Funding Mechanisms for Federal Geothermal Permitting

Kermit Witherbee, Katherine Young, and Aaron Levine

National Renewable Energy Laboratory, Golden, CO, USA

Keywords

Geothermal permitting, federal budget process, geothermal lease revenues, cost recovery, processing fees, set aside funds

ABSTRACT

The Department of Energy's (DOE) Geothermal Technologies Office (GTO) initiated a Geothermal Regulatory Roadmap (GRR) in March 2012 to facilitate the development of utility-scale geothermal power. The GRR team conducted a series of workshops during the summer of 2012, which included key representatives from federal and state agencies, as well as industry and other stakeholders involved in the permitting and development of utility-scale geothermal projects.

In many of the GRR meetings held with agencies, industry, and other stakeholders, a recurring issue was competing priorities for agency staff's time, which result in permit processing delays. Some agency personnel explained how only a percentage of their weekly or monthly time is allocated to geothermal due to geothermal budget allocations. Others described how their time allocation was determined by agency priorities, and not by specific geothermal budget allocations. In these cases, geothermal may not be a priority at all. One suggestion that was to increase geothermal permit fees or to develop some other mechanisms of cost recovery to fund additional geothermal positions or contractors to process permits more quickly. Because much of the geothermal resource available in the western U.S. is on federal lands, analysis of cost recovery programs could identify opportunities for additional funding mechanisms to support federal agency personnel and processing permits for geothermal projects.

This paper discusses:

- Federal agency *revenues* received for geothermal projects, including: (1) lease revenues, (2) fixed fees, and (3) cost recovery fees; and
- Potential federal agency *budget* sources for processing geothermal applications, including: (1) cost-recovery fees for services rendered, (2) set-aside funds (such as those employed by EPAct2005), and (3) the appropriations process.

This paper then analyzes the three budget sources as mechanisms for increasing funds available to federal agencies for processing geothermal permits and approvals. This paper concludes that both set-asides and cost-recovery fees for services rendered were effective ways of ensuring sufficient funding for processing geothermal authorizations on federally-managed public lands in a timely manner.

Background

The Department of Energy's (DOE) Geothermal Technologies Office (GTO) initiated a Geothermal Regulatory Roadmap (GRR) in March 2012 to facilitate the development of utility-scale geothermal power. The GRR team conducted a series of workshops during the summer of 2012, which included key representatives from federal and state agencies, as well as industry and other stakeholders involved in the permitting and development of utility-scale geothermal projects.

One of the top concerns reported by industry, consultants, and agencies during the GRR workshops in most states is the lack of federal agency personnel and funding available for processing geothermal permits. This often leads to costly delays in processing geothermal permits and environmental analyses. Some agencies mentioned that the reason for this is that geothermal competes with other programs for priority and budget, and in some locations, there is a lack of specialists available to conduct National Environmental Policy Act (NEPA) analyses. Agency and industry recommendations included a cost recovery program that returns the funds directly to the office processing the permits. Because much of the geothermal resource available in the western U.S. is on federal lands, analysis of cost recovery programs could identify opportunities for additional funding mechanisms to support federal agency personnel and processing permits for geothermal projects.

Like other minerals programs, the majority of geothermal revenues collected by agencies benefit federal, state, and local municipalities. Historically, over 85% of revenues collected go directly to these government treasuries to fund other government programs. Less than 15% of collected revenues get allocated

back to the agencies to fund permitting of future geothermal development. In the past, this low level of funding has created backlogs of geothermal project permits awaiting processing – with some applications sitting in the queue for 34 years (BLM and USFS, 2008). The Energy Policy Act of 2005 temporarily increased funding for geothermal permit processing, helping to address the backlog, but with the end of this funding, the agencies returned to pre-EPAct funding levels.

This paper examines both agency revenues and budgets (including various mechanisms for funding geothermal permit processing), and discusses the relationship between the two. It then provides a comparison of geothermal revenues and budgets with other minerals programs, and a discussion of the mechanisms that could be employed to expand agency geothermal budgets for timely permit processing.

Specifically, this paper discusses three mechanisms for increasing money available to agencies for processing geothermal permits and approvals: (1) the use of cost-recovery fees for services rendered, (2) set-aside funds (such as those employed by EPAct2005), and (3) the appropriations process. This paper concludes that both set-asides and cost-recovery fees for services rendered were effective ways of ensuring sufficient funding for processing geothermal authorizations on federally-managed public lands in a timely manner.

Finally, we discuss three potential options for increasing available funding for geothermal permit and NEPA processes: (1) set-aside funds, (2) cost recovery fees for services rendered, and (3) the appropriations process.

Revenues

Geothermal revenues include all monies collected from geothermal development – from leasing through development, and during operations. Revenues can come from a number of sources, including lease bonus bids, permit fees (e.g., exploration permits, drilling permits, rights of way), annual rentals paid on leases, and royalties paid on production. The Bureau of Land Management (BLM) and Office of Natural Resources Revenue (ONRR) are responsible for collecting these fees, lease rentals, bonus bids, and royalties, regardless of the federal agency that may manage the land. For example, revenue for geothermal development on U.S. Forest Service (USFS) land is collected by the BLM and ONRR and is discussed in more detail in the "Distribution of Geothermal Revenues" section below.

Establishing Revenues

The levels at which fees are set are controlled by congressional acts and regulations.

