food compartment by natural convection. Requires manual defrosting. (Defrost action might be automatically terminated.) Single control.
- B** Single-door Refrigerator with no freezer section, (might have a compartment for freezing and storage of ice). ("All Refrigerator"). Single control.
- C** Two-door Combination Refrigerator/Freezer with top-mounted freezer section. Defrost for fresh food section is automatic, but manual defrost required for freezer section. Distinguished from Type D below by absence of circulating fan and usually by presence of separate cooling plate at back of fresh food compartment ("Cycle Defrost"). Single control. (Sometimes advertised as "auto defrost").
- D** Two-door Combination Refrigerator/Freezer with top-mounted freezer section, and automatic defrost ("Frost Free"). Separate controls for freezer and fresh food.
- E** Two-door Combination Refrigerator/Freezer with bottom-mounted freezer section, and automatic defrost ("Frost-Free"). Separate controls for freezer and fresh food.
- F** Two-door Combination Refrigerator/Freezer with freezer section mounted beside the fresh food section ("Side-by-Side") and automatic defrost ("Frost Free"). Separate controls for freezer and fresh food.

RÉFRIGÉRATEURS

Glossaire des symboles

Les symboles qui suivent sont utilisés sous la rubrique "Type".

- A** Réfrigérateur à une porte avec espace de congélation partiellement entouré par des parois refroidies qui réfrigèrent le compartiment denrées fraîches par convection naturelle. Dégivrage manuel pouvant prendre fin automatiquement. Commande unique.
- B** Réfrigérateur à une porte sans espace de congélation (peut avoir un compartiment pour la congélation et le stockage des glaçons). Commande unique.
- C** Réfrigérateur-congélateur à deux portes avec congélateur dans la partie supérieure. Dégivrage automatique du compartiment denrées fraîches, et dégivrage manuel pour le congélateur. Contrairement au type D ci-dessous, il ne possède pas de ventilateur, et est habituellement muni d'une plaque de refroidissement à même la paroi arrière du compartiment denrées fraîches. Commande unique. (Parfois étiqueté "à dégivrage automatique").
- D** Réfrigérateur-congélateur à deux portes avec congélateur dans la partie supérieure et dégivrage automatique (sans givre). Commandes individuelles pour les compartiments congélateur et denrées fraîches.
- E** Réfrigérateur-congélateur à deux portes avec congélateur dans la partie inférieure, et à dégivrage automatique (sans givre). Commandes individuelles pour les compartiments congélateur et denrées fraîches.
- F** Réfrigérateur-congélateur à deux portes avec congélateur et compartiment à denrées fraîches côte à côte et à dégivrage automatique (sans givre). Commandes individuelles pour les compartiments congélateur et à denrées fraîches.

REFRIGERATORS (Continued)

- G** Three-door Combination Refrigerator/Freezer with two-door freezer section mounted beside the fresh food section ("Side-by-Side") and automatic defrost ("Frost Free"). Separate controls for freezer and fresh food.

Model numbers shown may have additional prefix and/or suffix numbers or letters which indicate features (colour, door-swing, etc.) that do not affect energy consumption rating.

Energy consumption for models with anti-condensation heater switch represents the mean between highest and lowest settings.

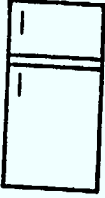
RÉFRIGÉRATEURS (Suite)

- G** Réfrigérateur-congélateur à trois portes avec congélateur à deux portes juxtaposées à celle des denrées fraîches (côte à côte), et dégivrage automatique (sans givre). Commandes individuelles pour les compartiments congélateur et à denrées fraîches.


Les numéros de modèle peuvent aussi comporter des chiffres ou des lettres comme préfixes ou suffixes pour identifier des caractéristiques telles la couleur, le côté d'ouverture des portes, etc., qui n'ont rien à voir avec la consommation d'énergie.

La consommation d'énergie indiquée pour les modèles munis d'un interrupteur pour l'élément chauffant anti-condensation, représente la moyenne des réglages supérieur et inférieur.

REFRIGERATORS RÉFRIGÉRATEURS

Model Modèle	Type	Cu. Ft. Fresh Food p3 Denrées fraîches	Cu. Ft. Freezer p3 Denrées congelées	Total Cu. Ft. p3	Energy Consumption, kWh/month Consommation d'énergie, kWh/mois
					
