

**1990
POLICY AND RESEARCH
INITIATIVES**

MARKET HOUSING

<u>ISSUE</u>	<u>RATIONALE</u>	<u>ACTIVITY</u>
1. Homeownership in RRSP	<ul style="list-style-type: none">. The recognition of a principal residence as a qualified RRSP investment would promote Canadians' reasonable opportunities for home-ownership at little cost to the federal government.	<ul style="list-style-type: none">. Examine conceptual soundness and practical feasibility.. Estimate demand, cost and distributional effects.. Identify administrative barriers and the means to remove them.
2. MRPP Enhancement	<ul style="list-style-type: none">. During the early 1980s, many homeowners renewed their mortgages at unexpectedly high interest rates. The federal government's response to volatile interest rates was the establishment of the Mortgage Renewal Protection Plan (MRPP).	<ul style="list-style-type: none">. Conduct a review of the available options to enhance the MRPP with a view to ensuring its relevance in the 1990s.
3. Land Leasing	<ul style="list-style-type: none">. Land leasing is commonly used for commercial purposes and the financial benefits to the business firm for so doing are widely known. What has yet to be determined is whether these advantages have any relevance for the individual homeowner.	<ul style="list-style-type: none">. Develop the ways and means by which land leasing, on a commercial basis, can be used to promote housing affordability.. Identify the consequences of land leasing relative to land purchase financed with a mortgage loan.
4. Mortgage Innovation	<ul style="list-style-type: none">. The manner in which CMHC, as the federal government's housing finance agency, influences mortgage innovation, will have to take into account the new market forces behind today's financial innovation.	<ul style="list-style-type: none">. Document and analyze how financial products, including mortgages and their derivative instruments are now being shaped by regulatory requirements, taxation, institutional demand and marketing.

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5. Regulatory Reform	<ul style="list-style-type: none">Canadian housing markets will change appreciably over the next twenty years. There is growing evidence that the existing regulatory structure will be unable to cost-effectively accommodate this change. CMHC has sponsored a study by the FCM/CHBA/CHRA tripartite association to establish a plan for evaluating and improving the Canadian regulatory environment related to residential construction. Issues relating to intensification and lot levies will be addressed.	<ul style="list-style-type: none">Implement ACT (Affordability and Choice Today) which will include a demonstration program, case studies and information dissemination, directed at encouraging the development and adoption of more cost-effective and responsive regulations and approval processes.Continue work to develop more cost-effective and responsive codes for housing construction, residential renovation, and conversion work.
6. Producing and Marketing Affordable Housing	<ul style="list-style-type: none">There is a need to consolidate and disseminate innovative ideas that help to make housing more affordable, especially for first time home buyers.	<ul style="list-style-type: none">Gather ideas from a wide variety of sources, subjecting them to the scrutiny of a steering committee which would select the most promising for further evaluation and subsequent packaging.
7. Cost Comparison - Manufactured vs. On-site Housing	<ul style="list-style-type: none">There has been a rapid decline in manufactured housing production from an annual level in excess of 50 000 housing units in the mid-1970s to less than 10 000 units in recent years. In spite of the declining trend in production, manufactured housing could play a key role as a potential alternative in the provision of affordable housing.	<ul style="list-style-type: none">Initiate the gathering of information on the cost and quality of panelized housing produced in Canada and, the production of panelized housing in Sweden and in the USA.