Congressional Acts are statutes enacted by Congress that authorize specific cost recovery for specific uses of federal lands and resources. Examples (described in more detail below) include the Federal Land Management Policy Act of 1976 and the Energy Policy Act of 2005 (EPAct 2005). Congressional acts typically provide guidelines for how revenues are set, collected, and distributed.

Regulations are rules created by agencies through a process known as "rulemaking," which typically provide specific details on how revenues are set and collected. Rulemaking is the

Table 1. Description of BLM Mineral and Realty Revenue Authorities. The BLM collects geothermal revenues on BLM- and USFS-managed lands.

Revenue Authority	Year	Technology	Description	Agency	Comments
Congressional Acts					
The Independent Offices Appropriations Act (IOAA) of 1952	1952	No specific	Authorized federal agencies to charge processing costs and fees for processing documents and applications. Required development of regulations	ALL	Deposited in Federal Treasury
The Federal Land Management Policy Act of 1976 (FLPMA), Sec. 304 and Sec. 504	1976	Realty (solar, wind), geothermal, oil and gas, coal, nonenergy leasable minerals, mineral materials, mining law.	Specific Authorities to charge fees for processing applications and other documents related to public lands	DOI & USFS	Deposited in Federal Treasury
Energy Policy Act of 2005, Section 364	2005	Oil and gas	Established a permit processing fund for BLM O&G Pilot Offices	BLM	Forbid BLM to institute APD processing fees until congressional approval
Energy Policy Act of 2005, Section 234	2005	Geothermal	Provided for 25% of geothermal revenues made available to DOI for implementation of revisions to Geothermal Steam Act for a period of 5 years	BLM	Funds transferred directly to DOI, not subject to appropriations or FY limitations; fund rescinded in DOI FY 2010 Appropriations Act
Regulations					
43 CFR § 3203.12; CFR § 3000.12	2012	Geothermal	Geothermal lease nomination fee	BLM	Adjusted annually. Currently $110 per nomination + $0.11/acre
43 CFR § 3000-3870	2012	Oil and gas, geothermal, coal, solid minerals, mining	Document and application processing fees: Lease applications, assignments Leasing nominations	BLM	Adjusted annually
Annual Appropriations					
Department of Interior Appropriations, FY 2008	2008	Oil and gas	Authorized an APD permit process fee for $4,000.00	BLM	Oil and Gas , Receipts deposited in Federal Treasury, an offsetting collection
Department of Interior Appropriations, FY 2010	2010	Oil and gas	Increases APD processing fee to $6,500	BLM	Receipts deposited in Federal Treasury, an offsetting collection
Department of Interior Appropriations, FY 2011-2014	2011	Oil and gas	BLM shall collect a non-refundable inspection fee to be deposited in the "Management of Lands and Resources Account"	BLM	So far not authorized by Congress. Inspection fee for compliance inspections, receipts deposited in Federal Treasury, an offsetting collection

procedure that a federal agency is required to use to implement congressional acts and mandates. The process is used to propose new or revised regulations, request public review, and receive comment.

Annual Appropriation Acts are developed each year by Congress. Though annual appropriations are generally thought of as expenditures and not revenues, sometimes during the annual appropriations process (described below), Congress can issue mandates for changes in fees along with the allocation of money to the agencies.

Table 1 illustrates the Congressional and Regulatory authorities for BLM energy and realty permitting revenues. Each of these three methods, and the specific authorities listed in Table 1, are described in more detail below.

Congressional Acts

Congressional action has been required in order for federal agencies to charge the public for services provided. Two acts established the basis for revenue collection for BLM's minerals programs.

The Independent Offices Appropriations Act (IOAA), as amended (31 U.S.C. § 9701), specifies that "federal agencies are authorized to charge fees and processing costs" for services provided by the federal agencies. Monies collected under IOAA are required to be deposited as Miscellaneous Receipts into the general Fund of the Federal Treasury.

The Federal Land Management Policy Act of 1976 (FLPMA), as amended (43 U.S.C. § 1701-1784)) in Section 304a, authorizes the Secretary of Interior to "establish reasonable filing and service fees and reasonable charge, and commissions with respect to applications and other documents relating to the public lands" and to rescind or change as required. Section 304b of FLPMA defines "reasonable cost" to "include, but not be limited to, the costs of special studies; environmental impact statements; monitoring construction, operation, maintenance, and termination of any authorized facility; or other special activities." For federal rights-of-way, Section 504(g) of FLPMA authorizes the Secretary of Interior to require an applicant to "reimburse the United States for all reasonable administrative and other costs incurred in processing an application." This act applies to all minerals (geothermal, oil and gas, etc.) and to realty (rights-of-way (ROW) for solar, wind, etc.).

Both the IOAA and FLPMA require the BLM to finalize rulemaking prior to charging for the cost of processing documents.

Prior to 2006, BLM's oil and gas and geothermal management programs were completely funded through the Oil and Gas Management sub-activity. In 2006, EPAct 2005 provided three additional funding sources.

EPAct 2005, Section 365 established a new Permit Processing Improvement Fund and authorized BLM to establish a pilot project to improve federal permit coordination for oil and gas. It allowed for the development of seven pilot offices to establish integrated, multi-agency offices to streamline permitting of oil and gas wells (this did not include geothermal permits). This funding source was authorized for a period of ten years and prevented BLM from implementing processing fees for the processing of drilling-related permits and authorizations until approved by Congress. In the Department of Interior Appropriations Act of 2008, Congress authorized the BLM to institute an APD processing fee of $4,000 per drilling permit. This was increased to $6,500 in the 2010 appropriations act.

