



A History of the Energy Minerals Division of the AAPG

Part 1 of 2

December 2018 | [Michael D. Campbell](#)

In 2017, AAPG celebrated the 100th anniversary of its founding in Tulsa, Okla. This same year was also the 40th anniversary of the establishment the AAPG Energy Minerals Division.

The EMD has evolved as an organization over the past 40 years to reflect the changes in the mix of resources fueling the world's ever-increasing energy demand. We look forward to serving AAPG and our Division members by continuing to promote the geological sciences related to unconventional and alternate energy resources which will be required to meet the global challenges of providing a sustainable energy future. The purpose of this article is to celebrate the 40th anniversary by providing a brief history of the founding and evolution of the EMD that may serve as a reference and guide for future EMD members and leadership.

From Conception to Division

The Energy Mineral Division had its early beginnings at the 1968 AAPG annual meeting in Oklahoma City with a "Fuels Symposium" on coal, shale oil, tar sands, nuclear fuels, geothermal energy, oil and gas. The following year, AAPG President Frank B. Counselman appointed an ad hoc Committee for Proposed Division of Mineral Economics and he named Tom C. Hiestand as chairman, who is credited as being the first person to suggest and work for division status.

In 1970, AAPG President Kenneth H. Crandall appointed a special Committee on Mineral Economics Symposium and he named Hiestand chairman. This committee organized a program of eight speakers for the 1970 AAPG annual meeting in Calgary. Among the speakers, whose papers were published in the June 1971 AAPG Bulletin, were Michel T. Halbouty and Hollis M. Dole (assistant secretary of the interior).

Reappointed by AAPG President William H. Curry Jr., the committee produced only one invited paper at the 1971 AAPG annual meeting in Houston. The next year, the program was expanded to include representatives of other fuel and energy disciplines. The committee produced a half-day symposium consisting of seven papers at the 1972 annual meeting in Denver, which were published in 1973 but the Mineral Economics Institute at the Colorado School of Mines (John A Pederson and others as editors).

The two themes covered in this symposium were:

- National mining and minerals policy
- Economic incentives and deterrents affecting exploration and development of fuels/energy group of mineral resources during 1970-1973

The Committee on Mineral Economics was reappointed for the 1972-73 year, with Siegfried Muessig as chairman. For the 1973 AAPG annual meeting in Anaheim, the Committee organized an all-day symposium with 13 talks on "Economics of Energy Minerals." Having coined the term "energy minerals," the Committee on Mineral Economics now recommended it be renamed "The Committee on Energy Minerals," and it was reconstituted as such in the fall of 1973 under Chairman John A. Pederson.

Transferred from "special" to "standing" status in 1974, the Energy Minerals Committee moved one step closer to becoming a division. Pederson chaired the Committee on Energy Minerals for two years and planned for future programs and leadership. At the 1974 AAPG annual meeting in San Antonio, the committee presented a symposium, "Energy Minerals - What Are the Producibile Reserves?"

At the 1975 AAPG annual meeting in Dallas, the committee presented a symposium on "Energy Minerals: Status and Role," with talks emphasizing geothermal energy and uranium. Pederson, in a renewed effort to achieve division status, asked R.C. Millspaugh to devise a questionnaire for polling all AAPG members as to the need for a "division." This questionnaire was completed and mailed in early 1976 when Loyd Carlson was committee chairman.

The questionnaire's results showed resounding support for a division that would gather and present papers on energy minerals in the AAPG Bulletin and at AAPG annual conventions. About 50 percent of respondents asked for short courses and field trips. Carlson was named chairman of the Energy Minerals Committee, presiding over the committee's work, which produced two more successful symposia:

- At the 1976 AAPG annual meeting in New Orleans, under program chairman Ruffin I. Rackley
- At the 1977 annual meeting in Washington, D.C., under program chairman Robert L. Fuchs, who coordinated presentation of 40 papers

The AAPG Executive Committee approved bylaws for a division, and at the 1977 annual meeting the House of Delegates in Washington, D.C. passed a resolution that division status be approved by the Executive Committee. Thus on June 12, 1977, the Committee on Energy Minerals became the Division of Energy Minerals. At this time, upon recommendation of a nominating committee, Carlson became the first EMD president, Warren H. Westphal the first vice president, and Ruffin I. Rackley the first secretary-treasurer –and by the end of June 1977, approximately 757 AAPG members had paid \$10 each to join the new division as founding members.