ADMIRAL Inglis Limited 1901 Minnesota Court Mississauga, Ontario L5N 3A7					
C1081B	A	8.79	1.21	10.0	51
C1081	A	8.79	1.21	10.0	58
C1381*	A	11.41	1.59	13.0	70
AR581	B	15.50	.00	15.5	87
T381*	C	10.32	2.53	12.8	91
N481*	D	10.47	3.73	14.2	154
BND481	D	10.47	3.73	14.2	154
N381*	D	10.74	2.26	13.0	149
IN881*	D	11.13	4.37	15.5	165
N481	D	11.13	4.37	15.5	165
N581*	D	11.48	3.89	15.4	136
ND581	D	11.48	3.89	15.4	136
N781*	D	12.26	4.69	17.0	121
IN781*	D	12.26	4.69	17.0	121
ND781	D	12.26	4.69	17.0	121
NS881S	F	12.65	5.50	18.2	143
CDNS22A9	F	15.18	8.51	21.7	168
NS881S*	G	12.65	5.50	18.2	150
IN881S	G	12.65	5.50	18.2	150
*May have one or two prefix letters. Peut avoir une ou deux lettres préfixe.					
AMANA Amana Refrigeration Inc. Amana, Iowa 52203					
ESR12E	C	9.51	2.72	12.2	51
ESR14E	C	10.87	3.18	14.1	55
ESR16E	C	12.49	3.71	16.2	59
TM14F	D	10.92	3.23	14.2	86
TM14G	D	10.92	3.23	14.2	86
TM18F	D	12.39	3.79	16.2	99
TM18SP	D	12.39	3.79	16.2	99
T8C18E	D	13.80	4.22	18.0	79
T*18F	D	13.99	4.23	18.2	114
T*20F	D	14.47	5.57	20.0	125
TK120F	D	14.47	5.57	20.0	125
TL20F	D	14.47	5.57	20.0	125
ESBFC18E	E	10.82	5.44	19.3	102
BC20E	E	16.48	8.48	22.9	141
SR18F	F	11.13	7.92	19.1	110
SR22F	F	14.03	7.92	22.0	111

REFRIGERATORS RÉFRIGÉRATEURS

Model Modèle	Type	Cu. Ft. Fresh Food p3 Denrées fraîches	Cu. Ft. Freezer p3 Denrées congelées	Total Cu. Ft. p3	Energy Consumption, kWh/month Consommation d'énergie, kWh/mois
					
AMANA (Continued/suite)					
SL22F	F	14.03	7.92	22.0	111
SR25F	F	15.97	9.07	25.0	123
SR118F	G	11.13	7.59	18.7	132
SDI22F	G	14.12	7.59	21.7	134
SLDI22F	G	14.12	7.59	21.7	134
SDI25F	G	18.05	9.75	24.8	146
*May be letter C, R or M. Peut être la lettre C, R ou M.					
BEAUMARK Division of Simpsons/The Bay 2 Bloor Street East Toronto, Ontario M4W 3H7					
30100-1 Series	A	9.21	1.02	10.2	47
30100-2 Series	A	9.21	1.02	10.2	47
30200 Series	A	9.21	1.02	10.2	47
30100 Series	A	9.21	1.02	10.2	60
33800-1 Series	A	11.36	1.79	13.2	53
33800-2 Series	A	11.36	1.79	13.2	53
33600 Series	A	11.36	1.79	13.2	53
33800 Series	A	11.36	1.79	13.2	64
31200-3 Series	B	12.30	.00	12.3	75
31200-4 Series	B	12.30	.00	12.3	75
31250 Series	B	12.30	.00	12.3	75
31200 Series	B	12.30	.00	12.3	87
32700 Series	D	8.30	2.64	10.9	105
33700 Series	D	10.24	3.28	13.5	108
33900-1 Series	D	10.29	3.14	13.4	119
35900-1 Series	D	11.10	4.10	15.2	127
35700 Series	D	11.10	4.10	15.2	127
37900-1 Series	D	12.50	4.72	17.2	128
37700 Series	D	12.50	4.72	17.2	128
38900 Series	D	14.19	5.41	19.6	135
38700 Series	D	14.19	5.41	19.6	135
The last one or two zeros in the 5 digit series number can be any digit 0 to 9 or the last zero may be blank. Les derniers deux zéros du numéro de série du modèle peuvent être remplacés par n'importe quel chiffre entre 0 et 9 ou le dernier zéro peut être omis.					

FREEZERS

Glossary of Symbols

The following symbols will appear under the "Type" column heading.

- A Upright freezer, manual defrost.
- B Upright freezer, automatic defrost ("Frost-Free").
- C Chest freezer, manual defrost.

In addition to the "Freezer Volume" in litres stated in the directory, that has been calculated by the manufacturers in accordance with C359-M1979, this Directory also lists specific "Freezing Capability" as determined by the manufacturer in accordance with the above standard, and verified by CSA.

The "Freezing Capability" may be defined as the "ability" of a food freezer to freeze a specific amount of food in a defined time. As various foods freeze at different rates, a uniform measure has been developed using kilograms of ice produced per 24 hours, as a "standard unit", and relates to the amount of food that may be frozen by a freezer in a 24-hour period.

Model numbers shown may have additional prefix and/or suffix numbers or letters which indicate features (colour, door-swing, etc.) that do not affect energy consumption rating.