EPAct 2005, Section 234 established a new Geothermal Steam Act Implementation Fund to process geothermal leases and geothermal use authorizations. This funding source was authorized for a period of five years, and provided funding directly to the BLM geothermal program, to the USFS, and to other programs. These funds tripled the BLM geothermal program's annual budgets (Figure 1), and allowed for a significant increase in federal agency geothermal activity. Major geothermal program accomplishments from these funds include:

1. Revision of the BLM Geothermal Regulations,
2. Development of the United States Geological Survey (USGS) "Assessment of Moderate- and High-Temperature Geothermal Resources of the United States,"
3. Reprogramming of the Mineral Management Service's (now Office of Natural Resources Revenue) geothermal revenue management accounting programs to include new geothermal leases and royalty rates,
4. Analyses and development of a Programmatic Geothermal Leasing Environmental Impact Statement, and
5. Increase in staffing, planning activities, environmental review, leasing, and permitting for both the USFS and BLM.

Beginning with the 2007 budget appropriations process (2 years after EPAct 2005), the BLM proposed to rescind and return the money in the Section 234 Geothermal Steam Act Implementation Fund to the Federal Treasury. The justification was that the return of the revenues to the Federal Treasury was consistent with historical distribution practice of 50% to the states and 50% to the Federal Treasury: "These payments to counties, established in the Energy Policy Act of 2005, are inconsistent with longstanding revenue sharing arrangements and reduce the return to Federal taxpayers from leases on Federal lands" (Office of Management and Budget, 2012). The fund was repealed in the 2010 Congressional Appropriations Act, one year before the five-year authorization provided by EPAct.

Regulations

With authority granted from the above-listed acts, BLM has developed regulations for fees associated with processing and filing applications related to mineral exploration, leasing, and extraction on federal public lands (including BLM- and USFS-managed lands), as outline in Table 2, below.

For geothermal resources, 43 CFR § 3203.12 requires a developer to submit a filing fee for nomination of lands for geothermal leasing. In the Processing and Filing Fee Table found in 43 CFR § 3000.12, the fee for a nomination of lands is $110.00 plus a per-acre fee of $0.11(FY 2013). 43 CFR § 3000.12 also lists other fixed fees associated with geothermal development, including lease application and site license fees.

For oil and gas, coal, and solid minerals other than coal and oil shale, 43 CFR § 3000.12 lists fixed fees associated with leases, licenses, use permits, and exploration permits among other authorizations.

Annual Appropriations Process

During the appropriations process, Congress may issue mandates for implementing permit processing fees or changing the current permit processing fees. For example, in the 2008 Interior Appropriations, BLM was directed to institute a $4,000 oil and gas Application for Permit to Drill (APD) processing fee. FY2010 appropriations directed the fee to be increased to $6,600. In both instances, the monies collected are deposited as a reimbursement to the Federal Treasury.

Current BLM Revenue Rates

While the USFS is not authorized to collect fees, the BLM is authorized to collect fees for mineral activities on BLM- and USFS-managed lands. Current BLM lease revenues, fixed fees, and cost recovery fees are described below.

Geothermal Lease Revenues

Revenues generated from a geothermal lease consist of a onetime bonus bid paid by the successful bidder for a competitive lease, an annual rental fee, and royalties paid on production of geothermal resources. Annual rental for a noncompetitive lease is $1/acre for the first ten years and $5/acre thereafter, and for a competitive lease is $2/acre for the first year, $3/acre for years two through ten and $5/acre thereafter. All geothermal leases issued under the EPAct 2005 carry a royalty rate of 1.75% for the first ten years and 3.5% for years 11 until production ceases.

Fixed Fees

The geothermal program at the BLM collects fixed fees (Table 2) that are adjusted annually in accordance with the Implicit Price Deflator for Gross Domestic Product (IPD–GDP). These fees include the processing of geothermal lease applications, lease assignments, name changes, lease reinstatements, and nomination of lands for geothermal leasing.

Table 2. Current BLM Fees for Processing Geothermal and Oil and Gas Documents and Applications on BLM and USFS lands.

Geothermal and Oil and Gas Application / Document[2]	FY 13
Geothermal Drilling Permit (GDP) – *Geothermal only*	$0
Application for Permit to Drill (APD) – *Oil and Gas only*	$6,500
Noncompetitive lease application (From #)	$390
Competitive lease application	$150
Assignment and transfer of record title or operating right	$85
Name change, corporate merger or transfer to heir/devisee	$205
Lease consolidation	$430
Lease reinstatement	$75
Nomination of land – *Geothermal only*	$110
Plus per acre nomination fee – *Geothermal only*	$0.11
Site license application – *Geothermal only*	$60
Assignment or transfer of site license – *Geothermal only*	$60

[1] 43 CFR § 3200.12

[2] Note: with the exception of drilling permit fees, most other fees are the same for geothermal as for oil and gas.

Cost Recovery

In addition to the fees for processing geothermal documents and applications, a geothermal developer is subject to a ROW cost recovery fee (Table 3) for off-lease ROW for access, transmission, or for siting facilities on split-estate lands (federal surface estate with non-federal mineral estate). An example of facility siting is the approval of a surface operations plan for a geothermal well. These cost-recovery fees apply to all BLM and USFS ROW, including those for solar and wind projects.

