

NARSTO CHARTER

(Revision 1)

NARSTO CHARTER

The NARSTO vision is that of a focused and coordinated research and development program established for the study of primary and secondary pollutant species emitted, formed, transformed, and transported in the troposphere over the North American continent. This continental research program involves scientists and policy makers from Canada, Mexico, and the United States of America.

Whereas,

- 1) The public and private signatory institutions desire to plan and implement a comprehensive research strategy to identify and resolve questions related to the complex chemical and physical processes affecting source emissions and the formation, transformation, transport, and accumulation of tropospheric pollutants over many regions and principal urban centers in North America;
- 2) The signatory institutions have performed and/or have sponsored substantial research and development with respect to primary and secondary pollutant species emitted, formed, transformed, and transported in the troposphere over the North American continent;
- 3) The signatory institutions possess certain advanced scientific skills, facilities, special equipment, information, computer software, and/or know-how pertaining to the monitoring, modeling, method-development, emission inventories, and chemical and meteorological mechanisms related to tropospheric pollutants, including oxidants, aerosols, and their precursor compounds, such as nitrogen oxides (NO_x), sulfur oxides (SO_x), ammonia (NH₃), carbon monoxide (CO), volatile organic compounds (VOC) and semi-volatile organic compounds (SVOC);
- 4) The signatory institutions are interested in (a) the further understanding of primary and secondary pollutants in the troposphere, (b) the development of monitoring, modeling, measurement methods, emission inventories, and emission control strategies, and (c) the utilization of these tools by other private and public entities;
- 5) The signatory institutions view their collaboration to develop/evaluate methodologies and technologies related to the NARSTO research program to be in the furtherance of the public interest;
- 6) Canada and the United States have agreed under **The North American Free Trade Agreement (NAFTA): Supplemental Agreements** and **The Canada/US Air Quality Accord** to cooperate to achieve their environmental mandates and goals;
- 7) A Canadian multi-stakeholder NO_x/VOC Science Program was initiated in 1992 with the objective to establish the scientific basis for measures to eliminate exceedances of the Canadian Air Quality Objective for tropospheric ozone;
- 8) Mexico and the United States have agreed under **The La Paz Agreement, The Border XXI Program, and The North American Free Trade Agreement (NAFTA): Supplemental Agreements** to cooperate to achieve their environmental mandates and goals;
- 9) The Government of Mexico through the Secretariat for the Environment, Natural Resources and Fisheries (SEMARNAP) will continue to work toward fulfilling the Border XXI Objectives, and the Commission for Environmental Cooperation established under NAFTA will facilitate effective cooperation for the conservation, protection, and enhancement of the environment in the United Mexican States;
- 10) The NARSTO strategy has emerged as an effective and comprehensive vehicle for establishing a cooperative research program across the North American continent;

Therefore,

- 1) This Charter establishes the scope, goals, approach, organizational structure, and governance for the NARSTO program;
- 2) The members of this public-private partnership propose a long-term, comprehensive research program coordinated among government (federal, state/provincial, and municipal), industry, academia, and other private-sector interests across North America;
- 3) The NARSTO organization will plan and coordinate independently sponsored programs that result in projects and tasks designed to identify and resolve policy-relevant science questions related to (a) anthropogenic and biogenic air-pollution sources and emissions, (b) the complex physical and chemical processes affecting the accumulation of pollutants in the troposphere, (c) the potential of certain pollutants to react and generate oxidants and fine particles in the troposphere, (d) the development, intercomparison, and application of atmospheric models, (e) the development of monitoring studies and methodologies needed to assess emission control effectiveness for selected air pollutants and their precursors, and (f) the attainment of the national air-quality goals and standards established by each member Nation;
- 4) The overall scope and goals of NARSTO are:
 - a. To provide for sustained coordination, collaboration, and leveraging of resources by the multiple organizations in North America (both public and private) sponsoring and participating in this research;
 - b. To develop an organization and management structure that facilitates a high level of individual organizational ownership in the NARSTO program;
 - c. To provide a comprehensive research program that builds on ongoing research, and encourages and supports the critical short- and long-term research required within the research strategy;
 - d. To provide a unified, cohesive, and scientifically sound basis for planning and implementing air-quality research that will help sustain sponsors' commitments to a long-term NARSTO research program;
 - e. To include representation within the NARSTO organization from all stakeholders, including the policy and air-quality management, health and ecological effects research, emission control-technology research, and related international policy and research communities, in order to maintain critical communication links with key customers and other interested parties;
 - f. To develop and implement a research strategy reflecting both scientific and policy concerns;
 - g. To conduct timely, productive, and policy-relevant air-quality research with frequent and appropriate reporting of results to the science, policy, and air-quality management communities;
 - h. To develop and deliver timely, useful, and scientifically credible assessment tools and guidance to the policy/air-quality management community;
 - i. To provide periodic state-of-science assessments on the identification, investigation, and resolution of specific air-pollution issues related to the troposphere over North America, and to revise the NARSTO research strategy based upon the identified assessment needs and remaining scientific gaps and uncertainties;
 - j. To provide guidance and assistance on quality assurance/quality control, data management, and data archival; and