CONGÉLATEURS

Glossaire des symboles

Les symboles qui suivent sont utilisés sous la rubrique "Type".

- A Congélateur vertical à dégivrage manuel.
- B Congélateur vertical à dégivrage automatique (sans givre).
- C Congélateur coffre à dégivrage manuel.


En plus du "volume de congélation" en litres mentionné dans le répertoire et calculé par les fabricants conformément à la norme C359-M1979, ce répertoire donne le "pouvoir de congélation" spécifique tel qu'il est déterminé par le fabricant conformément à la norme mentionnée ci-dessus et vérifié par l'ACNOR.

Le "pouvoir de congélation" est défini comme la capacité d'un congélateur à congeler une quantité de denrées déterminée dans une période de temps donnée.


Compte tenu du fait que la vitesse de congélation peut varier selon les types de denrées, on utilise le nombre de kilogrammes de glace produite par 24 heures comme "unité de base" pour établir une mesure uniforme qui se rapporte à la quantité de denrées pouvant être congelée en 24 heures.

Les numéros de modèle peuvent aussi comporter des chiffres ou des lettres comme suffixes pour identifier des caractéristiques telles que la couleur, le côté d'ouverture des portes, etc., qui n'ont rien à voir avec la consommation d'énergie.

FREEZERS CONGÉLATEURS

Model Modèle	Type	Vol. (L)	Freezing Capability kg/24 hr Pouvoir de congélation kg/24 h	Energy Consumption, kWh/month Consommation d'énergie, kWh/mois
				
AMANA Amana Refrigeration Inc. Amana, Iowa 52203				
ESU17C	A	481	12.7	102
U23C	A	660	16.9	158
ESUF16C	B	459	14.2	107
UF22C	B	620	19.6	202
C10B	C	285	3.8	89
CD10B	C	285	3.8	89
C15B-1	C	425	7.9	87
C15B-2	C	425	7.7	86
C15B	C	425	7.7	85
C19B-1	C	538	15.9	125
C23B-1	C	654	12.8	137
C28B-1	C	783	14.7	152
ARCTIC STAR WCI Canada Ltd. 490 York Road Guelph, Ontario N1E 3H8				
ASC12	C	343	9.5	86
ASC15	C	428	13.5	74
ASC18-4	C	513	13.2	72
ASC18B-3	C	513	12.8	81
ATLAS General Freezer Ltd. 9230 Islington Avenue P.O. Box 600 Woodbridge, Ontario L4L 1B3				
GU8	A	177	4.0	92
GU11	A	312	3.8	82
GU16	A	484	10.7	105
G5	C	148	4.5	58
G7	C	199	4.9	67
GN8	C	215	14.0	42
G9	C	255	4.0	68
G12	C	332	5.5	77
GN13	C	371	18.9	55
G15	C	424	12.1	84
G16	C	509	8.0	115
GN20	C	552	12.8	68
G22	C	622	.0	120

FREEZERS CONGÉLATEURS

Model Modèle	Type	Vol. (L)	Freezing Capability kg/24 hr Pouvoir de congélation kg/24 h	Energy Consumption, kWh/month Consommation d'énergie, kWh/mois
				
BEAUMARK Division of Simpsons/The Bay 2 Bloor Street East Toronto, Ontario M4W 3H7				
83040 Series	A	131	3.5	49
83100 Series	A	288	9.1	59
83120 Series	A	354	6.6	110
83130 Series	A	385	13.0	84
83160 Series	A	487	9.6	137
80520 Series	C	147	6.3	64
80500 Series	C	147	6.1	58
80730 Series	C	212	8.7	47
80740 Series	C	212	8.7	47
80720 Series	C	212	8.7	47
80700 Series	C	212	7.8	51
81230 Series	C	343	9.9	58
81220 Series	C	343	8.9	58
81200 Series	C	343	8.5	66
81520 Series	C	428	14.5	84
81500 Series	C	428	13.5	74
81820 Series	C	513	13.2	72
81800 Series	C	513	12.6	81
82320 Series	C	654	17.9	82
82300 Series	C	654	15.7	91
<p>The last one or two zeros in the model series can be any digit 0 to 9 or the last zero may be blank. Les derniers un ou deux zéros du numéro de série du modèle peuvent être remplacés par n'importe quel chiffre entre 0 et 9 ou le dernier zéro peut être omis.</p>				
BRENTWOOD Woolco Department Stores Div. of F.W. Woolworth Co. Ltd 33 Adelaide Street West Toronto, Ontario M5H 1M1				
GU8	A	177	4.0	92
GU11	A	312	3.8	82
GU16	A	484	10.7	105
G5	C	148	4.5	58
G7	C	199	4.9	67
G9	C	255	4.0	68

RANGES

Glossary of Symbols

The following symbols will appear under "Type of Oven" and "Type of Cook Top" column headings.