The fee schedule is based on an estimate of the number of federal work hours involved (up to 50 hours). Federal processing times in excess of 50 hours are calculated on full reasonable costs if the application is submitted under the Federal Land Policy and Management Act or Full Actual cost if under the Mineral Leasing Act.

Table 3. 2013 Cost Recovery Processing and Monitoring Fee Schedule for FLPMA and MLA ROW Actions[1].

Processing and Monitoring Category	Estimated Federal Work Hours Involved	Processing and Monitoring Fee
Applications for new grants, assignments, renewals, and amendments to existing grants	>1 - 8	$117
	> 8 - 24	$410
	> 24 - 36	$773
	> 36 - 50	$1,108
Master Agreements	Varies	As specified in the agreement
Applications for new grants, assignments, renewals, and amendments to existing grants	>50	Full reasonable costs (FLPMA); Full actual costs (MLA)

[1] (ROW) regulations at 43 CFR 2804.25(c) and 43 CFR 2884.21(b)

Distribution of Geothermal Revenues

As previously mentioned, the USFS does not directly generate the geothermal revenues described above. Instead, BLM collects geothermal revenues for projects on BLM and USFS lands, such as lease nomination fees and permit fees. The BLM collects the first year's lease rental and bonus bid. The bonus bid and first year's lease rental are transferred by BLM to the Office of Natural Resources Revenue (ONRR) for distribution to the states, county, and federal treasury. Subsequent lease rentals and production royalties are paid by the lessee directly to ONRR. In general, these revenues are not directly distributed to BLM's or USFS's geothermal program. Two BLM programs, however, have received revenues directly: the Geothermal Steam Development Fund and the Oil and Gas Permit Processing Improvement Fund, both established by EPAct 2005.

Prior to enactment of geothermal revenues under EPAct 2005, annual rentals, lease bonus bids, and royalties paid on production were split with 50% directed to the state the geothermal project was located in and 50% to the federal treasury (80% to the Reclamation Fund and 20% to the General Fund). The money allocated to the federal treasury was not earmarked for the geothermal program.

Section 224(b) of EPAct changed the distribution of these revenue streams. The states retained their 50% distributions, but half the federal portion (25% of total revenues) was reallocated to

the counties where the geothermal leases are located. Additionally, section 234 of EPAct authorized the remaining (25% of total revenues) portion of federal geothermal revenue to be made available directly to Department of the Interior (DOI) in the Geothermal Steam Act Implementation Fund for implementation of BLM's geothermal program for a period of five years, and was not subject to appropriations or fiscal year limitations.

As previously mentioned, the 25% distribution to DOI was repealed in the 2010 Department of Interior Appropriations, one year short of the five-year authorization provided by EPAct. The 2010 appropriations also repealed the Section 224(b) geothermal payment to the counties. With the repeal of both sections, the geothermal revenue distributions returned to the pre-EPAct allocations – 50% to the states and 50% to the Federal Treasury. The Section 224(b) county payments were reinstated by Congress in H.R.4213: the American Workers, State, and Business Relief Act of 2010 (Engrossed Amendment as Agreed to by Senate) Sec. 618: Allocation of Geothermal Receipts, but the Section 234's geothermal payments to DOI for its geothermal program were not. As a result of H.R. 4213, geothermal revenues are distributed as follows: 50% to the states, 25% to the counties, and 25% to the Federal Treasury.

Budgets

Annual funding for geothermal permit processing can come from three sources: appropriations, set-asides (e.g., EPAct 2005), and cost-recovery fees (e.g., Realty fees). Figure 1 shows historical BLM budgets including funding from two of these sources: appropriations and set-asides. Each of these three funding types is described in further detail below.

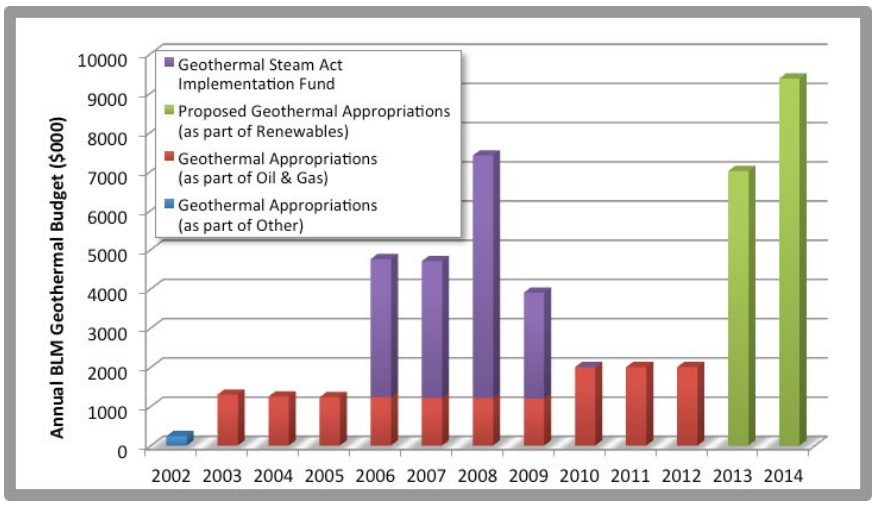

Figure 1. Sources of BLM geothermal budget (BLM, 2002-2014).