- k. To establish and maintain a permanent repository for NARSTO data, publications and results utilizing best available storage and distribution technologies.
- 5) The NARSTO organization will:
- a. Provide the opportunity for participation to all parties interested in planning, sponsoring, or performing research on primary and secondary pollutants in the troposphere, as well as those interested in the outcome of this research.
 - b. Provide a NARSTO Charter that interested public and private institutions in Canada, Mexico and the United States of America may sign to signify their concurrence with the scope, goals, strategy, and management established for the NARSTO organization.
 - c. Provide a non-binding document that sponsoring institutions may sign to indicate senior-level management commitment to support long-term NARSTO objectives, indicate specified levels of resources in support of NARSTO, signify their agreement with the public-private cooperative management approach, and signify their agreement to share data and information.
 - d. The following agreements provide guidance for Federal, State, and Provincial participation in NARSTO organizational and programmatic activities:
 - The Joint Policy Statement on State/EPA Relations** developed and endorsed in the United States by the State/EPA Capacity Steering Committee will guide state environmental agency collaboration and cooperation with NARSTO.
 - The North American Free Trade Agreement (NAFTA)** will guide international NARSTO collaboration and cooperation between the United States, Canada, and Mexico.
- 6) The key steps in the NARSTO organization and management approach are as follows:
- a. Participation on NARSTO Councils, Groups, or Teams is limited to NARSTO member organizations.
 - b. Participation on the NARSTO Executive Assembly and Executive Steering Committee is limited to those member organizations that provide resources to sponsor NARSTO research and development.
 - c. Each sponsoring organization (including sponsors from U.S. State environmental agencies, Canada, and Mexico) will be a member of the Executive Assembly.
 - d. The Executive Assembly will convene, physically if possible and in a timely manner, and will select 7-11 of its members to serve on the "Executive Steering Committee". The Executive Assembly will annually evaluate the membership of the Executive Steering Committee.
 - e. The Executive Steering Committee will elect Co-chairs from its ranks, representing the public and private sectors of NARSTO membership. Each Co-chair will serve a two-year term, on an annually staggered schedule. The Executive Steering Committee will have the option to add non-voting members from the non-sponsoring stakeholder community.
 - f. The Executive Steering Committee will meet as needed, and at least one meeting per year will be combined with the annual meeting of the Executive Assembly.
 - g. The Executive Steering Committee is responsible for establishing the Management Coordination Office, the Quality Systems Science Center, and the Science Review Council.

- h. The Executive Steering Committee conducts a search for and selects the Management Coordinator, the Associate Management Coordinator(s), the Science Team Leaders, and the Stakeholder Council Chairperson.
- i. The Stakeholder Council is a required NARSTO functional unit consisting of individuals self-selected from both the NARSTO Sponsoring and Participating member organizations.
- j. The Science and Resource Planning Group (S&RPG) is a required NARSTO functional unit consisting of one authorized individual from each sponsoring organization; however, it is not mandatory that each sponsoring organization appoint a representative to the S&RPG.
- k. Sponsors of NARSTO research will retain total control over their funds and personnel, and will bear the responsibility for planning, managing, and implementing that portion(s) of the NARSTO program they select. Any membership assessments will be confined to modest levels, as required by cross-NARSTO infrastructure functions not easily fundable by any individual sponsoring organization.
- l. Allocation and expenditure of infrastructure funds obtained under Step k., above, shall be determined and controlled by joint action of the ESC and S&RPG acting under annual guidance of the Executive Assembly. Allocation requests will be coordinated through the Management Coordinator, who will poll the ESC & S&RPG for each specific request. A two-thirds majority of responding ESC & S&RPG members will be required to activate release of funds.
- m. NARSTO will not conduct financial audits on its member organizations. Organizations will select work and promise to complete the effort to the best of their abilities and resources. These "promises" will be coordinated through the Science and Resource Planning Group in collaboration with the Executive Steering Committee.
- n. Institutions subject to participation in the implementation phases of NARSTO (e.g., the university and contractor communities) are encouraged to sign the NARSTO Charter. However, these institutions will not participate on the Executive Assembly or the Executive Steering Committee, to avoid potential conflict of interest issues.