- SC** Self Cleaning Oven
- R** Regular Oven
- CT** Conventional Top
- ST** Smooth Top
- MT** Modular Top
- SS** Solid Surface

Additional symbols will also appear under "Equipment Code" column headings in the following subsections.

Built Ins

- A** Single Oven
- B** Double Oven
- C** Cook Top
- D** Single Oven with forced air convection
- E** Cook Top with eye level conventional oven
- F** Double Oven - Microwave Upper Oven, Conventional Lower Oven
- G** Double Oven - Microwave Upper Oven, Lower Oven with forced air convection

Specials

- J** Range with eye level microwave oven
- K** Range with drop in cook top and oven with forced air convection cooking feature
- L** Range with combination conventional and microwave oven
- M** Range with modular cook top and oven with forced air convection

Note: The energy consumption test on units with modular cook tops are tested with the highest energy consuming combination in place. Microwave/Forced Air Convection features are not included.

Model numbers shown may have additional prefix and/or suffix numbers or letters which indicate features (colour, door-swing, etc.) that do not affect energy consumption rating.

CUISINIÈRES

Glossaire des symboles

Les symboles qui suivent sont utilisés sous les rubriques "Type de four" et "Type de surface de cuisson".

- SC** Four autonettoyant
- R** Four régulier
- CT** Surface de cuisson conventionnelle
- ST** Surface de cuisson vitrifiée
- MT** Surface de cuisson modulaire
- SS** Éléments solides

De plus des symboles additionnels sont utilisés sous la rubrique "Code de l'appareil" pour les subdivisions suivantes:

Encastrés:

- A** Four simple
- B** Four double
- C** Surface de cuisson
- D** Four à convection
- E** Surface de cuisson intégrée avec four classique
- F** Four double - Micro-onde et conventionnel
- G** Four double - Micro-onde et convection


Spéciales:

- J** Cuisinière avec four micro-onde surélevé
- K** Cuisinière avec en option une surface de cuisson modulaire et un four à convection
- L** Cuisinière incluant un four à micro-ondes
- M** Cuisinière avec surface de cuisson modulaire et four à convection


Note: L'essai de consommation d'énergie des modèles avec surface de cuisson modulaire est effectué avec les options consommant le plus d'énergie. Les fours à micro-ondes et à convection ne sont pas soumis à l'essai.

Les numéros de modèle peuvent aussi comporter des chiffres ou des lettres comme suffixes pour identifier des caractéristiques telles la couleur, le côté d'ouverture des portes, etc., qui n'ont rien à voir avec la consommation d'énergie.

RANGES CUISINIÈRES

CONVENTIONAL CONVENTIONNELLES					
	Nominal width (in.) Largeur nominale (po.)	Type of Cook Top Type de surface de cuisson	Type of Oven Type de four	Usable Oven Space (L) Espace utilis. de four (L)	Energy Consumption, kWh/month Consommation d'énergie, kWh/mois
Model Modèle					
ADMIRAL Inglis Limited 1901 Minnesota Court Mississauga, Ontario LSN 3A7					
E2A81	24	R	CT	60.8	58
E2B81	24	R	CT	60.8	58
E2G81	24	R	CT	60.8	61
E2P81	24	R	CT	60.8	62
E3P81	30	SC	CT	73.7	62
E3T81	30	SC	CT	73.7	63
E3V81	30	SC	CT	73.7	63
E3W81	30	SC	CT	73.7	63
E3X81	30	SC	CT	73.7	63
E3L81	30	R	CT	77.8	64
E3B81	30	R	CT	77.8	68
E3E81	30	R	CT	77.8	68
E3M81	30	R	CT	77.8	67
E3C81	30	R	CT	77.8	68
BEAUMARK Division of Simpsons/The Bay 2 Bloor Street East Toronto, Ontario M4W 3H7					
10000 Series	24	R	CT	75.5	62
10100 Series	24	R	CT	75.5	62
10200 Series	24	R	CT	75.5	63
10010 Series	24	R	CT	75.5	63
10110 Series	24	R	CT	75.5	63
10210 Series	24	R	CT	75.5	63
18780 Series	30	SC	MT	84.5	64
18590 Series	30	SC	MT	84.5	64
18890 Series	30	SC	MT	84.5	64
17890 Series	30	SC	CT	84.5	70
13890 Series	30	SC	CT	84.5	70
13870 Series	30	SC	CT	84.5	70
13770 Series	30	SC	CT	84.5	70
13570 Series	30	SC	CT	84.5	70
13850 Series	30	SC	CT	84.5	70
13750 Series	30	SC	CT	84.5	70
13550 Series	30	SC	CT	84.5	70
13790 Series	30	SC	CT	84.5	71
13590 Series	30	SC	CT	84.5	71
13730 Series	30	SC	CT	84.5	71
13530 Series	30	SC	CT	84.5	71
13830 Series	30	SC	CT	84.5	71

