

Appendix C: National & State Energy Trends, Challenges and ARC Opportunities

	<u>Barriers/Challenges</u>	<u>Possible ARC Opportunities</u>
Coal	<ol style="list-style-type: none"> Clean coal technologies hold promise for increasing use of Appalachian coal for energy production. However, there is concern about the difficulty of permitting clean coal facilities, such as those using integrated gas combined cycle (IGCC) and carbon capture and sequestration (CCS) technologies. Capital costs for IGCC facilities are substantial. Utilities are reluctant to invest in unproven technologies such as IGCC without some protection against lower than expected performance, higher than expected costs and regulatory risks. 	<ol style="list-style-type: none"> In order to facilitate future permitting of IGCC and CCS plants, states need more information about these technologies. ARC could invite state regulators to participate in a roundtable discussion of how to streamline the permitting process for IGCC and CCS facilities. ARC could serve as a broker for funding for IGCC facilities in Appalachian states. Strong regulatory oversight of production and use of energy, particularly its environmental impacts, will be important in safeguarding the public's interest. ARC could work to identify and encourage best practices among Appalachian states, particularly in establishing new regulatory frameworks for CO₂ storage.
Oil & Gas	<ol style="list-style-type: none"> Future production of oil & gas from unconventional sources will require use of new technologies and practices. Small independent firms, who make up the majority of oil & gas producers in the region, will need both technical and financial assistance to adopt the advanced production approaches. 	<ol style="list-style-type: none"> Development of remaining oil, gas and coal resources will require collaboration between states, industries and the federal government in developing the needed infrastructure, including data collection and analysis, technology transfer and construction of pipelines and other distribution systems. ARC can help coordinate these partnerships.
Electricity	<ol style="list-style-type: none"> As is indicated above, several states have expressed an interest in pursuing systems benefit funds and renewable portfolio standards. Documents prepared by these states suggest that state officials want to assess the feasibility of these policies and study their potential impacts to the economy and the environment.. Some states in Appalachia are experiencing electricity supply problems. Others are concerned about minimizing risk of supply disruptions in the future. 	<ol style="list-style-type: none"> ARC could provide research or assessment funds to assist in determining the costs/benefits of RPS and SBF policies. ARC could host conference calls or discussion groups in which states who currently have systems benefits funds and/or renewable portfolio standards could share their knowledge and experience with other states. ARC could initiate and/or host a regional energy compact and regional planning for energy supply/infrastructure redundancies.

Biofuels	Several states would like to increase production and on-road delivery of biofuels. 3. Coordination of production and delivery across states could minimize harmful duplication or omission of services and service areas. 4. Increased demand for biofuels would make expansion of production and delivery of biofuels more feasible.	ARC could: 1. Help coordinate planning of biofuels production and delivery across Appalachia by hosting a database of planned and implemented projects. 2. Help states coordinate efforts to attract facilities that produce alternative fuel vehicles that run on biodiesel.
RE / EE	i. Regional planning and implementation of renewable energy and energy efficiency policies and programs is disjointed. ii. Creating demand for RE and EE technologies is a critical factor in growing this sector.	1. ARC could coordinate regional planning of RE and EE policies by hosting a database, meetings, and/or conference calls. 2. ARC could host discussions about regional criteria for green building standards.. 3. ARC can provide information to utilities and state agencies to tailor their energy-saving programs to take advantage of and complement new federal tax incentives.

Possible Planning Opportunities for ARC

- Host meeting or series of calls for Appalachian states to learn from non-Appalachian leaders in energy policy
- Initiate regional energy and/or climate action policy for Appalachia

Additional Issue Areas / Possible Opportunities for ARC

Single-sector policies and programs

- Increasing availability of and access to renewable energy and energy efficiency technologies
- Conversion of animal waste into energy
- Examination of coal-bed methane potential
- Green building incentives
- Energy workforce development

Cross-cutting policies and programs

- Comprehensive transportation plans and policies, including state fleet requirements
- Energy education
- Air and water quality improvement plans and policies
- Incentives for innovative technology research and development
- Tracking policy and program developments at the federal level. Disseminating information to states.