Annual Appropriations

Annual distributions to both the USFS and BLM for their geothermal programs are determined by the annual federal appropriations process as part of the Department of Interior and Related Agencies appropriation. BLM appropriations include a budget line item for geothermal activities. USFS appropriations, however, do not. Instead, USFS geothermal activities are to be completed as part of the minerals and geology line item, which makes up less than 1% of USFS budget. This line item is artificially split by the USFS into two areas:

1. Minerals and Geology Expenses (including locatable minerals, sand and gravel, minerals, oil and gas, geothermal, etc.)
2. Environmental Expenses (environmental audits, cleanup of environmentally contaminated sites, etc.)

The Minerals and Geology portion of the line item is spent on administrative operations, geology (e.g., geologic hazards, paleontological resources), and responding to permit applications for all mineral resources. Expenditures for this line item are not independently tracked.

Setting Appropriation Levels

There are four major steps in the annual federal budget process that is initiated with administration priorities and overall program objectives and directions.

First, the White House Office of Management and Budget (OMB) develops budget guidance, which provides the administration's priorities and direction to the agencies, which do not directly participate during this phase. The OMB has two fiscal budget concerns whose basic concepts include expenditures and receipts:

1. **Expenditures** include two types: mandatory and discretionary. *Mandatory* distributions are paid out of the Federal Treasury automatically without any decision-making action by Congress or the President. Mandatory spending includes programs like Medicare and Social Security. Other mandatory payments include the payment of mineral revenues to the states and geothermal revenues to the counties. *Discretionary* distributions are determined by Congress each fiscal year (FY); they decide how much money to spend (or not spend) as part of the appropriations process. An agency's spending authority is through these discretionary appropriations.
2. **Receipts** are all income to the Federal Treasury. It includes income taxes among other things, but also includes all geothermal and oil and gas cost-recovery programs (not directly deposited into agency accounts) authorized both by statute and regulations.

If there are more expenditures than receipts, then the federal government must borrow money to pay the difference, i.e. the deficit.

Next, all agencies (including the USFS and BLM) develop their budget requests with justifications in line with administration priorities, which are transmitted back up through the parent organizations (e.g., for both agencies, the DOI), the administration, and to Congress. Specific requests for new initiatives and priorities are submitted to the appropriate departments and OMB for review and consideration.

After the President's budget has been submitted, Congress develops its budget–based on input from the administration and its own policy and fiscal goals. This phase includes congressional hearings, markups, reports, Conference Committee, and Capability & Effects Statements. Congress then passes a budget that appro-

priates fiscal year funding for the departments and agencies. Note that in some years, Congress does not pass a budget, but instead passes a "continuing resolution," typically funding agencies at levels equivalent to the prior year. However, in FY2013, Congress reduced funding levels for all departments and agencies through sequestration and recession. (Mathis,2010).

After budgets are set, individual agencies distribute funding through their internal processes to the various programs from the Washington office headquarters down to the individual local offices. This is done in accordance with the funding request and with any additional program-specific directives from Congress. For example, BLM uses the Planning Target Allocation (PTA) and Annual Work Plan (AWP) processes based on projections of anticipated workloads (number of permit approvals) and initiatives (land use planning, etc.). The USFS uses the Annual Program Direction (APD) to establish the annual program priorities and allocate funds.

Historical Appropriation Levels

BLM

Prior to 2002, geothermal was budgeted in BLM Energy and Minerals Management Subactivity: Other Mineral Resources, although the program was managed by the Fluid Minerals Group.

During the FY 2001 appropriations process, the Director of BLM decided to transfer the geothermal budget into the Oil and Gas Management budget. A special project charge code was established to charge geothermal program work. As a result, geothermal expenditures were not reported accurately and only $250,000 had been charged to the project code and was transferred into the Oil and Gas budget. Subsequent analysis of the actual geothermal workload resulted in an increase in the FY 2003 budget request that resulted in an increase to $1,300,000 for the geothermal budget.

The geothermal base budget remained at about this level for the remainder of the decade. The FY 2013 appropriation request includes a request to transfer management responsibilities of the geothermal resources program to the consolidated Renewable Energy Program. The request reallocates $2 million from the Oil and Gas and Geothermal Management program. An additional $5 million was requested by the new Renewable Energy Program for geothermal energy management and renewable energy studies.

The FY 2014 Renewable Energy Program proposed an increase from $7 million in FY 2013 to $9.121 million. BLM's justification is, in addition to managing current leases and energy development, to support new planning efforts and environmental studies to identify areas ready for renewable energy development and prioritize utility-grade development.

Table 4 illustrates the growth of BLM's geothermal funding in FY 2003, after the transfer to the Oil and Gas Management budget, and again in FY 2013 after the transfer to the Renewable Energy Management budget. The table also illustrates the funding relationship between the Geothermal and Oil and Gas Program for the period of FY 2005- 2014 for both base funding and collected revenues. Figure 1 shows the geothermal funding data from Table 4 graphically.

USFS

As previously mentioned, Congress funds the USFS through budget line items. In the past, one line item has accounted for minerals and geology, totaling less than one percent of the USFS budget. Spending for individual programs is not tracked, and therefore, historical geothermal spending is not available. Spending decisions are based on priorities set at the forest-unit level.