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8. The Renovation Industry	<ul style="list-style-type: none">• Housing researchers and industry representatives have underlined the need for better data on the condition of the Canadian housing stock, the factors that affect the decision to renovate and, the operation of the residential renovation industry.	<ul style="list-style-type: none">• Undertake research to identify what motivates people to renovate their house.• Participate with other governments in the exploration of approaches for measuring house conditions.
9. Labour and Materials	<ul style="list-style-type: none">• Basic up-to-date information regarding labour and materials used in new residential construction is important to CMHC as well as to other federal agencies and members of the housing industry.	<ul style="list-style-type: none">• Produce reports on labour and material input for six house forms in five regions.• Develop co-efficients for projecting labour and material requirements.• Develop a system to facilitate ongoing monitoring and forecasting of labour and material requirements.• Analyze trends in housing types, construction systems, and materials.
10. Projections of Potential Housing Demand	<ul style="list-style-type: none">• The long term socio-economic and demographic outlook continues to have important implications on future housing demand and supply. The last comprehensive long-term projection of housing requirements was produced by CMHC in 1981 based on 1976 Census data. The projection model utilized in 1981 has been revised and enhanced. This will permit updated projections at the	<ul style="list-style-type: none">• Provide input data files for all Census Metropolitan Areas so projections can be developed at this level.• Explore and implement improvements to the model, i.e. generating net migration flows.• Improve projection of tenure choice and household headship rates.

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10. Projections of Potential Housing Demand (cont'd)	national and provincial levels based on 1986 Census data. Additional work is needed to be able to generate projections at the metropolitan area level. Also, the assumptions and techniques underlying the current version of the projection model can be further improved.	
11. Forecasting Economic and Housing Market Activity	. As Canada's Housing Agency, it is a goal of CMHC to produce comprehensive, complete and accurate forecasts of economic and housing market activity.	. Develop and test a macro-economic model(s) of the housing sector on a national level.
12. Local Market Analysis Methods	. In order to forecast markets better, new and enhanced techniques are required. More research is needed on how local markets work.	. Develop new methods of local market analysis and better techniques to forecast housing market activity.
13. Data Requirements - Income	. There is a critical lack of consistent and accurate information on household income at the metropolitan area level in Canada. This information is essential to carry out a comprehensive analysis and accurately measure affordability in all Census metropolitan areas in Canada. The need for better and more complete information has been identified by internal clients as well as external companies.	. Expand the HIFE survey sample size so that reliable results can be generated at the Census metropolitan area level. Centres to be addressed include: 1) Toronto, which would be distinguished from Ottawa and Hamilton and 2) Vancouver which would be distinguished from Victoria.

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14. Data Requirements - Other	<ul style="list-style-type: none">• There is a critical lack of consistent and accurate information on purchaser characteristics, downpayment, mortgage terms and taxes. This information is essential to carry out a comprehensive analysis and accurately measure affordability in Canada. The need for better and more complete information has been identified by internal clients as well as external companies.	<ul style="list-style-type: none">• Research possible data sources in order to obtain the following:<ul style="list-style-type: none">- the most common term of mortgage selected for new and renewed mortgages;- the trends in selected amortization periods and prepayments;- relationships between downpayment and house price;- sources of equity for first time buyers;- purchaser characteristics and house price relationships;- property taxes by city and house price.• Once the sources of data are identified, determine an efficient method of compiling and testing the data accuracy.
15. Land Supply Issues	<ul style="list-style-type: none">• Many factors indicate there will be different pressures on the availability, affordability and production of serviced residential land. Governments and particularly the federal government, must have a strategic approach to ensuring an adequate supply of urban land.	<ul style="list-style-type: none">• Monitor CMHC's policy/research initiatives currently underway.• Explore the potential for improving databases, encouraging wider and more flexible distribution of information concerning the land supply, and augmenting the automation of such information systems.• Monitor the findings of local land studies and integrate these into occasional timely reports which assess national trends.

