

KAYNE ANDERSON MIDSTREAM/ENERGY FUND, INC.

NOMINATING COMMITTEE CHARTER

(Adopted October 18, 2010; Amended June 29, 2011)

1. COMMITTEE ORGANIZATION

(a) The Nominating Committee (“the Committee”), a committee established by the Board of Directors (the “Board”) of Kayne Anderson Midstream/Energy Fund, Inc. (the “Company”), shall be comprised solely of the members of the Board who are not considered “interested persons” of the Company under the Investment Company Act of 1940, as amended (“independent directors”).

(b) The Board will appoint the members of the Committee. If the Board has not designated a Chair of the Committee, the members of the Committee may designate a Chair by majority vote of the full Committee membership. The Committee shall be composed of at least three members.

(c) The Committee shall meet with such frequency, and at such times, as determined by the Committee Chair or a majority of the Committee members. A majority of the members of the Committee shall constitute a quorum for the transaction of business at any meeting of the Committee. The action of a majority of the members of the Committee present at a meeting at which a quorum is present shall be the action of the Committee. The Committee may meet in person or by telephone, or other communication method by means of which all persons participating in the meeting can hear each other at the same time.

(d) The Committee Chair will prepare the agenda for each meeting, in consultation with others as appropriate. The Chair will cause notice of each meeting, together with the agenda and any related materials, to be sent to each member, normally at least one week before the meeting. The Chair will cause minutes of each Committee meeting to be prepared and distributed to Committee members for approval at the following meeting. The Committee may ask legal counsel, representatives of KA Fund Advisors, LLC (the “Adviser”), or others to attend Committee meetings and provide pertinent information as necessary.

2. DUTIES AND RESPONSIBILITIES

The Committee shall:

(a) Evaluate the size and composition of the Board, and formulate policies and objectives concerning the desired mix of director skills and characteristics. In doing so, the Committee shall take into account all factors it considers relevant, including without limitation experience, demonstrated capabilities, independence, commitment,

reputation, background, diversity, understanding of the investment business, and understanding of business and financial matters generally.

(b) Identify and screen director candidates for appointment to the Board, and submit final recommendations to the full Board for approval. The Committee may consider candidates suggested by the Adviser, and may involve representatives of the Adviser in screening candidates. However, the decision to approve candidates for submission to the Board shall be made exclusively by the Committee. The Committee's policy regarding its procedures for considering candidates for the Board, including any recommended by stockholders, is attached hereto as Appendix A.

(c) Review memoranda prepared by legal counsel relating to positions, transactions and relationships that could reasonably bear on the independence of directors or raise concerns regarding potential conflicts of interest.

(d) Make recommendations to the full Board concerning the appointment of independent directors to the Board's committees and, if considered desirable, the appointment of the Chair of each Board committee and periodic changes in those appointments and designations.

(e) Review stockholder recommendations for nominations to fill vacancies on the Board if the Committee is required by law to do so. Any such recommendations must be submitted in writing and addressed to the Committee at the Company's offices.

(f) Conduct or oversee a periodic evaluation of the Board. Such evaluation may include a consideration of the effectiveness of the committee structure of the Board and the number of investment companies on whose boards each Director serves.

(g) Perform such other activities consistent with this charter as deemed appropriate by the Board or the Committee.

3. AUTHORITY AND RESOURCES

(a) The Committee shall have the resources and authority appropriate to discharge its responsibilities, including, among other things, the authority to retain a search firm to assist the Committee in identifying, screening and attracting independent directors, including the sole authority to approve the search firm's fees and other retention terms, including, if applicable, termination.

(b) The Committee may obtain the advice and assistance of legal counsel, accountants, and other advisers as it deems necessary and appropriate.

4. POLICIES AND PROCEDURES

In meeting its responsibilities, the Committee shall:

(a) Provide oversight regarding the orientation of new independent directors. The Committee Chair shall designate an experienced independent director to assist, and be available to, each new independent director during his or her first year of service on the Board.

(b) Consider, at such times as the Committee may deem appropriate, whether the composition of the Board and its committees reflect an appropriate blend of skills, backgrounds and experience, in relation to the goal of maximizing their effectiveness. The Committee shall also consider the effectiveness of meetings, including their frequency, scheduling and duration, adequacy and focus of agendas, materials and presentations, and Board member attendance.

(c) Periodically review and reassess the adequacy of this Charter, and recommend to the full Board any changes deemed advisable.

APPENDIX A
NOMINATING COMMITTEE POLICY REGARDING
SELECTION OF DIRECTOR NOMINEES

When a vacancy on the Board exists or is anticipated, or when the Nominating Committee (“Committee”) deems it desirable to select a new or additional director, the Committee will consider any candidate for Director recommended by a current stockholder if the Committee is required by law to do so. Any such recommendation must contain sufficient background information concerning the candidate to enable the Committee to make a proper judgment as to the candidate’s qualifications. The Committee, however, will not be required to solicit recommendations from the Company’s stockholders.

The Committee has not established specific, minimum qualifications that must be met by an individual for the Committee to recommend that individual for nomination as a Director. In seeking candidates to consider for nomination to fill a vacancy on the Board, or when the Committee deems it desirable to select a new or additional director, the Committee expects to seek referrals from a variety of sources, including current directors, the investment adviser of the Company and counsel to the Company. The Committee may also engage a search firm to identify or evaluate or assist in identifying or evaluating candidates.

In evaluating candidates for a position on the Board, the Committee considers a variety of factors, including, as appropriate:

- (i) the candidate’s knowledge in matters relating to investment funds and energy companies;
- (ii) any experience possessed by the candidate as a director or senior officer of public companies;
- (iii) the candidate’s educational background;
- (iv) the candidate’s reputation for high ethical standards and personal and professional integrity;
- (v) any specific financial, technical or other expertise possessed by the candidate, and the extent to which such expertise would complement the Board’s existing mix of skills and qualifications;
- (vi) the candidate’s perceived ability to contribute to the ongoing functions of the Board, including the candidate’s ability and commitment to attend meetings regularly and work collaboratively with other members of the Board;

(vii) the candidate's ability to qualify as an independent director for purposes of the Investment Company Act of 1940, as amended, the candidate's independence from Company service providers and the existence of any other relationships that might give rise to conflict of interest or the appearance of a conflict of interest; and

(viii) such other factors as the Committee determines to be relevant in light of the existing composition of the Board and any anticipated vacancies or other transitions (*e.g.*, whether or not a candidate is an "audit committee financial expert" under the federal securities laws).

Prior to making a final recommendation to the Board, the Committee may conduct personal interviews with the candidates it concludes are the most qualified. Any candidates recommended by stockholders will be evaluated in the same manner.