RANGES CUISINIÈRES

CONVENTIONAL CONVENTIONNELLES					
	Nominal width (in.) Largeur nominale (po.)	Type of Oven Type de four	Type of Cook Top Type de surface de cuisson	Usable Oven Space (L) Espace utilis. de four (L)	Energy Consumption, kWh/month Consommation d'énergie, kWh/mois
Model Modèle					
BEAUMARK (Continued/suite)					
18790 Series	30	SC	CT	84.5	76
18590 Series	30	SC	CT	84.5	76
18890 Series	30	SC	CT	84.5	77
18170 Series	30	R	CT	87.0	65
19180 Series	30	R	CT	87.0	65
13050 Series	30	R	CT	87.0	67
13090 Series	30	R	CT	87.0	67
13190 Series	30	R	CT	87.0	67
13290 Series	30	R	CT	87.0	67
13250 Series	30	R	CT	87.0	67
13170 Series	30	R	CT	87.0	68
13030 Series	30	R	CT	87.0	68
13130 Series	30	R	CT	87.0	68
13230 Series	30	R	CT	87.0	68
17190 Series	30	R	CT	87.0	68
13270 Series	30	R	CT	87.0	68
The last one or two zeros in the model series can be any digit 0 to 9 or the last zero may be blank. Les derniers un ou deux zéros du numéro de série du modèle peuvent être remplacés par n'importe quel chiffre entre 0 et 9 ou le dernier zéro peut être omis.					
BRENTWOOD Woolco Department Stores Div. of F.W. Woolworth Co.Ltd. 33 Adelaide Street West Toronto, Ontario M5H 1M1					
WSM2452	24	R	CT	64.9	64
WS53082X	30	SC	CT	87.1	64
WSM3052X	30	R	CT	88.6	63
WSM3042X	30	R	CT	88.6	63
WSM3062X	30	R	CT	88.6	64
DACOR Dacor 950 S. Raymond Ave. Pasadena, CA 91105					
F100/200/300	30	SC	MT	75.8	68
D100/200	30	SC	MT	75.8	69

CLOTHES WASHERS

Glossary of Symbols

The number of temperature selections below are available at the normal cycle setting only and appear under the "Temperature Selection" column. For example:

- 1 Warm/Cold
- 2 Hot/Cold, Warm/Cold
- 3 Hot/Cold, Warm/Cold, Cold/Cold
- 4 Hot/Warm, Warm/Cold, Warm/Warm, Cold/Cold
- 5 Hot/Warm, Hot/Cold, Warm/Warm, Warm/Cold, Cold/Cold

Symbols under "Special Cycles/Water Level"

- N No special cycles or water level
- M Maximum water level selection only
- S Suds Saver Model

The energy rating in kWh/month is based on 34 "Normal Cycle" operations per month and includes the energy required to heat the water.

Model numbers shown may have additional prefix and/or suffix numbers or letters which indicate features (colour, door-swing, etc.) that do not affect energy consumption rating.

MACHINES À LAVER

Glossaire des symboles

Le nombre de réglages de température apparaissant ci-dessous est disponible pour le cycle normal seulement et apparaît sous la rubrique "Réglage de température". Par exemple:

- 1 Tiède/froid
- 2 Chaud/froid, tiède/froid
- 3 Chaud/froid, tiède/froid, froid/froid
- 4 Chaud/tiède, tiède/froid, tiède/tiède, froid/froid
- 5 Chaud/tiède, chaud/froid, tiède/tiède, tiède/froid, froid/froid


Symboles sous la rubrique "Cycles spéciaux/niveau d'eau":

- N Sans cycles spéciaux ou réglage du niveau d'eau
- M Réglage du niveau d'eau maximal uniquement
- S Modèle à récupérateur


La cote de consommation en kWh/mois est basée sur 34 utilisations du cycle normal par mois et inclus l'énergie nécessaire pour chauffer l'eau.

Les numéros de modèle peuvent aussi comporter des chiffres ou des lettres comme préfixes ou suffixes pour identifier des caractéristiques telles la couleur, le côté d'ouverture des portes, etc., qui n'ont rien à voir avec la consommation d'énergie.