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16. Sources and Costs of Instability in the Housing Sector	<ul style="list-style-type: none">• Instability in housing markets can be a result of interest rate changes, changes in general economic conditions and demographic variables.	<ul style="list-style-type: none">• Complete the study on the impact of international, inter- and intra-provincial migration in selected metropolitan areas.
17. Housing Speculation	<ul style="list-style-type: none">• Some housing observers theorize that the inflating house prices in Toronto and Vancouver have been caused by the buying and selling of houses for speculative gains.	<ul style="list-style-type: none">• Review available literature, including an analysis of the effectiveness of Ontario's former Land Speculation Tax and the experience of several European countries with such a tax.• Conduct a survey of speculative transactions in demand-driven markets.
18. Bank for International Settlements (BIS)	<ul style="list-style-type: none">• The Basel Committee on Banking Regulations and Supervisory Practices released in July 1988 an agreed framework, known as the BIS rules, for establishing minimum capital adequacy standards designed to secure international convergence of supervisory regulations. The BIS rules have been endorsed by the Group of Ten central bank Governors, one of whom is Bank of Canada Governor. Under the BIS rules, the capitalization of lending will be determined by the risk of the lending (i.e. the riskier the loan the higher the capitalization).	<ul style="list-style-type: none">• Continue to analyze the BIS impacts on mortgages, as well as the transition into the new BIS regulatory regime.

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19. Housing the Elderly	<ul style="list-style-type: none">. The growth in the elderly population, particularly in the over 75 group, could result in heavy demands on public funding for housing and related support services if past patterns of need are maintained. The heterogeneous nature of the elderly population is resulting in demands for a much wider choice of housing, particularly for options that can help seniors maintain independent lifestyles.	<ul style="list-style-type: none">. Develop and implement a series of 12 conferences on seniors' housing, one in each province and territory.. Identify effective ways of meeting the needs of elderly people including both the physical environment and service needs.. Develop guidelines on ways of designing new accommodation so that it can be easily adapted to the changing needs of people as they become older.. Explore ways in which new technology can help elderly and disabled people to maintain independent lifestyles.. Conduct case studies of innovative residential projects for seniors, particularly those providing a supportive environment.. Examine the need for coordination between agencies involved in providing housing and services (health, social, transportation) in the context of developing a continuum of care within a neighbourhood/community.
20. Broader "Community" Context of Housing	<ul style="list-style-type: none">. A very wide range of community and quality of life concerns impinge on housing. CMHC must actively keep abreast of these issues in order to advise and represent the federal government.	<ul style="list-style-type: none">. Monitor issues and problems and contribute to national and international research.

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21. Public/ Private Partnership Opportunities	<ul style="list-style-type: none">• Because of today's fiscal reality, governments are putting increased emphasis on the harmonization of private profit-making with societal interests in the achievement of public policy objectives. This strategy is particularly evident in projects requiring large capital outlays, long planning and implementation time and actors with diverse expertise. However, public/private partnerships, as a local housing policy instrument, have not been widely used.	<ul style="list-style-type: none">• Develop further research should a role for the federal government be identified as a course of action.
22. Sustainable Development and Housing	<ul style="list-style-type: none">• CMHC should explore specific activities within the field of housing which appear to have high potential to contribute to Canada's initiative to move towards more sustainable forms of development.	<ul style="list-style-type: none">• Undertake further research on the energy requirement of major building materials (wood, concrete, insulation, cladding, roofing), construction methods (on-side, factory-built, panelized), renovation and demolition, in order to determine the indirect energy costs associated with housing.• Examine further housing risk associated with climate changes as identified by Environment Canada.• Conduct a feasibility study leading to guidelines for a more integrated approach to the energy systems in a house, including heating, cooling, hot water, lighting and appliances.

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22. Sustainable Development and Housing (cont'd)		<ul style="list-style-type: none">• Conduct a comparative study on the financial, energy and environmental impacts of consumer housing choices, as a basis for providing, in the future, advice to the public.• Conduct a feasibility study of various measures to reduce residential water consumption and the potential impact of these measures on extending the life of municipal water and sewage systems.• Assemble a comprehensive data base on energy usage in older housing, using existing data and additional monitoring results.