This table lists the annual budgets, revenues, and relative permits processed for the geothermal program and oil and gas programs for the years 2002 through 2014. There was a significant increase in geothermal base budget allocations when the account

Table 4. BLM Geothermal and Oil and Gas Budgets FY 2005 – 2014 (BLM, 2008-2014).

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*	2014*
Geothermal													
Subactivity	Other	Oil and Gas										Renewable Energy	
Geothermal Base Budget ($000)	240	1,300	1,250	1,233	1,233	1,214	1,214	1,200	2,000	2,000	2,000	7,000	9,358
Geothermal Steam Act Implementation Fund ($000)	--	--	--	--	3,523	3,488	6,183	2,700	0**	--	--	--	--
Total Geothermal Budget	240	1,300	1,250	1,233	4,756	4,702	7,397	3,900	2,000	2,000	2,000	7,000	9,358
Geothermal Revenues ($000)	NA	17,729	18,754	12,046	12,732	18,783	38,558	48,487	26,487	15,892	15,044	NA	NA
Base Budget as a % of Current FY Revenues		7.30%	6.70%	10.20%	9.70%	6.50%	3.10%	2.50%	7.60%	12.60%	13.30%		
GDPs Processed	0	16	8	15	18	48	68	54	37	31	NA	NA	NA
Oil and Gas													
Oil and Gas Base Budget ($000)	NA	NA	NA	NA	88,962	117,129	90,200	78,151	69,336	69,336	72,466	76,042	46,699
Oil and Gas Permit Processing Improvement Fund ($000)	--	--	--	--	--	25,500	21,000	21,000	27,100	31,228	32,500	32,500	32,500
Total Oil and Gas Budget	NA	NA	NA	NA	88,962	142,629	111,200	99,151	96,436	100,564	104,966	108,542	79,199
Oil and Gas Revenues ($000,000)	TBD	1,466	1,886	2,794	3,299	2,773	4,332	2,203	2,859	3,153	2,708	NA	NA
Base Budget as a % of Current FY Revenues					2.70%	4.20%	2.10%	3.50%	2.40%	2.20%	2.70%		
APD Processing Fee ($000)	NA	NA	NA	NA	NA	NA	22,052	36,400	31,228	32,500	32,500	32,500	32,500
APDs Processed	3,727	3,759	6,051	7,723	7,585	8,964	7,846	5,306	5,237	5,200	5,861	5,500	5,500

* 2013 & 2014 Budget Request
** Steam Act Implementation repealed in DOI 2010 Appropriations Act.

was moved from "Other" to "Oil and Gas," and again when it was moved from "Oil and Gas" to "Renewable Energy." The Geothermal Steam Act increased funding 280-500% for the 4 years it was implemented. A similar % increase in GDPs was noticed for those years over previous years. The geothermal program typically receives between 2.5%-13.3% of the money it brings in annually for its base budget. While comparison to oil and gas funding is interesting, it is important to note that oil and gas funding goes toward the processing of APDs (28% via categorical exclusion (CX)), while the geothermal budget covers GDPs (most via EAs). CXs are much less costly than EAs.

Discussion

Multiple funding mechanisms have the potential to increase federal agency personnel and funding available to spend on processing geothermal permits and regulatory approvals, which has historically been seen to decrease processing times. Three possible mechanisms include: (1) set-aside funds, (2) cost recovery (for services rendered), and (3) raising annual appropriations. All three would require congressional acts for implementation.

Before discussing these mechanisms, it is worth noting the distinction and disconnect between revenues from and appropriations to federal agencies. Under the current structure, the amount of money federal agencies, such as BLM, receive for geothermal permit processing is not related to the amount of the revenue produced from geothermal permitting and development. As Table 4 illustrates, BLM's geothermal program base budget has varied from 2.5% to 13.3% of the revenue the program produces annually. As such, with the current structure in place, increasing geothermal application fees will not directly translate into added appropriations and additional resources to accelerate permitting time.

Set-Aside Budgets

BLM received set-aside funds as part of EPAct 2005 through the Geothermal Steam Act Implementation Fund. As noted in Table 4 and Figure 1, BLM received $2,700,000 to $6,183,000 annually during the four years the fund was available. BLM transferred $1.5 million of the set-aside funds through the Geothermal Steam Act Implementation Funds to the USFS to address a backlog of environmental reviews for geothermal lease applications. USFS expects to exhaust the last of the Geothermal Steam Act Implementation Funds in 2013.

EPAct 2005 required that the backlog of geothermal lease applications as of January 1, 2005, be eliminated or reduced by 90% within five years from its enactment. On January 1, there were 194 pending lease applications, 130 on BLM public lands, and 64 on USFS lands. Those funds provided the resources to reduce the lease backlog; by June 2007, BLM and the USFS had processed or resolved all but 34 lease applications. Of those remaining, only 19 required supplement analysis (17 on USFS and 2 on BLM). This was conducted as part of the Final Programmatic Environmental Impact Statement for Geothermal Leasing (BLM and USFS, 2008). As of 2013, USFS no longer has a backlog of geothermal lease applications. However, moving forward without Geothermal Steam Act funding, USFS is concerned with how to fund the environmental review for geothermal lease applications.

As previously discussed, the Geothermal Steam Act Implementation Fund was initially intended for implementing the provisions of EPAct 2005 for a period of five years, and it was made available without congressional appropriations or fiscal year limitations and terminated a year early. Having the funds available to carry over until exhausted resulted in the capability to continue implementation without interruptions in geothermal funding that could have impacted implementation efforts.

