



CANADIAN ENVIRONMENTAL LAW ASSOCIATION
L'ASSOCIATION CANADIENNE DU DROIT DE L'ENVIRONNEMENT

October 17, 2008

BY EMAIL

Ms. Maria McGibbon
Senior Environmental Officer
Public Works Canada and Government Services Canada
Environmental Services – Ontario Region
4900 Yonge Street, 11th Floor
Toronto, Ontario
M2N 6A6

Dear Ms. McGibbon:

**RE: FarmTech Energy Corporation: Proposed Ethanol Facility (Oshawa)
AAFC File Number: ecoABC 05; CEAR Ref. Number: 08-01-42395**

Please be advised that we are the solicitors for the Friends of Second Marsh (“FSM”) in relation to the above-noted matter. We have been instructed by our client to provide submissions to you in relation to FarmTech’s proposed ethanol facility in Oshawa, Ontario.

For the reasons outlined below, our client’s overall position is that the screening under the *Canadian Environmental Assessment Act* (“CEAA”) should conclude that despite potential mitigation measures, the FarmTech project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances, pursuant to subsection 20(1)(b) of CEAA.¹ Accordingly, federal financial assistance should not be provided to FarmTech to enable this project to proceed at its present location, and the two Responsible Authorities (“RA’s”) should publish notice of their conclusions in the CEAA Registry, pursuant to subsection 20(3) of CEAA.

In the alternative, based upon the screening level documentation filed by FarmTech, there is considerable uncertainty about whether the FarmTech project is likely to cause significant adverse environmental effects, or whether such effects can be justified in the circumstances. Moreover, there is considerable public concern about the size, location and environmental footprint of the FarmTech project. Accordingly, our client submits that if the two RA’s do not take the above-noted course of action under subsection 20(1)(b) of CEAA, then this matter warrants a referral to a review panel under CEAA, pursuant to subsection 20(1)(c).

The legal, technical and scientific basis for our client’s position is set out below. At the outset, it should be noted that the following comments are preliminary in nature, and our client hereby

¹ Any environmental effects not found to be insignificant are, by definition, “significant” for the purposes of the screening decision: *Canadian Wildlife Federation v. Canada* (1991), 6 C.E.L.R. (N.S.) 89 (Fed. C.A.).

reserves the right to file further or more detailed submissions under CEAA in relation to the FarmTech project.

In this regard, it is our understanding that the forthcoming Screening Report will be made available for public review pursuant to subsection 18(3) of CEAA. We concur that public participation in the FarmTech screening process is highly appropriate in the circumstances, and we look forward to reviewing and commenting upon the Screening Report upon its release.

PART I – BACKGROUND

(a) Nature of FSM Interest

Our client FSM has been actively involved for over 35 years in the protection of the Second Marsh, which is located in very close proximity to FarmTech’s proposed ethanol facility. In addition, FSM has a mandate from the City of Oshawa to promote the stewardship of the Second Marsh Wildlife Area (“SMWA”), and to provide education and interpretive opportunities related to that area. The SMWA lies immediately adjacent to the proposed FarmTech facility.

Moreover, FSM owns five acres of land as the intended site of the Great Lakes Wetlands Centre (“GLWC”). This environmental education and tourist centre would lie to the east of SMWA and in clear sight of FarmTech’s proposed ethanol facility. Moreover, both the SMWA and the GLWC lie downwind of FarmTech’s proposed site.

In light of its public interest and proprietary interest in this matter, FSM finds it necessary to participate in, and make submissions regarding, the screening of the FarmTech project under CEAA. Additional information regarding FSM and the SMWA is available online (www.secondmarsh.com).

(b) Description of SMWA’s Ecological Features, Functions and Values

The SMWA is a 123 hectare coastal wetland that has been designated by Ontario’s Ministry of Natural Resources as a provincially significant wetland and an Area of Natural and Scientific Interest (“ANSI”). The SMWA is the focus of the mission of FSM to promote stewardship and environmental education.

The SWMA consists of various mutually supportive habitats. These include marsh, swamp, barrier beach, open grasslands, riparian zone, and mixed tree-shrub-grassland zones. These habitats nurture a rich diversity in wildlife species, including 361 vascular plants, 305 bird species (of which 68 breed within the SMWA), 57 fish species, and 32 mammal species.