SOCIAL HOUSING

<u>ISSUE</u>	<u>RATIONALE</u>	<u>ACTIVITY</u>
1. Preservation and Maintenance of the Existing Public Housing Stock	<ul style="list-style-type: none">• There are approximately 200 000 units in the public housing stock. Some of this stock may be in poor physical condition because of inadequate construction initially or poor maintenance. It may be inferior in space and amenities to housing built under current construction standards. It may also be inappropriate or unsuitable for the current and future social housing population.	<ul style="list-style-type: none">• Complete policy development work.
2. Reduction in Subsidies of Public Housing Stock	<ul style="list-style-type: none">• CMHC is examining ways to reduce subsidies on the existing public housing stock through economies in maintenance and operating budgets and through seeking increases in public housing rents paid by social assistance recipients.	<ul style="list-style-type: none">• Review and assess how other governments have handled similar problems.• Evaluate the public housing operating and maintenance practices identified as presenting opportunities for savings.• Evaluate tenant management opportunities and undertake guideline development as appropriate.• Engage in discussions with the provinces and territories with regards to rents for welfare recipients.
3. Life Cycle Costing	<ul style="list-style-type: none">• There is increasing concern that the emphasis now placed upon controlling the initial capital costs of subsidized housing is having a detrimental effect on ongoing costs.	<ul style="list-style-type: none">• Conduct a trial installation of the life cycle costing model in various CMHC offices and delivery agencies.• Undertake model refinements.

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3. Life Cycle Costing (cont'd)		<ul style="list-style-type: none">• Analyze MUP alternatives and prepare guidelines on longterm performance of materials and systems.• Initiate adapting the low-rise life cycle costing model for mid- and high-rise construction, including the development of an appropriate cost-performance database.
4. Housing Needs and the Joint Planning Process	<ul style="list-style-type: none">• Work on the development and implementation of an inter-provincial social housing allocation model, the joint planning process, and the new social housing programs generally, have emphasized the requirement for up-to-date estimates of core housing need. As a result, improved indicators of housing need must be developed not only for the purposes of the current social housing programs but also to enhance assessments of housing needs in more general terms.	<ul style="list-style-type: none">• Develop improved indicators of housing needs.• Examine the limitations of, and alternatives to, using a fixed shelter cost-to-income ratio in the measurement of housing affordability and housing need in general.• Examine the extent to which certain households experience a greater degree of need than others.
5. Housing the Special Needs Population	<ul style="list-style-type: none">• Although households with special needs, such as the disabled, may be eligible for social housing assistance, little is known about their specific housing requirements and how these may relate to their requirements for other services.	<ul style="list-style-type: none">• Continue to address some of the research gaps found in the 1988 synthesis study undertaken by CMHC.

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6. Self-Help	<ul style="list-style-type: none">. The self-help approach to housing involves individuals directly in the process of meeting their housing needs. It includes activities such as the physical construction or renovation of their home and tenant participation and it occurs in both social and market housing. In the ongoing search for effective and innovative approaches for meeting the nation's shelter needs, it is important for the government to consider to what extent self-help options should be incorporated into housing solutions and how this can be done.	<ul style="list-style-type: none">. Prepare a submission to government outlining the role CMHC could play in the area of self-help housing.. Deliver and continue to monitor experience with the RNH Demonstration Program (1986-1990).
7. On-Reserve Housing	<ul style="list-style-type: none">. In 1990, DIAND intends to finalize its consultation process with respect to on-reserve housing programs with a view to developing housing policies and programs for Indians on-reserve.	<ul style="list-style-type: none">. Participate in DIAND-led consultation and policy development process through inter-departmental committees.
8. The Definition of Income	<ul style="list-style-type: none">. The definition of income used for determining program eligibility and level of federal housing assistance can vary by program.	<ul style="list-style-type: none">. Undertake a comparison of provincial rent-to-income scales and definition of incomes.