The First Decade

Tom Hiestand was named an EMD "Distinguished Founder" at the 1978 annual meeting in Oklahoma City. This honor was also extended to Pederson and Hollis M. Dole in 1979; to Carlson, Muessig, Westphal, Donald W. Axford, William R. Moran and Harry L. Thomsen in 1980; to Ruffin I. Rackley and Fuchs in 1993; to Samuel A. Friedman in 1994; and to Donald F. Towse in 1996. EMD held its first annual program as a new AAPG division at the 1978 meeting. Samuel A. Friedman, assisted by Lawrence L. Brady and others, coordinated the program, consisting of 28 research papers that filled two oral sessions on uranium geology, one oral session on coal geology, and a fourth oral session on geothermal energy and tar sands. Two papers on coal geology were presented in an AAPG poster session.

Carlson and the EMD Program Committee established best-paper awards based on a rating system patterned after the AAPG Matson Award. Awards were presented at the next annual meeting. At later annual meetings, EMD added best poster awards, and both categories of awards continue to be made annually. Both the Eastern and Rocky Mountain Sections of AAPG also initiated EMD awards for both categories of papers at their annual conventions.

In 1978, David G. Campbell, AAPG annual meeting field trip chair, invited Friedman to plan and lead a two-day coal geology field trip to the Arkoma Basin in eastern Oklahoma. Thus, AAPG Field Trip No. 2, with guidebook and 38 participants, became the first EMD-organized pre-convention field trip. Zuhair Al-Shaieb, with guidebook and a full bus, also led a field trip that examined uranium mineralization in parts of the Anadarko and Hollis basins and the Wichita Mountains in southwestern Oklahoma –the first post-

convention field trip on an EMD topic. Co-sponsoring special programs outside of AAPG annual meetings was begun by the former AAPG Committee on Energy Minerals, which had cosponsored with sections of A.I.M.E. a symposium on "In-Situ Leaching of Uranium," held at Vail, Colo., in August 1976.

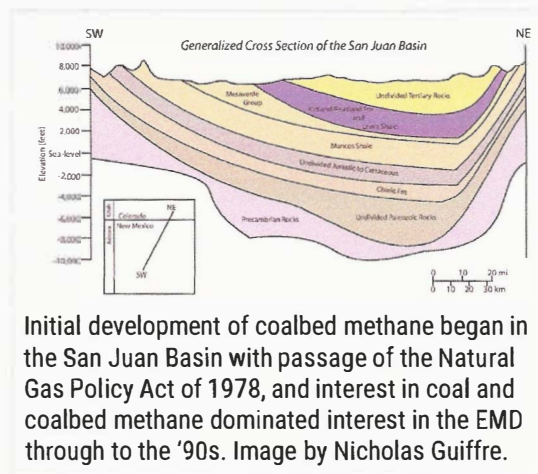
The Division also was the primary sponsor of a highly successful symposium on the Grants, N.M., uranium area, chaired by Frank E. Kottowski, in May 1979. In two and a half days, an unprecedented 48 papers on uranium geology were presented. EMD received a record \$10,000 in net revenue from registrants at this symposium.

EMD co-sponsored the 1980 Rocky Mountain and Southwestern Section annual meetings. Phil Goodell chaired the El Paso symposium, at which 28 EMD papers covered uranium topics and two successful field trips were given to investigate uranium mineralization and mining.