Several significant species of marsh birds are known to breed on the west side of the marsh in close proximity to the subject lands. In addition, several bird species listed under the federal *Species at Risk Act* (“SARA”) have been confirmed within the SMWA, such as the Piping Plover (SARA status – Endangered), King Rail (SARA status – Endangered), and the Least Bittern (SARA status - Threatened).

There are also concerns regarding the Little Gull (*Larus minutus*), one of the rarest breeding birds in North America. Although not evaluated by COSEWIC under SARA, little gulls are identified in “Wings Over Water” as a Category 1 species (highly imperilled). Second Marsh, particularly the south western portion of the wetlands which is adjacent to the proposed ethanol plant site, is one of the largest staging areas for little gulls in North America. Little gulls have frequently been observed engaging in courtship flights over the site of the proposed ethanol facility.

In addition to the above-noted bird species, the rarely seen Blanding’s Turtle (SARA status – threatened) has been confirmed within the SMWA.

The SMWA is also the site of regularly conducted outdoor education programs for school children and interpretive programs for the general public by FSM, and is used for programs by various community groups (e.g. Boy Scouts, seniors groups, etc.). It is also used by members of the general public for various passive recreational activities, including nature study and hiking.

The exceptional ecological features, functions and values of Second Marsh were strongly reaffirmed in the recently released report by the Hon. David Crombie on the future of Oshawa Harbour:

Second Marsh is recognized universally as an environmental gem in an industrial, transportation and residential setting. It is the largest wetland to be found on the northern shore of Lake Ontario. Its protection and stewardship is supported by all stakeholders and spearheaded by its own active and volunteer governing body.

This report therefore serves to re-enforce the necessity of ensuring not only that the marsh be rendered safe from adverse effects of proposed developments, but indeed plans for its future should be considered an integral part of the City’s vision for its revitalized waterfront.²

(c) Overview of Screening Requirements under CEAA

It is our understanding that Agriculture and Agri-Food Canada (“AAFC”) and Nature Resources Canada (“NRCan”) are considering whether to provide financial assistance to the FarmTech project, and have therefore triggered subsection 5(1)(b) of CEAA.

We further understand that while both AAFC and NRCan are RA’s under CEAA, these agencies have agreed that AAFC shall serve as the lead RA and AAFC has contracted with Public Works Canada and Government Services Canada to assist in the preparation of the Screening Report required under section 18 of CEAA.

We note that subsection 15(3) of CEAA provides, in effect, that the screening shall consider all undertakings likely to be carried out in relation to the FarmTech project. This includes not only the physical construction and operation of the facility, but also any modification,

² The Hon. David Crombie, *Recommendations for the Future of Oshawa Harbour* (February 21, 2008), p.7.

decommissioning, abandonment or other undertakings that are likely to be carried out in relation to the FarmTech project.

Furthermore, subsection 16(1) of CEAA sets out the various factors that must be considered in the screening for the FarmTech project:

- (a) the environmental effects of the project, including the environmental effects of malfunctions or accidents that may occur in connection with the project and any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out;
- (b) the significance of the effects referred to in paragraph (a);
- (c) comments from the public that are received in accordance with this Act and the regulations;
- (d) measures that are technically and economically feasible and that would mitigate³ any significant adverse environmental effects of the project; and
- (e) any other matter relevant to the screening, comprehensive study, mediation or assessment by a review panel, such as the need for the project and alternatives to the project, that the responsible authority or, except in the case of a screening, the Minister after consulting with the responsible authority, may require to be considered.

With respect to subsection 16(1)(e), our client strongly submits that in light of the environmental risks posed by the FarmTech project at this sensitive waterfront location (adjacent to a significant wetland containing endangered species), the RA's must exercise their discretion and examine whether the proponent has adequately demonstrated the need for the project at this location, and whether the proponent has adequately considered alternatives to the project (e.g. other potential sites). As described below, our client submits that FarmTech's screening level EA documentation fails to justify the purported need for the project at its present location, and similarly fails to identify and evaluate alternatives to the project at its present location.