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8. The Definition of Income (cont'd)	<ul style="list-style-type: none">• In addition to the CMHC definition of income, there is the question of consistency with the treatment of income under such federal programs as veterans' pensions, Canada Assistance Plan, and Income Tax. <p>Furthermore, provinces deliver programs on behalf of the federal government which are cost-shared; but provinces may employ definitions of income which can vary.</p>	<ul style="list-style-type: none">• Examine how income is defined in the programs of other federal departments and agencies to determine variances.• Investigate provincial variations in the definition of income.
9. Limited Dividend Housing Entrepreneurs	<ul style="list-style-type: none">• Owners of Limited Dividend projects committed after 1968 have an option which allows them to end their partnership with CMHC after 15 years if they repay their loan. Given that it has been more than 20 years since the option was first provided, many projects have either reached or are approaching the time when they can exercise this option. While take-up of the option has been limited, some concern remains that projects may be lost from this affordable housing portfolio, which in turn could create affordability problems for low- and moderate-income "in situ" tenants.	<ul style="list-style-type: none">• Consider possible responses to address these concerns.

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10. Consultation on the Rural and Native Housing Programs	<ul style="list-style-type: none">• It is a well known fact that housing conditions are, and have been for decades, worse in rural areas. The RNH programs were introduced in 1974 in an attempt to help remedy the housing problems faced by many rural Canadians. Although progress has been made, rural housing problems have persisted. In addition, units built under the programs are not without difficulties; foreclosures and rates are of concern. These factors have led to a need to review the rural housing programs.	<ul style="list-style-type: none">• Engage in a public consultation process with interested groups, including program clients, to consider possible policy options, and seek consensus among participants.
11. Examination of the Housing Subsidy Program	<ul style="list-style-type: none">• Canadian social housing programs subsidize the housing costs of households in core housing need and, generally in need. The subsidy system affects, often in quite subtle ways, the incentives for people to help themselves become independent of government assistance. <p>Developing incentives for individuals to improve their position and reduce their reliance on government is essential if the social safety net is to</p>	<ul style="list-style-type: none">• Conduct an international review of subsidy systems, focusing on implications for transition and independence.• Develop proposals for the Canadian housing subsidy system.

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11. Examination of the Housing Subsidy Program (cont'd)	meet its objective of assisting people to achieve the highest possible degree of self-sufficiency and integration within the community.	
12. Global Strategy for Shelter to the Year 2000	<ul style="list-style-type: none">• The United Nations General Assembly adopted the Global Strategy in December 1988. Since no country has solved all of its shelter problems, the UN has asked all countries to prepare a plan of action and to report on progress to the UN. Countries were also requested to share their experience internationally.• CMHC is Canada's lead representative to the UN Commission on Human Settlements and is responsible for co-ordinating the development, implementation and monitoring of a Canadian Plan.	<ul style="list-style-type: none">• Develop a Canadian Plan and objectives, eg. related to land supply, public/private partnerships, enabling approach.• Establish a mechanism for monitoring the Canadian Plan.• Provide expertise and information.

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1. Building Envelope/High Rise Residential	<ul style="list-style-type: none">• Several types of cladding systems used in high rise residential buildings have shown severe enough failures, during their design life, to cause economic hardship for the owners, even if they have not caused safety problems so far. Masonry veneer on steel stud is of the greatest concern.• The 1985 edition of the National Building Code requires that an air barrier be integrated into the building envelope to prevent the infiltration and the exfiltration of air. Designers of buildings are confronted with the problem of meeting this requirement without the necessary information.• Experience with low-rise air quality suggests that the comfort, health and safety of occupants may be at risk in many high-rises. It is important that we know the strength of pollutant sources and the direction and amount	<ul style="list-style-type: none">• Continue field testing of improved wall assemblies.• Refine and field test rainscreen technology.• Monitor and document the effectiveness of typical repair strategies for cladding failures.• Test various wall assemblies with particular regard to detailing practices and the results illustrated.• Assess the effects of sustained low level pressure on building materials and assemblies.• Determine the relative significance of various mechanisms of moisture movement through wall assemblies to establish improvement priorities.• Adapt CMHC's computer simulation model of low-rise walls to analyze moisture movement in high-rise walls.• Continue the survey of air change rates and pollutant levels.

