



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

Resources,
COMMUNITY AND ECONOMIC
DEVELOPMENT DIVISION

DECEMBER 2, 1982

B-208806

The Honorable Roscoe L. Egger, Jr.
Commissioner of Internal Revenue
Department of the Treasury

Dear Mr. Egger:

Subject: Possibility of Improper Geothermal Energy
Tax Credit Claims (GAO/RCED-83-1)

The General Accounting Office has for some time been conducting reviews dealing with energy tax credits. As part of these reviews, we recently identified a potential problem that could be costing the U.S. Treasury several millions in lost individual income tax revenue. Specifically, Internal Revenue Service (IRS) statistics indicate that taxpayers may be improperly claiming residential energy tax credits for geothermal energy expenditures (hereafter referred to as geothermal energy tax credits). These tax credits have been claimed by taxpayers residing either in States without geothermal resources as defined by IRS, or in States with such resources but at depths too great to be economically useful.

Without an examination of individual tax returns, it is not possible to prove that improper tax credit claims have been made. We believe, however, that there are sufficient indications of a potential problem to warrant your attention and action.

BACKGROUND

The Energy Tax Act of 1978 (P.L. 95-618, Nov. 9, 1978) provides a residential energy tax credit for certain energy conserving and renewable energy source expenditures made in connection with a taxpayer's principal residence. The credit applies to expenditures on energy-conserving items such as insulation and storm windows, as well as to investments in solar, wind, and geothermal energy property, categorized as renewable energy source property. In this latter case, the act provided that a credit may be claimed for 30 percent of the first \$2,000 of expenditures and 20 percent of the next \$8,000 of expenditures up to a maximum credit of \$2,200 for expenditures made after April 19, 1977, and before January 1, 1986. Subsequently, the Crude Oil Windfall Profit Tax Act of 1980 (P.L. 96-223, Apr. 2, 1980), expanded the renewable energy credit to 40 percent of \$10,000 in expenditures

to a maximum credit of \$4,000 for expenditures made after December 31, 1979, and before January 1, 1986.

With respect to geothermal energy property, the Energy Tax Act of 1978 required that the geothermal expenditures be made in connection with a "geothermal deposit" which it defined broadly as "a geothermal reservoir consisting of natural heat which is stored in rocks or in an aqueous liquid or vapor (whether or not under pressure)." The act authorized the Secretary of the Treasury to issue more specific criteria and standards for implementing the tax credit provisions. On August 29, 1980, IRS issued such implementing regulations (26 CFR Part 1) and made them effective with respect to expenditures occurring after April 19, 1977. The regulations state that for geothermal energy expenditures to qualify for the tax credit, they have to be made in connection with a geothermal deposit defined as having

"* * * a temperature exceeding 50 degrees Celsius as measured at the wellhead or, in the case of a natural hot spring (where no well is drilled), at the intake to the distribution system."

In establishing its definition of a geothermal deposit, IRS concluded that 50°C (122°F) was an appropriate cutoff point for determining whether heat was derived from a geothermal reservoir rather than simply from ground water affected by atmospheric temperatures.

OBJECTIVES, SCOPE, AND
METHODOLOGY

Our primary purpose was to evaluate the reasonableness of geothermal energy tax credit claims made by individual taxpayers. In performing this review, we did not examine any income tax returns. Instead, we examined State-by-State IRS estimates of the number of geothermal energy tax credit claims. We compared these estimates with State-by-State assessments of geothermal resources using reports 1/ prepared by the U.S. Geological Survey in the Department of the Interior, the National Oceanic and Atmospheric Administration in the Department of Commerce, and the Department of Energy (DOE) and its contractors. These reports include measured temperatures of the resources identified at various depths which enabled us to determine which of the resources would meet IRS' definition of a geothermal resource and qualify for a tax credit. We also held discussions with various DOE and DOE contractor officials to determine which of the resources identified in the reports would be economically recoverable by individual

1/A listing of these reports is included as enclosure I.

taxpayers. Our review was performed in accordance with generally accepted government auditing standards.