The phrase "environmental effect" is defined under CEAA as follows:

"environmental effect" means, in respect of a project,

- (a) any change that the project may cause in the environment, including any change it may cause to a listed wildlife species, its critical habitat or the residences of

³ "Mitigation" is defined under CEAA as "the elimination, reduction or control of the adverse environmental effects of the project, and includes restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means."

individuals of that species, as those terms are defined in subsection 2(1) of the *Species at Risk Act*,⁴

- (b) any effect of any change referred to in paragraph (a) on
 - (i) health and socio-economic conditions,
 - (ii) physical and cultural heritage,
 - (iii) the current use of lands and resources for traditional purposes by aboriginal persons, or
 - (iv) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, or
- (c) any change to the project that may be caused by the environment, whether any such change or effect occurs within or outside Canada.

The term “environment” is further defined under CEAA as follows:

"environment" means the components of the Earth, and includes

- (a) land, water and air, including all layers of the atmosphere,
- (b) all organic and inorganic matter and living organisms, and
- (c) the interacting natural systems that include components referred to in paragraphs (a) and (b).

Subsection 16(3)(a) of CEAA goes on to provide that at the screening stage, the scope of the factors in subparagraphs 1(a) (environmental effects), 1(b) (environmental significance), and 1(d) (mitigation measures) shall be determined by the RA's. In this regard, we have considered the directions contained within the EA screening guidelines promulgated by AAFC in 2007 in relation to the scope of assessments for proposed ethanol facilities.⁵

In our opinion, having regard for these benchmarks under CEAA, the screening level EA documents submitted by FarmTech are inadequate, incomplete, and do not address essential screening requirements at a sufficient level of detail.

Accordingly, having regard for the information tendered by FarmTech to date, there is no reasonable basis upon which the RA's can conclude that the FarmTech project is not likely to cause significant environmental effects.

⁴ Despite the reference to SARA in this definition, and despite the presence of SARA-listed species in the SMWA, there is no mention in the FarmTech EA Report (Volume 1, Section 1.7) that Environment Canada (or Canadian Wildlife Service) may have an interest or involvement due to the project's potential impacts on species at risk.

⁵ AAFC, *ecoAgriculture Biofuels Capital Initiative: EA Guidelines for Screening Level Assessments of Ethanol Projects under the CEAA* (April 2007), pp.7-8.

To the contrary, our client submits that the available evidence suggests that despite potential mitigation measures, there is good reason to believe that significant adverse environmental effects are likely to be caused by the FarmTech project which cannot be justified in the circumstances, as described below.

Furthermore, it should be recalled that an RA decision based upon deficient screening level EA documentation (e.g. inadequate cumulative effects analysis) may be amenable to judicial review in the Federal Court.⁶

PART II – TECHNICAL COMMENTS ON FARMTECH'S EA DOCUMENTS

(a) Overview of FarmTech's EA Documentation

It is our understanding that FarmTech has submitted the following documentation to the RA's for their consideration while preparing the Screening Report:

- FarmTech EA Volume 1 Report;
- FarmTech EA Volume 2 Appendices;
- FarmTech EA Volume 3 Supporting Studies; and
- FarmTech EA Drawings.

We have carefully reviewed all of these materials, and have also scrutinized the documentation submitted by FarmTech in support of its application for a Certificate of Approval (Air and Noise) under section 9 of Ontario's *Environmental Protection Act*.

While the sheer number of reports, studies and other materials prepared by FarmTech may appear voluminous and impressive at first glance, our client submits that a careful perusal of FarmTech's EA documents reveals that there are a number of serious shortcomings and drawbacks within this documentation.

For example, since the site-specific design and operational details of the proposed facility have not, in our opinion, been sufficiently particularized by FarmTech to date, there is an insufficient evidentiary basis for the Director to conclude that no net environmental impacts are likely to be generated by the proposed facility. Indeed, much of FarmTech's technical information has been presented at a fairly generalized or conceptual level (e.g. schematic overviews, glossy photographs, etc.), and cannot be relied upon by the RA's as an acceptable substitute for detailed technical plans and specifications at the site-specific level. Moreover, key source test data for some of FarmTech's operational components has been withheld from public review (see below).