The Geothermal Steam Act increased funding 280-500% for the four years it was active. A similar percent increase in GDPs was noticed for those years over previous years.

Cost Recovery Budgets

"Cost recovery" refers to an agency being reimbursed the reasonable cost of processing documents and applications for activities related to the public lands.

When budgets don't cover programs, cost recovery programs may be used when authorized by Congress. Currently, the Forest Service does not have congressional authority to recover costs related to its minerals management programs.

Unlike geothermal and oil and gas, other technologies such as solar, wind, and transmission development have no specific agency line-item funding for their development projects due to the relatively few permits that are needed. Funding for those projects is on a case-by-case basis under the BLM ROW cost recovery policy, as previously discussed in the "Current BLM Rates" section.

The authorization of BLM's Renewable Energy Management program (citation) will result in additional funding sources through the appropriations process. As solar and wind projects come on line, additional revenues from annual site rentals and production fees will supplement cost recovery fees.

Relationship of Geothermal to Oil and Gas Budgets

As previously discussed, the Geothermal Management program has been budgeted and managed as part of the Oil and Gas Management Program since 2003. Table 4 outlines historical oil and gas budgets (which, for some years as indicated, includes the geothermal budgets) for comparison to geothermal budgets and indicates the number of drilling permits processed each year. While comparison to oil and gas funding is interesting, it is important to note that oil and gas funding goes toward the processing of APDs [28% via categorical exclusion (CX)] (GAO, 2009), while the geothermal budget covers GDPs (most via EAs). CXs are much less costly than EAs and EISs.

Similar to oil and gas, the geothermal program typically receives between 2.5%-13.3% of the money it brings in annually for its base budget. The remaining >85% of geothermal and oil and gas revenue goes toward federal, state, and local government treasuries (depending on the distribution), benefiting other government-funded programs.

Mechanisms for Increasing Agency Geothermal Budgets

The section below revisits the three sources of agency funding described above, and gives specific examples of federal agencies implementing each mechanism to meet a portion of its funding needs. These examples of funding mechanisms could be used as

guides in implementing similar funding mechanisms for federally regulated geothermal activities.

Set-Aside Funds

Set-aside funds are one mechanism to increase federal agency personnel and available funding for processing geothermal permits and regulatory approvals. Examples of set-aside funds include the Geothermal Steam Act Implementation Fund, the BLM Permit Process Improvement Fund, and National Park permits and use fees.

Geothermal Steam Act Implementation Fund

The establishment of the Geothermal Steam Act Implementation Fund (EPAct Section 234) directly provided DOI with resources (i.e., $ 15.9 million) to implement the geothermal provisions of EPAct 2005. For the BLM geothermal program management, the advantage of the Geothermal Steam Act Implementation Fund was that it established a funding mechanism that was not subject to annual appropriations or fiscal year limitations. That is, the fund provided a predictable stream of funding for federal agency personnel and processing geothermal permits and regulatory approvals that would not be interrupted by the annual budget formulation, request, and congressional appropriations.

The Geothermal Steam Act Implementation Fund was not popular with the administrations, as evidenced by BLM's proposals in FY 2007-2010 budget justifications to rescind the fund and return the Section 234 federal share of the revenues to the Federal Treasury. The Geothermal Steam Act Implementation Fund was repealed, along with the Section 224(b) geothermal payments to the counties, in the 2010 Department of Interior Appropriation.

BLM Permit Process Improvement Fund

EPAct 2005 established the BLM Permit Process Improvement Fund, amending Section 35 of the Federal Mining Lease Act (30 USC 191). EPAct 2005 requires the Secretary of the Treasury to deposit fifty percent (50%) of any rentals received from oil and gas leases in any state (other than Alaska) on or after the enactment of EPAct 2005 in the fund. Thereafter, from 2006 through 2015, the fund is available to the Secretary of the Interior for expenditure, without further appropriation or fiscal year limitation, to use for the pilot project coordination and processing of oil and gas use authorizations. The fund may also be used for the pilot project coordination and processing services from:

- The United States Fish and Wildlife Service (USFWS);
- The Bureau of Indian Affairs (BIA);
- The United States Forest Service (USFS);
- The United States Environmental Protection Agency (EPA);
- The United States Army Corps of Engineers (USACE); and
- The states of Wyoming, Montana, Colorado, Utah, and New Mexico.

Parks and Recreation

Federal agencies also have employed set-aside funds for fees collected from the use of federal public lands for parks and recreation (e.g., camping and park entrance fees). For example, on BLM recreation land, all recreation fees collected are set-aside at the specific recreation site for law enforcement, information, habitat or cultural resource restoration, and other services at those sites.

Implementation of new set-aside funds would require legislation; under current authorities (IOAA and FLPMA) cost recovery monies are directed to the Federal Treasury and would be available to the program as offsetting collections and not directly returned to the office processing the permits.

Cost Recovery Fees For Services Rendered

A second mechanism to increase federal agency personnel and funding for processing geothermal permits and regulatory approvals is cost recovery fees for services rendered. Examples of cost recovery for services rendered include the BLM Processing and Monitoring Fee for FLPMA and MLA Right-of-Ways and Realties.