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1. Building Envelope/High Rise Residential (cont'd)	<p>of the inter-floor and inter-unit air flows taking place throughout high rises if we are to advise on effective remedial measures.</p> <ul style="list-style-type: none">• Problems with concrete structures and assemblies are emerging although their nature and extent have not been adequately documented. While the amount of concrete restoration activity is considerable, little is known of the efficacy of current practices.• Ineffective noise separation is a prime source of resident dissatisfaction. Noise control requirements will be increased in the 1990 National Building Code. Builders will require information on economical methods of achieving the new requirements and of addressing other noise related issues.• Surprisingly, energy usage in high-rise units is higher than that for low-rise. Heating and ventilating systems in high rise apartments are at times over-sized, inefficient and not well maintained.	<ul style="list-style-type: none">• Collaborate with NRC and other agencies in monitoring parking garage repair strategies, testing protective membranes, evaluating non-destructive test methods for assessing post-tensioned precast concrete, and developing standards for concrete restoration.• Determine the potential magnitude of this problem in Canada through the national carbonation study.• Develop a test for measuring sound separation which will correlate with subjective perceptions.• Complete the assessment of current high-rise ventilation strategies and promising new technologies including the demonstration and monitoring of innovative approaches.

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2. Northern and Remote Housing	<ul style="list-style-type: none">• Windows and doors are one of the highest and most regular repair and maintenance costs associated with arctic and remote housing. Better solutions are required.• Preserved wood foundations (PWF) are increasingly common in rural and remote locations where poured concrete is not readily available. Little is known of the airtightness characteristics of PWFs.• Heating and Ventilation systems in Northern and Remote areas are different than in southern urbanized areas where servicing is not a problem and technical support is available.• The Northfile is a collection of best advice and experience of building in the North and is to be used by northern designers and contractors.• New cogeneration technology is being developed that may have application in the context of the Northern and Remote regions where energy and maintenance are prime considerations.	<ul style="list-style-type: none">• Undertake a field assessment of proposed solutions.• Determine the airtightness and air quality in typical preserved wood foundations.• Analyze data being collected from heating systems in place in the Arctic.• Include additional case studies and projects.• Introduce new technologies to designers, and demonstrate/monitor to evaluate their effectiveness.

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2. Northern and Remote Housing (cont'd)	<ul style="list-style-type: none">• General condition surveys of the housing stock and input from the general public bring forward problem houses that require a more detailed investigation and report. The results and solutions have widespread interest and concern.• Southern urbanized areas have centralized water and sewage systems that work well in the prevailing conditions. Arctic and rural areas may suffer from contaminated water and poor waste disposal systems that may pose health risks.	<ul style="list-style-type: none">• Carry out detailed investigations and prepare reports on problem houses identified.• Identify and demonstrate alternate solutions to waste and water servicing problems identified in the field.
3. Ventilation/ Air Quality/ Moisture	<ul style="list-style-type: none">• As both new and retrofitted housing becomes tighter, houses with inadequate or improper ventilation may have air quality or moisture problems. The proposed new ventilation standard, CSA F326, has proved to be controversial with the housing industry.• Current ventilation equipment is often noisy, unreliable, or poorly installed. Innovation and product development is required.	<ul style="list-style-type: none">• Continue work with the industry in demonstrating low-cost ventilation systems which meet the requirements of F326, in developing alternatives and refinements to the proposed standard, and in evaluating various ventilation systems and producing a compendium.• Assess the impact of various ventilation strategies on indoor air quality.• Complete the development of "demand controlled" ventilation systems, demonstrate their use in the field, and complete the development of integrated heating and ventilating systems.