INDICATION OF IMPROPER
GEOHERMAL ENERGY TAX
CREDIT CLAIMS

Based on available IRS statistics, it appears that some geothermal energy tax credits have been claimed improperly. The statistics indicate that taxpayers in some States without geothermal resources meeting IRS' definition have claimed credits. We noted also that tax credits were being claimed by taxpayers in other States with resources meeting IRS' definition but at depths too great for economical residential use. From 1978, the first year that the credit was allowed, through 1980, we estimate that the amount of the apparently improper geothermal energy tax credit claims could be as much as \$11.2 million.

According to the reports we reviewed concerning geothermal resources on a State-by-State basis, such resources are either in the form of geothermal springs or in a form accessible only by drilling a well. With respect to geothermal springs, the reports show that resources meeting IRS' definition (i.e., having a temperature of 50 C or higher) are located in 13 States. All of these resources, with the exception of those in Arkansas, are located in States west of the Rocky Mountains. With respect to deep geothermal resources accessible by drilling wells, the reports indicate that qualifying resources are located in basically the same Western States. Although the reports identified some deep-well resources, and projected the existence of others, which would meet IRS' definition in certain Eastern and Midwestern States, these resources are at depths of 3,000 feet or greater and, according to DOE and DOE contractor officials, would not be economically recoverable by individual taxpayers for use in their residences. ^{1/} Thus, while deep-well resources may exist in some Eastern and Midwestern States, it is unlikely that any individual could be developing such resources.

Despite the fact that developable geothermal resources meeting IRS' requirements for individual income tax credits are located almost exclusively in Western States, IRS statistics indicate that taxpayers from a number of Eastern and Midwestern States are claiming geothermal energy tax credits. Each year IRS prepares estimates, based on statistical samples, of the number of taxpayers in each State claiming various energy tax credits. In the case of geothermal energy tax credits, estimates are available

^{1/}According to these officials, costs to develop geothermal resources at the 3,000 foot level could be as much as \$500,000.

for 1978, 1979, and 1980. 1/ Our examination of these estimates showed that about 2,700 returns came from taxpayers in 9 States without geothermal resources meeting IFS' definition. According to IFS statistics, estimated geothermal energy expenditures associated with these returns totalled about \$4.6 million. We also noted that more than 10,000 additional returns, involving about \$26.5 million in claimed expenditures, came from 10 States with resources meeting IFS' definition but only at depths of 3,000 feet or greater. 2/

IRS officials told us they had not prepared an estimate of the amount of tax credits that would be associated with these expenditures. In order to approximate the potential tax credit involved, we applied the maximum authorized tax credit percentages to the estimated expenditures in each of the 19 States. On this basis, we estimate that the amount of the potentially improper tax credits could be as high as \$11.2 million over the 3-year period. A listing of the States with questionable geothermal energy tax credit claims and the estimated amounts of geothermal energy expenditures claimed are included as enclosure II.

We discussed these potentially improper claims with an official in IFS' Office of Assistant Commissioner (Examination). The official told us that his office was unaware of a potential problem with geothermal energy tax credit claims. He also stated his belief that the dollar volume associated with geothermal energy tax credits was extremely small in relation to the total individual income tax picture and to other areas of potential IFS audit attention. Accordingly, IFS has not identified geothermal energy tax credit claims as a major tax non-compliance problem and has not taken any special steps to address the issue during its annual process for selecting and examining individual income tax returns.

The official told us that the 3-year statute of limitations for examining 1978 returns had expired and that IFS has essentially concluded examinations of 1979 and 1980 returns. He further stated that to identify and examine those specific 1979 and 1980 returns on which geothermal energy tax credits may have been claimed would be costly. He added that there would be little

1/IRS officials emphasized that these estimates were prepared from a small sample and, accordingly, could be subject to a wide sampling error. However, they said the estimates are the best available.

2/These questionable expenditures totalled \$31.1 million and represented about 91 percent of the total geothermal energy expenditures claimed nationwide.

justification for IRS to incur those costs without greater certainty that a problem exists. He pointed out, however, that if it became evident that a significant portion of claims for geothermal energy tax credits was improper, there are a number of steps that IRS could take to address the problem in the future. These steps could include screening out geothermal energy tax credit claims for further review during initial return processing or alerting examiners in the appropriate field offices to pay special attention to such claims in selecting returns for examination.