BLM Processing and Monitoring Fee for FLPMA and MLA Right-of-Ways

Under FLPMA and MLA, BLM is authorized to collect non-refundable, one-time fees in advance for administrative and other costs incurred for processing applications and subsequent monitoring. 43 CFR 2804.14(a), 43 CFR 2805.16(a), 43 CFR 2884.12(c), and 43 CFR 2885.25(b) establish a cost recovery processing and monitoring fee schedule for ROWs.

After BLM completes an initial review of the application, BLM notifies the applicant of the estimated federal work hours the application will take to process. Table 3 highlights the processing and monitoring fees BLM will collect in advance based on the estimated number of federal works hours needed to process and issue decisions on applications for new grants, assignments, renewals, and amendments to existing grants. The cost recovery fee is pre-set for up to 50 estimated federal work hours separated into four categories (1-8 hours, 8-24 hours, 24-36 hours, 36-50 hours). For estimated federal work in excess of 50 hours, ROW applicants under FLPMA must pay the full reasonable costs of processing and monitoring, while applicants under MLA must pay the full actual costs of processing and monitoring the application.

In April 2013, Secretary of the Interior Ken Salazar issued Order No. 3327 Delegation of Authority for Cost Reimbursable Authority. This order authorizes reimbursement for processing and monitoring fees for all DOI bureaus and offices that incur costs for ROW application processing by Section 504(g) of FLPMA and BLM's implementing regulations. Under Order No. 3327, BLM is the lead agency to oversee the determination, management, and collection of fees charged by DOI bureaus and offices under Section 504(g) of FLPMA.

Raising Appropriations

Raising appropriations is a third mechanism to increase federal agency personnel and funding for processing geothermal permits and regulatory approvals. A typical way to increase funding is through a federal agency request for additional annual funding through appropriations. Federal agencies will likely need to justify a non-speculative need for the additional funds in budget hearings in front of Congress.

Conclusions

As was noted above, the FY13 budget request for BLM's geothermal program is $7M, a 350% increase from the previous three years. But the request is parallel with geothermal funding during the period in which the Geothermal Steam Act Implementation Fund was authorized and significant advances were made in geothermal regulatory processing. At the time of the writing of this paper, BLM is operating under continuing resolution at a $2M budget level, so these increased allocations have not yet been realized or implemented.

Because of the structure of the USFS appropriation, and the discretion of each forest to set its own priorities, increases in annual appropriations to USFS may not have any impact on geothermal permitting or budgets. Additionally, appropriations can vary from year to year, resulting in the potential for an inconsistent budget, translating to a lack of certainty and increased risk to the developer.

Using BLM's ROW model for cost-recovery fees for services rendered may help facilitate timely permit processing and environmental reviews. The USFS may want to investigate using this model as a way to fund individual forests, since geothermal-specific budget allocations do not exist.

Environmental reviews for lease applications, however, cannot be covered under cost-recovery mechanisms due to a conflict of interest of the paying parties. As previously mentioned, prior to the EPAct 2005 Geothermal Steam Act Implementation Fund, lease applications sat in the queue waiting to be processed for as long as 20 years.

Set-aside funds have been effective in the past for the programs that have benefited from their implementation. This mechanism allowed multiple federal agencies to increase geothermal budgets, including USGS, BLM, and USFS, and has allowed for the clearing of geothermal application backlogs –including the USFS leasing application backlogs.

Though the geothermal set-aside was repealed a year early, the oil and gas set-aside and the recreation set-aside discussed above have persisted. Participants of the GRR workshops recommended that a geothermal set-aside could be established for the development of pilot project coordination offices and processing of geothermal permits and use authorizations (structured after the oil and gas model). Additionally, the potential longevity of such a bill would provide funding certainty and reduced permitting risk for geothermal developers.

Increasing geothermal funding using any of the above methods may help to increase staff resources for more timely processing of permits and NEPA analyses. This decrease in both time and uncertainty will make the approval process less risky and costly to geothermal developers, reducing overall levelized geothermal costs. Because the majority of geothermal revenues (>85%) are distributed to federal, state, and local treasuries to fund other government programs, increases in geothermal development could increase these revenue streams.

References

BLM, 2008-2014. "The United States Department of the Interior Budget Justifications and Performance Indications, Fiscal Years 2008-2014." http://www.doi.gov/budget/appropriations/2013/index.cfm.

BLM, 2006, "Customer Service Standards for Processing Right-of-Way Applications." Instruction Memorandum No. 2006-067. http://web.blm.gov/internal/wo-300/wo-350/row/index.htm.

BLM and USFS, 2008. Final Programmatic Environmental Impact Statement for Geothermal Leasing in the Western United States. Prepared by the USDOI Bureau opf Land Management, USDA Forest Service, and Environmental Management and Planning Solutions, Inc. p. 307. http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS__REALTY__AND_RESOURCE_PROTECTION_/energy/geothermal_eis/final_programmatic.Par.37350.File.dat/Volume_II_FINAL.pdf.

Mathis, Sabrina, 2010. "Making Budget Work For You." Bureau of Land Management Washington Office Division of Budget." http://web.blm.gov/wo-800/wo880.

Office of management and Budget, 2012. "Fiscal Year 2012- TERMINATIONS, REDUCTIONS,AND SAVINGSBUDGET OF THE U.S. GOVERNMENT." P 32.

Office of the Solicitor, 1996. "BLM's Authority to recover Costs of Minerals Documents Processing." Department of the Interior. Solicitor's Opinion Memorandum M-36987. 12/5/1996, 37p.