In our view, these serious problems are compounded by the failure of FarmTech's EA documentation to accurately describe existing baseline conditions of the local airshed, wetlands

⁶ *Friends of West County Association v. Canada (Minister of Fisheries and Oceans)* (1998), 28 C.E.L.R. (N.S.) 97 (Fed. T.D.); affd. (1999), 31 C.E.L.R. (N.S.) 239 (Fed. C.A.).

and watercourses that may be impacted by emissions, spills or other discharges from the proposed ethanol facility. Again, without knowing what the baseline conditions are at the present time, it is virtually impossible for the RA's to draw any meaningful or credible conclusions which confirm FarmTech's unduly optimistic (and unsubstantiated) claims about the likely environmental effects of the FarmTech project itself, or about the likely cumulative effects arising from other existing sources or activities in the vicinity of the FarmTech project. Accordingly, our client submits that little or no credence should be paid by the RA's to FarmTech's claims that there is "low" significance for cumulative effects in this case.

Our client is also greatly concerned about FarmTech's attempt within the EA documentation to avoid or defer any detailed discussion of mitigation measures that are necessary to address the likely environmental effects associated with the construction, operation and decommissioning of the FarmTech project. For example, the EA Report (Volume 1, page 89) simply proposes the future development of an "environmental protection plan" for each phase of the project. Similarly, FarmTech proposes the future development of a "community action plan".

In some instances, the topics to be addressed in these "plans" are generically described in the EA Report, but there is no indication of the substantive content of the protocols, policies or provisions which will be included within these future plans. Similarly, the EA Report provides little or no assurance that there will be meaningful participation in the development of these plans.

In our view, these are critical omissions from the EA documentation, and it makes it virtually impossible for FarmTech (or the RA's) to draw any reliable conclusions about whether the likely environmental effects can or will be fully mitigable, or whether there will be residual (or net) environmental effects even after mitigation measures (as may be developed in these vacuous "plans") are implemented.

In addition, it is our opinion that FarmTech's EA documentation fails to adequately address the following matters at an appropriate level of detail:

- the direct, indirect and cumulative impacts associated with the proposed construction, operation and decommissioning of the proposed facility;
- human health risk assessment of the likely environmental effects;
- ecological health risk assessment of the likely environmental effects;
- continuous emissions monitoring and reporting; and
- mitigation measures for normal operations and upset conditions, and contingency planning.

Illustrative examples of these and other documentary problems are described below in the context of the water- and air-related concerns regarding the FarmTech project:

(b) Surface Water and Groundwater

In terms of the subject lands' hydrogeological characteristics, the Limited Phase II Report prepared for FarmTech found that the stratigraphy at the subject lands consisted of sandy silt, silt, or silty sand overlying a stratum of sandy silt till to at least 7.6 metres below grade. On the basis of a surficial geology map, the permeability of these deposits were described by the Report authors as “moderate” and “moderate to low”.⁷

While this Report indicates that groundwater samples were taken and tested for certain parameters, it does not appear that the Report authors undertook any detailed hydrogeological investigations upon the subject lands to accurately describe the local groundwater regime (i.e. direction, flow rates/patterns, hydraulic conductivity values, etc.).

Similarly, the Environmental Impact Study (EIS) Report prepared for FarmTech based its generalized description of groundwater flow upon the basis of a regional MOE report, topographic maps and observed site topography, rather than upon any empirical data derived from comprehensive on-site field work (e.g. pumping tests, tracer tests, etc.).

Significantly, the EIS Report states that the “anticipated” shallow groundwater flow direction “appears” to be south towards Lake Ontario, but the Report acknowledges that “based upon the close proximity of Oshawa Harbour (approximately 100 m to the southwest) and Harmony Creek (approximately 50 m to the east), there may be some localized groundwater influences either to the southwest or to the east”.⁸ However, the nature or extent of localized groundwater influences (e.g. divides) does not appear to have been further investigated or delineated by FarmTech or its consultants.

Similarly, the Preliminary Geotechnical Investigation Report prepared for FarmTech measured groundwater levels in certain boreholes on a single day in 2007, but the Report goes on to note that “groundwater levels are subject to seasonal fluctuations and responses to major weather events.”⁹ However, it does not appear that the Report authors conducted any further field work to quantify or evaluate such fluctuations or responses.