CLOTHES WASHERS MACHINES À LAVER

Model Modèle		Tub Capacity (L) Capacité de la cuve (L)	Temperature Selection Réglage de température	Special Cycles/Water Level Cycles spéciaux/niveau d'eau	Energy Consumption, kWh/month Consommation d'énergie, kWh/mois
ADMIRAL Inglis Limited 1901 Minnesota Court Mississauga, Ontario L6N 3A7					
WC42'0820		40.0	1	N	58
WA56'0820		68.8	3	S	89
WA44'0820		68.8	3	N	77
WA45'0830		68.8	3	N	77
WA46'0820		68.8	3	N	77
WA47'0830		68.8	3	N	77
WA46'0820		68.8	5	N	118
*Can be any digit or letter to denote colour. La couleur peut être indiquée par: n'importe quel chiffre ou lettre.					
BEAUMARK Division of Simpsons/The Bay 2 Bloor Street East Toronto, Ontario M4W 3H7					
51020		63.7	5	N	54
54110		70.0	5	N	128
53030		77.0	1	N	74
52000		77.0	1	M	75
57030		77.0	5	N	110
56030		77.0	5	N	110
55500		77.0	5	S	115
54500		77.0	5	S	115
55000		77.0	5	N	125
54000		77.0	5	N	125
53000		77.0	1	M	145
The last one or two zeros in the 5 digit series number can be any digit 0 to 9 or the last zero may be blank. Les derniers deux zéros du numéro de série du modèle peuvent être 0 à 9 ou le dernier zéro peut être omis.					

CLOTHES WASHERS MACHINES À LAVER

Model Modèle		Tub Capacity (L) Capacité de la cuve (L)	Temperature Selection Réglage de température	Special Cycles/Water Level Cycles spéciaux/niveau d'eau	Energy Consumption, kWh/month Consommation d'énergie, kWh/mois
BRENTWOOD Woolco Department Stores Div. of F.W. Woolworth Co. Ltd 33 Adelaide Street West Toronto, Ontario M5H 1M1					
WWG1122		77.0	1	N	74
WWG1112		77.0	1	M	75
WWG1152		77.0	5	N	125
WWG1132		77.0	5	N	125
FRIGIDAIRE Frigidaire Division WCI Canada Ltd. 503 Imperial Road Guelph, Ontario N1H 6N1					
LC-208		45.0	4	N	65
LC-240		45.0	4	N	65
LC-248		45.0	4	N	78
FWD180		90.0	4	N	120
FWD183		90.0	4	N	120
FWC180		90.0	5	N	128
FWC193		90.0	5	N	128
GENERAL ELECTRIC CAMCO Inc. Corporate Office 185 Wright Avenue Weston, Ontario M9N 1E7					
VW523VG		77.0	1	N	74
VW523V		77.0	1	N	74
VW810V		77.0	1	M	75
W870V		77.0	5	N	110
W850V		77.0	5	N	110
W856V		77.0	5	N	110
W882V		77.0	5	N	110
W874V		77.0	5	N	110
W875V		77.0	5	N	110
W540V		77.0	5	N	110
W530V		77.0	5	N	125
W830V		77.0	5	N	125
W873V		77.0	5	N	125
W834V		77.0	5	N	125
W820V		77.0	5	N	125

CLOTHES DRYERS

Glossary of Symbols

The following symbols will appear under the "Drying Control" column heading:

- A** Timed: The drying process is controlled by a timer which is set by the user.
- B** Auto-Temp: The drying process is controlled by a sensor that monitors the dryer load temperature and is automatically ended.
- C** Auto-Moisture: The drying process is controlled by a sensor that monitors the moisture content of the dryer load and is automatically ended.

The drying control indicated refers to the cycle tested. All models are tested at the Auto-Temp or Auto-Moisture setting when available. Models tested at the "Timed" setting have only this type of control available.

The energy rating in kWh/month is based on 34 operations per month.

Model numbers shown may have additional prefix and/or suffix numbers or letters which indicate features (colour, door-swing, etc.) that do not affect energy consumption rating.

SÉCHEUSES

Glossaire des symboles

Les symboles qui suivent figurent sous la rubrique "Commande de séchage".


- A** Minuterie - Le séchage est contrôlé par une minuterie commandée par l'utilisateur.
- B** Capteur de température - Le séchage est contrôlé par un capteur qui mesure la température de la charge et qui interrompt automatiquement le séchage.
- C** Capteur d'humidité - Le séchage est contrôlé par un capteur qui mesure la teneur en humidité de la charge et qui interrompt automatiquement le séchage.

La commande de séchage indiquée s'applique au cycle mis à l'essai. Tous les modèles sont vérifiés aux réglages automatiques de température et d'humidité, le cas échéant. Les modèles mis à l'essai au réglage minuté ne comportent aucun autre réglage.


La cote de consommation en kWh/mois est basée sur 34 utilisations par mois.

Les numéros de modèle peuvent aussi comporter des chiffres ou des lettres comme suffixes pour identifier des caractéristiques telles la couleur, le côté d'ouverture des portes, etc., qui n'ont rien à voir avec la consommation d'énergie.