At the EMD business meeting of the Eastern Section annual meeting in Evansville, Ind., in October 1980, EMD Executive Committee heard a request for an annual energy minerals development paper to be published in the "World Developments" issue of the AAPG Bulletin. This idea led to the AAPG Bulletin's first publication of separate, comprehensive reports on each of the five commodities under the EMD aegis, i.e., coal, uranium, geothermal energy, oil shale and tar sands. These summaries were well received and exemplary annual reviews continued until 1990, when AAPG ceased publication of the World Development issue. Principal authors and organizers of these comprehensive papers were:

- Charles G. (Chip) Groat, Sam, Friedman, and Richard W. Jones, coal;
- Carroll F. Knutson and George F. Dana, oil shale;
- John W. Gabelman and W. L. (Bill) Chenoweth, nuclear minerals (uranium);
- Charles W. Berge, J.W. Lund, Jim Combs, D.N. Anderson, and P. Michael Wright, geothermal energy; and
- J.H.N. Wennekers, S.R. Seifert and TR. Lennox, tar sands.

The bylaws were revised in 1981 in yet another effort by the EMD to better serve the membership. The EMD structure was changed to emphasize the mineral commodities by adding geographical coverage, paralleling the AAPG organization. Commodity leaders became committee chairs, and section councilors were appointed who could network with AAPG section leaders to plan EMD programs. Also in 1981, the EMD membership first appointed officers and councilors (for 1981-83). Ruffin I. Rackley was appointed vice president of the Division for 1981-1982 and then was elected president the following year in 1983.



The first EMD brochure emphasizing benefits available for joining EMD was published in 1981, initiated by EMD President Frederick Cheerer in an effort to maintain a rapid increase in EMD membership. The EMD brochure was updated and revised by a committee chaired by Sandra C. Feldman in 1988 and a new brochure was completed for distribution at the annual meeting in Salt Lake City, spearheaded by EMD President Margaret Anne Rogers and Outreach Committee Chair Jane McColloch.

Beginning with the first EMD meeting 40 years ago in 1978, a total of 947 oral and poster papers and numerous short courses (or seminars) and field trips have been presented at national and section annual meetings, as well as at special co-sponsored EMD meetings through 1997. A record high of 127 EMD papers were presented in 1980, averaging 47 per year over the next few years. About 47 percent of the papers dealt with geology of coal and coal-bed methane (47 percent), with other papers covering uranium, geothermal and oil shale. These commodities were joined by remote sensing as a popular topic for convention papers for the next 10 years. Coal and coal-bed methane dominated papers given in the 1990s through the mid-2000s, especially at the Eastern and Rocky Mountain Section annual meetings.

In March of 1984, EMD reached a high of 2,013 active members. Although only 10-15 percent of the EMD membership attended the national annual meetings, responses to past EMD questionnaires showed that all the members remained interested in all the EMD commodities plus remote sensing with the increasing interest in satellite imagery. During the 1980s, EMD added the gas hydrates commodity as an “unconventional” energy source – increasing the diversity of the commodities represented by EMD.

Coalbed Methane Era

Beginning in the late 1970s, interest in tight (low permeability) gas increased with research and development and U.S. wellhead natural gas price incentives spurred by passage of the Natural Gas Policy Act of 1978. Interest in coalbed methane started in 1977 with initial development in the San Juan Basin of Colorado and New Mexico, with 91 billion cubic feet of gas produced during 1989. The EMD commodity chairs continued to produce annual and mid-year reports to reflect the status and utility of each of the commodities monitored.

In the early 1990s, coal and coalbed methane dominated interest in the EMD as reflected by the percentage of members, conference emphasis (papers and field trips), and publications showing the growth of coal to dominate national fuel production and consumption to drive the electrical power industry. Coalbed methane followed closely.

Certification of coal geologists was initiated in the mid-1990s as the coal industry employed geologists and technicians from other depressed commodities, such as oil shale, geothermal and conventional oil and gas. Certification added a dimension to EMD and the Division of Professional Affairs with the AAPG House of Delegates at the 1995 Annual Meeting in Denver approved changes in the wording of AAPG Bylaws to enable the DPA to manage this function and associated revenue in cooperation of EMD.