In light of the foregoing limitations on the scope of the groundwater work to date, it cannot be concluded by the RA's that FarmTech has conducted a robust hydrogeological investigation upon the subject lands or the study area. Furthermore, in the absence of such investigations, neither FarmTech nor the RA's can draw any defensible conclusions about the subsurface infiltration, transport, or environmental fate of contaminants (e.g. hydrocarbons) which may be spilled or discharged onto the ground surface at the subject lands.

Similarly, FarmTech's EA documentation fails to assess the existing water quality of nearby surface watercourses that may be subject to aerial deposition of contaminants emanating from

⁷ Jacques Whitford, *Final Report: Limited Phase II Environmental Subsurface Investigation – Proposed FarmTech Ethanol Facility* (December 19, 2007), pp.1, 3

⁸ Jacques Whitford, *Report: Environmental Impact Study: FarmTech Ethanol Facility* (March 4, 2008), pp.9-10.

⁹ Jacques Whitford, *Final Report: Preliminary Geotechnical Investigation: Proposed FarmTech Ethanol Facility* (December 14, 2007), p.8

the proposed ethanol facility. Incredibly, FarmTech makes the unsubstantiated (and wholly erroneous) claim that “there is no available data for surface water quality in watercourses in the area”.¹⁰ Even if this were true, it appears that FarmTech failed or refused to undertake its own surface water quality sampling/analysis to remedy this alleged deficiency.

In any event, given the absence of data on baseline water quality conditions in the FarmTech EA documentation, it is virtually impossible for FarmTech (or the RA’s) to properly predict or evaluate the environmental impacts (or attendant health risks) of airborne contaminants from the proposed facility which may be deposited into local watercourses, including SMWA and Lake Ontario. In our client’s view, this omission constitutes a major gap in FarmTech’s EA documents.

(c) Air-Related Matters

As noted above, FarmTech has applied for a Certificate of Approval under section 9 of Ontario’s *Environmental Protection Act*. To date, however, no such approval has been issued, and the issuance of the approval is being opposed by FSM, the City of Oshawa and other stakeholders.

Significantly, the public notice that was web-posted in relation to this provincial application¹¹ clearly acknowledged that air-related emissions from the FarmTech project include: (a) particulate matter; (b) products of combustion such as carbon monoxide, sulphur dioxide and nitrogen oxides; (c) volatile organic compounds such as acetaldehyde, acrolein and benzene; (d) odour; and (e) noise. Furthermore, it appears that these air contaminants may be discharged into the environment via point sources and fugitive emissions from the proposed ethanol facility.

In our opinion, the close proximity to, and the downwind location of, a major portion of the SMWA, including the wetland habitat, relative to the proposed FarmTech site raises a number of significant concerns about short-term and cumulative air-related impacts.

At this time, our client’s primary concerns about potential air-related impacts may be summarized as follows:

- Organic Dust Products

Due to the very close proximity of the marsh habitat to the proposed FarmTech facility, its downwind location from that facility, and the ability of the organic dust products (e.g. corn dust) to accumulate within the marsh over time, there are grave concerns regarding the potential effects of such organic matter on this standing water ecosystem. It does not appear that such effects have been addressed by FarmTech’s EA documents adequately or at all.

Potential long-term effects include water turbidity degradation, along with changes to the chemical composition of the water and substrate and their consequent effects on animal and vegetation communities. One such concern is the potential for this organic matter to act as a

¹⁰ EA Report, Volume 1, p.55.

¹¹ EBR Registry No. 010-4338.

fertilizer within the marsh and trigger algae blooms and the associated disruptions of the marsh ecosystem.

- Particulate Matter, Products of Combustion and Volatile Organic Compounds

Discharges of particulate matter, products of combustion and volatile organic compounds present various potential negative short term and cumulative effects on the vegetation and the vertebrate and invertebrate species that form an integral part of the marsh ecosystem and its associated habitats within the SMWA.

These potential effects include, among others, detrimental influences on the successful reproduction and physiological development of the individuals within various species.