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3. Ventilation/ Air Quality/ Moisture (cont'd)	<ul style="list-style-type: none">• Combustion appliances can be a major source of pollutants if not properly vented.• Poor indoor air quality may contribute significantly to higher health costs for Canadians. Not enough is known about typical air quality in Canadian homes, the magnitude of the sources or the effectiveness of alternate solutions.• "Environmental sensitivity" has now been recognized as a valid disability. For such individuals, the home takes on particular importance due to the amount of time spent indoors.• Canada now has a national radon guideline, and while the actual risk posed by radon is still being analyzed by Health and Welfare, there is an	<ul style="list-style-type: none">• Complete refinements to computer simulation models of furnace, fireplace and wood stove venting performance, and respond to CHBA's request for assistance in determining solutions to spillage in mid-efficiency gas furnaces.• Develop improved air intake strategies for fireplaces and demonstrate simple spillage prevention devices.• Examine air quality in manufactured housing, determine the levels of biological pollutants in typical recirculating equipment, determine emission rates from various materials, co-sponsor the "Indoor Air '90" international conference on the indoor environment, and assist with the characterization of homes being used in Health and Welfare's air quality study in housing.• Complete the documentation of "low pollution" houses being built for the chemically sensitive in Canada and the US.• Examine new approaches to higher efficiency filtration.• Undertake various radon-related projects, including examining the impact of sub-slab ventilation, assessing the costs and effectiveness of typical

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3. Ventilation/ Air Quality/ Moisture (cont'd)	<p>increasing trend to lowering radon levels in new and existing housing to as "low as practicable".</p> <ul style="list-style-type: none">• In addition to radon, air entering houses from below grade may contain other harmful pollutants. This is especially possible in housing built near landfill or industrial sites or other "toxic lands".• The causes of moisture problems in housing remain poorly understood by homeowners, the housing industry and even much of the housing research community.• In addition to causing deterioration of structure and finishes, moisture problems are now being increasingly linked to respiratory disease, with moulds being thought to be the primary cause.	<p>remedial measures, and supporting the development of a computer model of radon infiltration.</p> <ul style="list-style-type: none">• Complete a national survey of pollutants entering typical Canadian basements.• Document remedial measures which have been undertaken on hazardous lands across Canada, and determine the potential magnitude of the problem.• Continue to gather extensive data from moisture test huts in Alberta and southern Ontario on the field performance of different wall types, and complete the national survey of framing lumber moisture content.• Complete the refinement of computer simulation models to better understand moisture movement in walls and roofs, and initiate the dissemination of these models to a wide spectrum of researchers and manufacturers.• Evaluate the extensive range of moisture research undertaken by CMHC and other agencies during the past decade, and develop a summary paper on what has been learned and the implications for the housing industry.

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3. Ventilation/ Air Quality/ Moisture (cont'd)	<ul style="list-style-type: none">• The renovation of existing housing often does not address perennial moisture problems, and may even make problems worse.	<ul style="list-style-type: none">• Predict the moisture performance of various generic types of walls in various climates, to determine the impact of moisture cycling on insulation, and to study the impact of air leakage through walls.• Complete the survey of attic moisture levels, and develop and demonstrate effective methods of attic ventilation to control moisture.• Utilize moisture assessment procedures developed by EMR to demonstrate retrofit solutions to typical moisture problems in existing housing, with particular focus on basements.
4. Housing Systems - Innovations in Technologies and Methods	<ul style="list-style-type: none">• CMHC and others have looked or are looking at the economics and regulatory impediments to manufactured housing systems and products. A review of the technical factors associated with house construction using various systems would be of value to designers and contractors.• Engineering stronger houses to resist foundation heaving or settlements and high wind loads adds value to the Canadian wood framing system and associated products. It also prolongs the life of the domestic housing stock.	<ul style="list-style-type: none">• Prepare a reference document of the various products and systems available and provide some technical rationale and advice on construction and servicing aspects.• The second generation prototype "monocoque house" will be constructed under actual field conditions.

HOUSING QUALITY

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4. Housing Systems - Innovations in Technologies and Methods (cont'd)	<ul style="list-style-type: none">• CMHC can assist the Canadian housing industry by providing a forum where innovative products and systems can be demonstrated, thereby exposing Canadian technology to other countries while encouraging the process of innovation at the same time.• Basement flooding from sewer back-up can cause major property damage and may pose a significant risk to occupant health.• The two "forgotten" areas of the house, the basement and the attic, represent opportunities for expanded living space if properly constructed.	<ul style="list-style-type: none">• Determine the costs and benefits of CMHC participating in a large scale innovation project, developing a plan and identifying interested parties and co-sponsors.• Initiate investigations of technologies for improved storm water runoff control, and examine solutions to current jurisdictional and code problems.• Incorporate the results of two previous studies to demonstrate the advantages of technological advances in basement and attic construction.