CONCLUSIONS
AND RECOMMENDATIONS

IRS statistics indicate that taxpayers in a number of States may have improperly claimed geothermal energy tax credits. For the years 1978 through 1980, these potentially improper tax credit claims could be as high as \$11.2 million. We recognize that the available statistics provide only an indication of a problem and that the statistics themselves may be subject to a wide sampling error. Nevertheless, we believe the statistics provide sufficient indications of a potential problem to warrant IRS action.

Accordingly, we recommend that the Commissioner of Internal Revenue (1) test the propriety of selected geothermal tax credit claims and (2) determine the extent to which a problem exists that warrants expanded action on IRS' part. One way this could be accomplished would be through sampling or selectively screening out and examining returns containing such claims from taxpayers in States without geothermal resources meeting IRS' definition and in States with such resources but at depths too great to be economically useful. Based on its examination of the returns in question, IRS would then be in a better position to assess the extent to which a problem exists and, as appropriate, take corrective measures. In any case, it would be beneficial for examiners to have access to information identifying those States or regions of the country which are likely to have geothermal resources that would qualify for the credit. The reports we examined (enclosure I) should be helpful for this purpose.

AGENCY COMMENTS

IRS generally agreed with the findings of this report and agreed to take corrective action. Specifically, IRS agreed to distribute information to its district offices and service centers to assist in identifying questionable geothermal energy tax credit claims. This information will include IRS' definition of a geothermal deposit, and a list of States showing those with resources that would probably qualify for the credit, those without geothermal resources, and those with deep resources where credits claimed by its residents would be questionable. IRS also decided to review the instructions it provides taxpayers for submitting energy

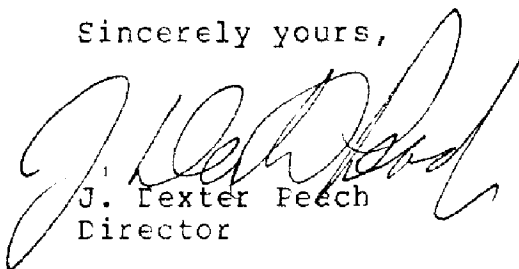
tax credit claims to clarify the definition of a geothermal resource to help prevent misinterpretations by taxpayers.

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As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of the Federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We appreciate the courtesy and cooperation extended to our staff during the review.

Sincerely yours,



J. Dexter Peach
Director

Enclosures - 2

GEOHERMAL RESOURCE ASSESSMENT REPORTS

1. "Assessment of Geothermal Resources of the United States--1978," Geological Survey Circular 790.
2. "Thermal Springs List for the United States," National Oceanic and Atmospheric Administration, June 1980.
3. "Geothermal Resources of the Eastern United States," prepared by Gruy Federal Incorporated for the Department of Energy, December 1979.
4. "Fact Sheets Relating to Use of Geothermal Energy in the United States," prepared by the Johns Hopkins University for the Department of Energy, December 1980.
5. "Geothermal Progress Monitor," Department of Energy, June 1982.

STATES WHERE GEOTHERMAL ENERGY
TAX CREDIT CLAIMS WERE QUESTIONABLE (note a)

	Estimated number of claims between <u>1978 and 1980</u>	Estimated total expenditures claimed between <u>1978 and 1980</u> (thousands)
<u>States without reported resources meeting IRS' definition</u>		
Connecticut	38	\$ 63
Louisiana	(b)	4
Maine	282	574
Massachusetts	644	918
Minnesota	711	1,836
Nebraska	3	48
New York	734	936
Rhode Island	33	11
Vermont	<u>213</u>	<u>192</u>
Subtotal	<u>2,659</u>	<u>\$ 4,582</u>
<u>States with reported resources but at depths of 3,000 feet or greater</u>		
Florida	469	\$ 1,049
Illinois	94	472
Indiana	11	142
Maryland	1,784	150
Michigan	1,618	245
North Carolina	1,759	11,825
Ohio	2,246	10,015
Pennsylvania	2,283	2,232
South Carolina	9	24
Virginia	<u>86</u>	<u>323</u>
Subtotal	<u>10,359</u>	<u>\$26,477</u>
Total	<u>13,017</u>	<u>\$31,059</u>

a/The information in this table was prepared from IRS estimates. IRS officials cautioned that these estimates were subject to a wide sampling error but that the estimates are the best available.

b/Less than three.