CLOTHES DRYERS SÈCHEUSES

Model Modèle		Drum Capacity (L) Capacité du tambour (L)	Drying Control Commande de séchage	Energy Consumption, kWh/month Consommation d'énergie, kWh/mois
ADMIRAL Inglis Limited 1901 Minnesota Court Mississauga, Ontario L5N 3A7				
DC82*0820		96	A	42
DC83*0820		96	A	46
DE84*082		167	A	89
DE85*083		167	A	89
DE86*0820		167	B	100
DE87*0830		167	B	100
*Can be any digit or letter to denote colour. La couleur peut être indiquée par n'importe quel chiffre ou lettre.				
BEAUMARK Division of (Simpsons/The Bay) 2 Bloor St. East Toronto, Ontario M4W 3H7				
80200 Series		78	A	42
80410 Series		110	A	42
81020D Series		132	B	85
87010 Series		168	C	92
82010 Series		188	A	94
83030 Series		188	A	94
84030 Series		188	B	111
85030 Series		188	B	111
86030 Series		188	B	111
The last one or two zeros in the 5 digit series number can be any digit 0 to 9 or the last zero may be blank. Les derniers deux zéros du numéro de série du modèle peuvent être remplacés par n'importe quel chiffre entre 0 et 9 ou le dernier zéro peut être omis.				
BRENTWOOD Woolco Department Stores Div. of F.W. Woolworth Co. Ltd. 33 Adelaide St. West Toronto, Ontario M5H 1M1				
WDQ1132		168	A	94
WDQ1152		168	B	111

CLOTHES DRYERS SÈCHEUSES

Model Modèle		Drum Capacity (L) Capacité du tambour (L)	Drying Control Commande de séchage	Energy Consumption, kWh/month Consommation d'énergie, kWh/mois
FRIGIDAIRE Frigidaire Division WCI Canada Ltd. 503 Imperial Road Guelph, Ontario N1H 6N1				
LC248J		96	B	48
FDC182H		143	B	81
FDC183J		143	B	81
FDD182H		143	A	89
FDD183J		143	A	89
GENERAL ELECTRIC CAMCO Inc. Corporate Office 185 Wright Avenue Weston, Ontario M9N 1E7				
D870		168	C	92
D444		168	A	94
D626		168	A	94
D672		168	A	94
D673		168	A	94
D681		168	A	94
D830		168	A	94
D820		168	A	94
D530		168	B	111
D656		168	B	111
D682		168	B	111
D675		168	B	111
VD528		168	B	111
VD840		168	B	111
D850		168	B	111
GIBSON Roy & Gibson Division WCI Canada Ltée L'Assomption (Québec) J0K 1G0				
DPD11J		143	B	83
DT811J		143	A	89
DTP11J		143	A	89
1123B		143	A	89
1123C		143	A	89

DISHWASHERS

Glossary of Symbols

The following symbols will appear under the "Drying" column heading.

- A No Heat Dry available
- B Heat Dry Only
- C Heat On/Heat Off option

The energy rating in kWh/month is based on 34 "Normal Cycle" operations per month and includes the energy required to heat the water.

Model numbers shown may have additional prefix and/or suffix numbers or letters which indicate features (colour, door-swing, etc.) that do not affect energy consumption rating.

LAVE-VAISSELLES

Glossaire des symboles


Les symboles qui suivent figurent sous la rubrique "Séchage".

- A Cycle de séchage avec chaleur non disponible
- B Séchage avec chaleur uniquement
- C Sélecteur avec chaleur/sans chaleur disponible


La cote de consommation en kWh/mois est basée sur 34 utilisations du cycle normal par mois et inclus l'énergie nécessaire pour chauffer l'eau.

Les numéros de modèle peuvent aussi comporter des chiffres ou des lettres comme suffixes pour identifier des caractéristiques telles la couleur, le côté d'ouverture des portes, etc., qui n'ont rien à voir avec la consommation d'énergie.

DISHWASHERS LAVE-VAISSELLES

Model Modèle	Hot Water Consumption (L) Consommation d'eau chaude (L)	Drying Séchage	Energy Consumption, kWh/month Consommation d'énergie, kWh/mois
			
BEAUMARK Division of Simpsons/The Bay 2 Bloor St. East Toronto, Ontario M4W 3H7			
40210 Series	29.0	C	84
41210 Series	29.0	C	84
40230 Series	29.0	C	84
41230 Series	29.0	C	84
40250 Series	29.0	C	84
41250 Series	29.0	C	84
40290 Series	29.0	C	86
41290 Series	29.0	C	86
41490 Series	38.7	C	110
40010 Series	43.9	C	115
41030 Series	43.9	C	115
40030 Series	43.9	C	115
41050 Series	43.9	C	115
40050 Series	43.9	C	115
40020 Series	43.8	C	118
41010 Series	43.9	C	115
41080 Series	43.9	C	121
40080 Series	43.9	C	121
40090 Series	43.9	C	121
41090 Series	43.9	C	121
The last zero in the 5 digit series number can be any digit 0 to 9, or the last zero may be blank. Second Digit = 0 - Convertible; 1 - Built-in Le dernier zéro de numéro de série du modèle peut être remplacé par n'importe quel chiffre entre 0 et 9 ou le dernier zéro peut être omis. Le deuxième chiffre = 0 - Convertible; 1 - Encastré			
CALORIC Design & Mfg. Corp. Connersville, Ind. 47331			
DUR200 Series	45.6	C	111
DCR225 Series	45.6	C	111