**THE PUBLIC AND PRIVATE SIGNATORY INSTITUTIONS FROM CANADA,
MEXICO AND THE UNITED STATES CONCUR AS FOLLOWS:**

Article 1: Organization

The NARSTO organization will consist of the functional units listed below. An organization chart is given in Attachment 1.

1. Executive Assembly
2. Executive Steering Committee
3. Stakeholder Council
4. Science Review Council
5. Science and Resource Planning Group
6. Management Coordinator
7. Quality Systems Science Center
8. Science Teams:
 - a. Modeling and Chemistry Team
 - b. Observations Team
 - c. Emissions Team
 - d. Integrated Analysis and Assessment Team

Article 2: Membership

Membership in the NARSTO organization is open to any agency or institution that accepts the NARSTO principles and mission as defined in this Charter, and represents one or more of the following stakeholder communities:

1. Industrial and Utility
2. Academic
3. Government (Federal/State/Provincial/Municipal)
4. Environmental and Public Interest
5. Contractor

NARSTO membership is categorized into three groups, as follows:

1. **Sponsoring Partners** - Sponsoring Partners are Charter signatories. They serve as voting members of the Executive Assembly, and provide financial and in-kind support for NARSTO activities.
2. **Participating Partners** - Participating Partners primarily represent the university and contractor communities. They are Charter signatories, and each institution brings valued expertise and experience to NARSTO program planning and assessment activities. However, since many are potential recipients of NARSTO funds, they are restricted from serving as members of the Executive Assembly and as official members of the Science & Resource Planning Group. Participating Partners are responsible for their own expenses associated with participation in NARSTO planning functions and attendance at NARSTO meetings.
3. **Affiliated Partners** - Affiliated Partners are organizations that operate outside the current geographical or scientific scope of NARSTO, but have commensurate interests. Such organizations may request membership, and upon approval by the NARSTO Executive Steering Committee, will be granted membership as an Interorganizational Liaison Group¹. Affiliated

¹ Interorganizational Liaisons provide advice and guidance to the Executive Steering Committee, the Management Coordinator, the Science and Resource Planning Group, and the Analysis and Assessment Team on issues related to, but not the purview of,

Partners do not sign the Charter, but do enter into a reciprocal relationship for information exchange and collaboration. Affiliated Partners also agree that all travel and other expenses will be paid by the reciprocating representatives, thus eliminating financial transactions between the two parties.

Article 3: Functional Units

The key functional units and the responsibilities under each NARSTO functional unit are presented below.

1. The **Executive Assembly**² shall:
 - a. Meet annually with the current Executive Steering Committee (ESC) to discuss and determine action on major NARSTO policy, organizational, and operational issues, including decisions to expand NARSTO's research purview into additional areas, and to provide executive guidance to the ESC for its downstream implementation of related NARSTO activities.
 - b. Appoint 7-11 member organizations to represent the Executive Assembly on the Executive Steering Committee (ESC) for each one- year period following the Annual Meeting.
 - c. Appoint from each of the selected 7-11 organizations a qualified individual authorized to participate on the ESC.
 - d. Determine the need for a NARSTO infrastructure pool, the funding levels required, and the processes for acquisition through NARSTO membership assessments (if any) for each one-year period following the Annual Meeting.
 - e. Provide annual directives and guidelines to the Executive Steering Committee and the Science and Resource Planning Group for the expenditure of NARSTO infrastructure pool funds.
 - f. Approve requests for Affiliated Partner (i.e., Interorganizational Liaison) membership status.
2. The **Executive Steering Committee** has NARSTO management and oversight authority and shall fulfill the duties described under each of the broad categories listed below:

Strategic Planning and Review

- a. Establish the overall strategy (i.e., program vision, mission statement, major policy relevant science questions and objectives, and policy and science relationships).
- b. Establish the general rules and guidelines for all other NARSTO units.
- c. Establish a Science Review Council.
- d. Establish and select an entity to coordinate the NARSTO Quality Systems Science Center.
- e. Approve NARSTO strategy documents, assessments, and other major NARSTO products.

the NARSTO scientific effort.