It appears that FarmTech's initial "screening level" air quality study used the AERMOD dispersion model to predict ground-level concentrations of selected air contaminants. Not surprisingly, this study predicted that the concentrations will be "below" the numerical limits prescribed under Ontario's air pollution regulations (e.g. O.Reg. 419/05).¹² Our client draws no comfort in this prediction, and submits that the RA's should give little or no weight to this report, for the following reasons:

- the study was prepared when the facility design was in a "preliminary stage", "limited information" was available, and "many generalizations and assumptions were required" by the study authors;¹³
- the study itself conceded that "a more detailed assessment" will be required to obtain the provincial Certificate of Approval;¹⁴
- the literature search conducted by the study authors found no published emissions factors for ethanol production, and the data quality for the emission rates for the proposed facility were acknowledged by the authors to be "marginal";¹⁵
- since no detailed information was available regarding proposed operating conditions, the emission estimates could only be assessed on a "generic basis" in the study;¹⁶
- the study only utilized three residential receptor locations for the modeling exercise (all west of the proposed facility), and no receptor locations in or near the SMWA were utilized, despite the fact that the prevailing winds are from the north-west, west, and south-west, towards the SMWA and Lake Ontario;¹⁷

¹² Jacques Whitford, *Final Report: Screening-Level Air Quality Study* (January 23, 2008), p.2.

¹³ *Ibid.*, pp.1-2.

¹⁴ *Ibid.*

¹⁵ *Ibid.*, pp.9-10.

¹⁶ *Ibid.*, p.10.

¹⁷ *Ibid.*, pp.11,15.

- Ontario’s air pollution regulations are still based upon point of impingement (“POI”) standards for individual contaminants from individual facilities, and thus does not directly control annual loadings of contaminants into the environment, particularly where there may already be significant background levels of contaminants emitted by multiple sources;¹⁸
- Ontario’s air pollution regulations do not take into account the additive, synergistic or cumulative effects of airborne contaminants, nor does it adequately address contaminants that are persistent or bioaccumulate in the environment;¹⁹
- there is strong scientific evidence and epidemiological studies which indicate that the health-based effects of airborne contaminants are additive or cumulative;
- predicted compliance with Ontario’s air pollution standards does not necessarily mean that environmental harm will not occur;²⁰
- having regard for the coastal location of the proposed facility (alongside Lake Ontario), our client submits that it was inappropriate to rely upon AERMOD in this case, and further submits that FarmTech should have utilized readily available models that are better suited for predicting contaminant concentrations and movement patterns in this case;
- the use of AERMOD in the instant case will not properly simulate coastal “fumigation” effects that can occur from shoreline-based contaminant sources, and AERMOD has likely underestimated the maximum ground-level concentrations that may emanate from the proposed facility; and
- given the likely impact of onshore windflow on contaminant dispersion in the vicinity of the subject lands, it would be prudent and appropriate for the RA’s to refrain from providing financial assistance which would enable the establishment of yet another significant shoreline source of air contaminants along the Oshawa waterfront.

Our client further submits that the foregoing deficiencies were not satisfactorily addressed in the Emission Summary and Dispersion Modelling (ESDM) Report²¹ submitted by FarmTech’s consultants in support of the section 9 application under the *Environmental Protection Act*.

For example, the ESDM Report: (i) still relied upon the AERMOD model; (ii) predicted compliance with certain POI limits, but did not assess additive or synergistic effects; and (iii) utilized an inadequate number of receptors for the air modeling exercise (e.g. 10 residences, but nothing in the SMWA). It also appears that the ESDM is predicated upon regional-scale

¹⁸ Environmental Commissioner of Ontario, 2005-06 Annual Report Supplement, p.83; *Dawber v. Director* (2007), 28 C.E.L.R. (NS) 281 (ERT).

¹⁹ *Ibid.*

²⁰ *Dawber v. Director, supra.*

²¹ Jacques Whitford, *Emission Summary and Dispersion Modelling Report* (July 30, 2008).

meteorological data, rather than upon local data obtained from an on-site meteorological station.²²

In addition, the ESDM fails to provide the underlying source test data used for the various emissions calculations, apparently because such data has been withheld on the unpersuasive claim that it is privileged and confidential.²³ In response, FSM submits that no reliance can or should be placed upon the emission calculations unless and until the underlying source test data has been fully disclosed and examined by the RA's and interested stakeholders. Indeed, the withholding of such critical data clearly undermines the CEAA objectives of protecting the environment, enhancing public participation, and creating an open, traceable and accountable decision-making process.