CENTRE FOR FUTURE STUDIES
IN HOUSING AND LIVING ENVIRONMENTS

RATIONALE

To be a leader in the improvement of housing and living conditions in Canada, CMHC must always be looking ahead, anticipating and trying to understand those factors which will affect housing and its environment in the years to come. To achieve a proactive approach to change, it is important that the Corporation strike a balance between what has to be done today and what needs to be done to prepare for the future. As a result, the Centre for Future Studies in Housing and Living Environments was established to be the focal point of "futures-oriented" research within the Corporation. The Centre's work focuses on anticipating and exploring factors and trends that will affect housing and its environment over the next decade as well as on developing an understanding of the trade-offs society may have to make.

ISSUE

ACTIVITY

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| 1. General Demographic,
Sociological and Economic Trends | <ul style="list-style-type: none">. Explore the relationship between economic growth and population growth examining the impacts of housing; for eg. examine the relationship between sustained economic growth and the supply of affordable housing.
. Examine the longer term implications of changes in the nature of work, including the growth of the service sector, and the potential implications for housing and the spatial nature of settlements.
. Develop a picture of the future socio-demographic characteristics of Canadians using the Potential Housing Demand Projection Model and existing micro-data bases to explore the implications of these trends for CMHC.
. Develop a broad picture of the future housing environment by involving knowledgeable people from various fields in a Delphi approach. (5-10 year time horizon). |
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CENTRE FOR FUTURE STUDIES
IN HOUSING AND LIVING ENVIRONMENTS

<u>ISSUE</u>	<u>ACTIVITY</u>
2. The Future Relationship Between Housing and Social Policy	<ul style="list-style-type: none">. Explore opportunities to re-orient housing/welfare programs to provide clients with more incentive for active economic and social participation.. Monitor the work of the OECD's Working Party on Social Policy's project The Active Society.. Explore the potential for participating in this project through discussions with Ottawa officials responsible for participation on this committee.
3. Changing Living Conditions in Urban and Rural Areas	<ul style="list-style-type: none">. Follow-up to the European - North American Conference on Crime Prevention and Urban Safety.. Examine the factors contributing to quality of life. How do Canadians identify quality of life? Can this be quantified and to what extent have models measuring quality of life been developed? What new data is necessary to enhance the measurement of quality of life?. Explore opportunities for public/private partnerships in housing, urban redevelopment and infrastructure as a means of enhancing/maintaining quality of life in a context of government restraint.. Conduct a symposium on urban issues in the 1990's.

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<u>ISSUE</u>	<u>ACTIVITY</u>
3. Changing Living Conditions in Urban and Rural Areas (cont'd)	<ul style="list-style-type: none">• Examine the concept of sustainable development as it relates to housing and living conditions. What does the concept mean for CMHC and what are the future implications of striving to achieve sustainable development? This research will provide input to discussions at both the national and international levels.• Monitor policies and practices on a national and international level related to the Brundtland Commission (sustainable development). Participate in a working group established by Environment Canada to develop a federal strategy on sustainable development.• Monitor the Healthy Cities Program being promoted by the Canadian Institute of Planners.
4. The Impact of New Technologies on Housing and Living Environments	<ul style="list-style-type: none">• Explore opportunities for assisting industry to develop and export (both inside and outside Canada) environmental technology and expertise.• Monitor emergence of new technologies on a national and international level and assess potential long term relevance to housing and living environments in Canada.• In co-operation with the Federation of Canadian Municipalities, coordinate the GLOBE 90 session on urban development.
5. General	<ul style="list-style-type: none">• Develop an External and Internal Experts in Residence Program.