² The Executive Assembly consists of all sponsoring organizations, including sponsoring U.S. State environmental agencies and institutions from Canada and Mexico.

- f. Evaluate membership status on an annual basis and make appropriate recommendations to the Executive Assembly.
- g. Mediate conflicts.

Program Management

- a. Prioritize program-level needs.
- b. Identify and prioritize program-level activities.
- c. Balance program-level science/policy questions.
- d. Evaluate program status on an annual basis and make appropriate recommendations to the Executive Assembly.
- e. Accept/reject written requests to sanction research programs and/or field studies established outside the NARSTO partnership.

Fiscal Management

- a. Identify program-level funding needs, and acquire the necessary resources, both monetary and in-kind.
- b. Establish a process for assigning resources to strategic activities.
- c. Recommend which sponsoring organizations that might take responsibility for funding prioritized research activities.
- d. Recommend, for action by the Executive Assembly on an annual basis, infrastructure-funding strategies, as required, and associated membership assessments.

Personnel Management

- a. Appoint a Stakeholder Council to ensure effective representation of the interests of the following stakeholder communities: Research, Industry, U.S. Government, Canadian Government, and Mexican Government with regard to all major NARSTO outputs.
- b. Select the Management Coordinator.
- c. Approve Science Team Leaders recommended by the Management Coordinator.
- d. Appoint ad hoc liaison groups, as necessary.
- e. Select the Science and Resource Planning Group members and appoint the chairperson.
- g. Elect the Executive Steering Committee Co-Chairs.

3. The **Stakeholder Council**³ shall:
 - a. Review and comment on NARSTO draft products.
 - b. Provide advice and guidance to the Executive Steering Committee and the Management Coordinator on:
 - policy questions/concerns and timing;
 - integration and assessment;
 - short-/long-term balance issues and research priorities;
 - appointments.
 - c. Serve as the first point of contact between NARSTO and the external stakeholder community at large/

4. The **Science Review Council**⁴ shall:
 - a. Provide peer review of the NARSTO research strategy and NARSTO associated draft products/
 - b. Provide independent technical advice and guidance to the Executive Steering Committee and the Management Coordinator on:
 - science questions;
 - integration and assessment;
 - short-/long-term balance issues and research priorities.

5. The **Science and Resource Planning Group**⁵ shall:
 - a. Define science/policy questions.
 - b. Define the research needed to address the science and policy questions.
 - c. Compile research inventories.
 - d. Identify research gaps.
 - e. Prioritize research needs.
 - f. Estimate resources required to meet research needs.
 - g. Assist the ESC in fulfilling its responsibility to identify funding sources for these needs.
 - h. Acting under directives and guidelines from the Executive Assembly, serve as a controlling forum for disbursement of NARSTO infrastructure pool funds to specific activities.

³ The Stakeholder Council is the only internal NARSTO advisory group consisting of both Sponsoring and Participating organizations. Their review and counsel ensures that major NARSTO decisions and products present a balanced point-of-view.

⁴ The Science Review Council consists of internationally recognized and qualified scientists acceptable to the Executive Steering Committee and nominated through an independent body such as the National Academy of Sciences.

⁵ The Science and Resource Planning Group consists of the Science Team Co- Chairs, at least one representative of the quality assurance and data management community, resource planners selected by sponsoring institutions, and any members selected by the Executive Steering Committee.

6. The **Management Coordinator**⁶ shall:
 - a. Serve as Executive Secretary for all meetings and conference calls of the Executive Assembly, the Executive Steering Committee, and the Science and Resource Planning Group/
 - b. Recommend Technical Program Team Leaders to the Executive Steering Committee.
 - c. Coordinate the current-year and next-year technical program planning activities through collaboration with the Executive Steering Committee, the Science Review Council, the Science and Resource Planning Group, and the Stakeholder Council.
 - d. Coordinate current-year program activities.
 - e. Oversee program data management and quality assurance.
 - f. Coordinate program integration and assessment activities.
 - g. Coordinate program outreach, information dissemination, communications, and technology transfer activities.

7. The **Quality Systems Science Center**⁷ functions shall:
 - a. Ensure that relevant quality management systems are planned and implemented under the NARSTO program.
 - b. Plan and conduct quality systems audits on the critical NARSTO program elements.
 - c. Plan and coordinate NARSTO data management, data archival, and data dissemination.