DISHWASHERS LAVE-VAISSELLES

Model Modèle	Hot Water Consumption (L) Consommation d'eau chaude (L)	Drying Séchage	Energy Consumption, kWh/month Consommation d'énergie, kWh/mois
			
DANBY The Danby Corp. 5770, rue Ferrier Montréal (Québec) H4P 1M3			
200' Series	45.6	C	111
*Maybe followed by "W" or "A". Peut-être suivi par "W" ou "A".			
FRIGIDAIRE Frigidaire Division WCI Canada Limited 503 Imperial Road Guelph, Ontario N1H 6N1			
FBE103J	29.5	C	83
FMC43J	29.5	C	85
FME73J	29.5	C	85
FBC43J	29.5	C	85
FBE73J	29.5	C	85
GENERAL ELECTRIC CAMCO Corporate Office 185 Wright Avenue Weston, Ontario M9N 1E7			
GM*850X	28.6	C	84
GM*830X	29.0	C	84
GM*820X	29.0	C	84
GM*670X	29.0	C	84
GR*910X	29.0	C	84
GR*840X	29.0	C	84
GR*530X	29.0	C	84
VR*535X	29.0	C	84
VR*501X	29.0	C	84
SM*855V	33.0	C	98
SM*850V	33.0	C	98
SM*830V	33.0	C	98
GS*2500X	34.3	C	93
SS*530V	43.9	C	115
SS*540V	43.9	C	115
VS*545V	43.9	C	115
SS*640V	43.9	C	115
SS*640V	43.9	C	115
SS*830V	43.9	C	115
SS*870V	43.9	C	115

APPENDIX I

REVIEW OF PROGRAM EVALUATION
FINDINGS AND CONCLUSIONS BY
CANADIAN ENERGY RESEARCH INSTITUTE (CERI)

April 2, 1985

Mr. Robert Lahey
Program Evaluation Group
Consumer and Corporate Affairs Canada
Place du Portage I, 17th Floor
50 Victoria St.
Hull, P.Q.
K1A 0C9

DEPARTMENT OF CONSUMER AND CORPORATE AFFAIRS	
RECEIVED	
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Dear Mr. Lahey:

We have reviewed your report "Evaluation of Energuide" as well as the many documents which formed the basis of your evaluation. Our finding is that your recommendation to terminate the Energuide program is fully warranted. The report is comprehensive in its analysis of the issues and its conclusions are consistent with the evidence.

The economic and technical analyses of the Energuide program were unable to demonstrate convincingly that Energuide will have significant impacts on the energy efficiency of household appliances. Moreover, these studies have been unable to show that any expected future social benefits will outweigh expected future social costs.

A major problem in assessing the impact of Energuide has been data quality. Typically the data consist of opinions rather than hard facts. Experts often provided conflicting opinions. As a result, the estimates of social benefits contributed by Energuide are uncertain. Social costs entail a great deal more than just the program administrative costs. However, estimates of social costs, such as increased appliance purchase price, product degradation, and a reduced range of choice, are just as uncertain as social benefits.

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Mr. Robert Lahey
April 2, 1985
Page 2


While some of the improved product efficiency in the past may be attributed to Energuid, it does not necessarily follow that continued federal support for Energuid will result in substantial future improvements. The easiest gains in efficiency are most often achieved early on in a program, and continued improvements become increasingly difficult to attain. Therefore, while Energuid may have been a cost effective program in the past, cost effectiveness is less likely to occur in the future.

The potential for reduced energy efficiency, if the program is terminated, is not likely to be significant. Manufacturers have little incentive to reduce efficiency given the manufacturing processes involved and the existence of consumer magazines which monitor efficiency.

These general conclusions were unanimously agreed to by the research team. The team: Gordon Douglas, Senior Economist and Project Manager; Jim MacMillan, Vice President; Walter Haessel, Manager Contract Research; Louise Czaja, Economist; and Vaffi Poonja, Senior Economist, together represent over fifty years of economic and energy research experience.

In summary, our view is that Energuid may have had some impact on the energy efficiency of household appliances in the past although we are not convinced that the program generated social benefits which exceeded the social costs of the program. Future benefits from program continuation or modification are even less likely to exceed the social costs of the program.

Yours very truly,



G.E. Angevine
Executive Director

GEA/wlh

CACC / CCAC



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