Enforced regulation of all activities affecting the natural environment through the 1990s required extensive and detailed management of all phases of the resource industries. EMD responded by maintaining liaison with the Division of Environmental Geosciences. EMD and DEG have since benefited from joint technical sessions and luncheons and plan joint publications for the future. Reciprocally, EMD contributed significantly to the health and progress of DEG. Many EMD members were encouraged to join DEG. EMD active membership was 1,862 as of May 1994, down 61 members from the end of fiscal year 1993 and down 175 from a peak of 2,037 in May 1992 resulting from low conventional oil and gas prices of the 1980s, which persisted into the 1990s. With low prices, unconventional energy resources were even less economic to develop. Alternative energy resources (e.g., coal and uranium) were competing with natural gas in driving the generation of electricity in the United States.

By the end of the 1990s, EMD held 1,700 active members who share interests and experience in the science and technology of energy minerals, including:

- coalbed methane, coal, geothermal,
- oil sands and oil shales,
- nuclear minerals,
- gas hydrates, and
- energy economics.



The New Millennium

With the rise and recognition of the potential value of shale gas and liquids, and with the rise in interest in other unconventional and alternative energy resources monitored by EMD, by the year 2000, the EMD had become the center of technical expertise within the AAPG for all of the unconventional and alternative energy resources. EMD promoted the exchange of information and understanding of new sources of energy through professional meetings, publications and other media. In addition, together with DPA, EMD encouraged professionalism and professional recognition for energy minerals geologists. Dues remained at \$20 per year. EMD's accomplishments after 2000 included a popular EMD program for the New Orleans Annual Meeting, including nine oral and poster sessions and two short courses. Chacko John was the vice chairman for this event, and the EMD luncheon speaker was Charles G. "Chip" Groat, director of the U.S. Geological Survey and EMD past-president, who spoke on USGS strategies for energy minerals.

Of particular note in 2000, the environmental effects of coalbed methane production and waste-water disposal became a topic of national interest. A federal court in Alabama ruled that fracturing of coal beds was covered under the Safe Drinking Water Act and must be regulated under the Underground Injection Control Program. Fracturing had previously been exempted from the injection rules. A group from EMD worked with the DPA Government Affairs Committee to develop a policy statement which was subsequently approved by the AAPG Executive Committee.

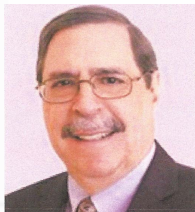
The EMD completed its first year in 2005 as cosponsor of the journal *Natural Resources Research*, published by Plenum Press (now Springer), under the primary sponsorship of the International Association for Mathematical Geology, an associated society of AAPG. Doug Peters served as the assistant editor of the journal selected by the EMD, working under Daniel F. Merriam. The cooperative initial three-year agreement provided for the EMD to contribute editorial and review expertise, as well as writing and soliciting technical papers for the journal. Later, Peter Warwick continued the relationship with the editors of the Springer Publishing Groups' [Journal of Natural Resources Research](#). Since then, EMD has provided a consolidated review of the odd-year annual reports generated by each of the EMD commodity committees. The [EMD co-sponsored Journal Natural Resources Research](#) has published the bi-annual Unconventional (and Alternative) Energy Resources in: [2017](#), [2015](#), [2013](#), [2011](#), [2009](#) and [2007](#), with earlier periodic papers on various energy-related topics.

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(See next month's EXPLORER for Part 2.)

AAPG EXPLORER ([Click to View Archives](#))

The AAPG EXPLORER is the monthly tabloid magazine of the American Association of Petroleum Geologists that covers news of interest to the AAPG membership. Contents include coverage of the entire span of energy interest, with emphasis on exploration for hydrocarbons and energy minerals. Breaking news stories, features, profiles of personalities, comment columns and Association information is included. The AAPG EXPLORER is read by more than 42,000 members and friends of the Association in 129 countries.



Michael D. Campbell, P.G., P.H. is a 1977 founding member of the AAPG [Energy Minerals Division](#), served as EMD president 2010-11 and has been the chair of the [EMD Uranium \(Nuclear Minerals and REE\) Committee](#) since 2004.