8. The **Science Teams**⁸ will plan and coordinate many of the NARSTO research activities and, for their respective areas of expertise, will identify the state-of- the-science, identify remaining science questions, recommend programs with prioritization and budget estimates, review research results and periodically revise plans, and define the level of data quality desired. Science Team Chairs shall serve a term of 3 years with the option to renew with the approval of the Executive Steering Committee. The roles of the individual Teams are described below.

The Integrated Analysis and Assessment Team activities will include:

- a. Assessments of primary and secondary air pollutants in the troposphere and their sources, transport, transformation, and concentrations;
- b. Assessments of ecosystem exposure;
- c. Recommendations for data management, archival, and dissemination;
- d. Data analysis across Technical Program Teams;
- e. Spatial and temporal mapping of primary and secondary pollutants in the troposphere;
- f. Integration of NARSTO results and communication of findings to other Technical Program Teams to policy-makers and to the public.

⁶ The Management Coordinator shall be selected by the Executive Steering Committee.

⁷ The Quality Systems Science Center (QSSC) will be independent of NARSTO data generation activities. The QSSC will be managed by one or more entities established or selected by the Executive Steering Committee.

⁸ Membership on a Science Team is open to any scientist who represents a NARSTO member organization and whose expertise and interest fall within the designated technical area. Membership on a Team may be achieved through self-selection.

The Observations Team activities will include:

- a. establishment and/or modification of monitoring networks;
- b. intensive measurements;
- c. method development;
- d. observation-based analysis.

The Modeling/Chemistry Team activities will include:

- a. air quality and meteorological model development;
- b. model applications research;
- c. model evaluation;
- d. laboratory and smog chamber studies;
- e. chemical mechanism development.

The Emissions Team activities will include:

- a. emission model development;
- b. process and activity analysis;
- c. source and ambient emissions field studies;
- d. emission projections and control technology implications analysis.

Article 4: Meetings and Conferences

Whenever possible, to enhance communications, summaries will be prepared for all NARSTO meetings and conferences, including the meetings conducted by all NARSTO functional units. These summaries will be (a) maintained for the duration of the estimated 10 year NARSTO program performance period and (b) filed in a manner that allows easy access and dissemination upon request to any interested parties in the public or private sectors.

The Chairperson (or Co-Chairperson in the absence of the Chair) will conduct the meetings of each functional unit. Each functional unit will select a Recorder who will be responsible for preparing and maintaining the summaries of each unit meeting.

Each functional unit will establish the level of participation necessary to constitute a quorum for the conduct of business. Meetings will be scheduled by each functional unit on an as needed basis and will be planned in a cost-effective manner (e.g., conference calls will be used, when feasible).

Article 5: Functional Unit Actions

This Charter presents the basic guidance for all NARSTO units. The establishment of specific rules, limits, and controls will be left to the discretion of each group/committee. Decisions within a functional unit may be determined by majority vote or by consensus, as agreed upon by the unit. Where voting is required, unit members who represent a sponsoring organization may cast one vote each; non-sponsoring stakeholders who participate are non-voting members of the unit. Unresolved disputes may be raised to the next highest level in the NARSTO management chain.

Actions of the NARSTO functional units will consist of the decisions and the recommendations associated with the functions identified above, and neither the decisions of the unit nor its individual members will obligate the organizations or agencies they represent.

Article 6: Participant Qualifications

Each Stakeholder organization (including sponsors) is encouraged to ensure that their representatives are qualified for the positions they accept or select in the NARSTO organization. Due to the processes involved, the appointed and elected leadership positions will undergo a sufficient degree of scrutiny.

Those positions obtained through the self-selection process will go to individuals who represent a Stakeholder/Sponsor organization. That organization bears the brunt of the responsibility for ensuring the qualifications of their NARSTO representative.

Article 7: Termination and Restoration of Sponsoring Partner Membership Status

NARSTO membership of any individual Partner may be terminated voluntarily by written request to the Management Coordinator. Membership also may be terminated by a two-thirds vote at any annual meeting of the Executive Assembly. Former Sponsoring Partners may reapply for membership no sooner than one year after termination. Sponsoring Partner membership status will be restored immediately, upon approval of the Executive Assembly.

Article 8: Legal Relations and Intellectual Property Rights

This Charter is not a legal instrument and is not intended to create legal relationships between signatories. Nothing in the NARSTO Charter or its organizational processes will affect ownership of intellectual property rights by participants in the NARSTO organization, unless participants sign specific agreements in this regard.

ATTACHMENT 1
NARSTO ORGANIZATION CHART