Moreover, it appears that in preparing the ESDM Report, FarmTech's consultants have not gathered sufficient baseline data about the already stressed local airshed in the Oshawa region, nor has the proponent adequately addressed the issue of cumulative effects. For example, there appears to be no integrated or comprehensive analysis of the ethanol plant's stack and fugitive emissions with contaminant discharges (especially PM) from FarmTech's high volume truck traffic, Highway 401 traffic, nearby industrial/commercial activities (i.e. McAsphalt and James Dick properties), and other stationary and mobile contaminant sources in the vicinity of the subject lands.

Similarly, while the above-noted EIS Report purports to describe "baseline environmental conditions", there is no comprehensive identification or evaluation of existing ambient air quality within the local airshed. Similarly, the EA Report (Volume 1, page 59) readily acknowledges that "no independent air quality testing was completed for the study area." Instead, the EA Report merely provides some historical data for four parameters (e.g. NO, NO₂, NO_x and O₃) collected at a single station somewhere in the Oshawa region.

It thus appears that no attempt was made by FarmTech to supplement this meagre data with its own site-specific air sampling/analysis program (e.g. for PM, VOCs, combustion products and other air contaminants likely to be emitted from the ethanol facility and other nearby industrial activities).

In our view, the paucity of ambient air quality data in FarmTech's EA documents is both surprising and unacceptable, particularly since AAFC's screening guidelines clearly direct proponents to collect and present such data:

Where operations are expected to produce air quality impacts (e.g. dust, other airborne particulates, greenhouse gases, chemical vapours or odours), pre-existing sources of air contaminants in the local study area should be identified and existing air quality evaluated for concentrations of the pollutants that could potentially be released by project operations.²⁴

²² *Ibid.*, p.33.

²³ *Ibid.*, p.9.

²⁴ AAFC, *supra*, pp.16-17.

In any event, without an adequate description of local baseline conditions for air quality, it is virtually impossible for FarmTech (or the RA's) to properly predict or evaluate the environmental impacts (or attendant health risks) of airborne emissions from the proposed facility.

Moreover, the proponent does not appear to have utilized its own air modeling results to conduct either a human health risk assessment (“HHRA”) or ecological health risk assessment (“EHRA”). Given the potential for human visitors and wildlife species within the SMWA to be exposed to airborne contaminants from FarmTech's proposed facility, our client considers this to be a fundamental deficiency in the proponent's EA documentation.

- Odours

FarmTech's own studies²⁵ show that there will be likely occurrences where odour (from 3 to 6 OU/m³) within the SMWA will reach noticeable if not offensive levels as a result of activities at the proposed ethanol facility.

In our view, such occurrences will likely have a negative impact on the experience of visitors to the SMWA, including the school children who participate in the regularly conducted outdoor education programs carried out along the edges of the marsh.

In addition, there are potential negative impacts on wildlife species (vertebrates and invertebrates) found within the marsh ecosystem, particularly if any of these events should occur within breeding periods.

FarmTech's own consultants concede that “animals have a more sensitive sense of smell and therefore lower detection thresholds”, and that “the effects of industrial odours may have on wildlife are not easily defined.”²⁶ However, despite such admissions, it appears that FarmTech has not submitted any further reports or studies to the RA's on this critically important matter.

The above-noted ESDM Report confined odour receptor locations to a small number of residences, and a single location along the walking trail near SMWA. Our client therefore submits that given this small data set, it cannot be reasonably concluded that no odour impacts will occur within the SMWA.²⁷

In our opinion, no weight should be given to FarmTech's commitment to develop an “Odour Action Plan upon construction”.²⁸ A vague plan to make a plan at some unspecified future date is not an adequate substitute for a proper upfront analysis of the nature, extent, location, magnitude, frequency or duration of odour impacts from the proposed ethanol facility.

²⁵ Jacques Whitford, *Final Report: Screening-Level Air Quality Study* (January 23, 2008), p.20.

²⁶ *Ibid.*

²⁷ Jacques Whitford, *Emissions Summary and Dispersion Modelling Report* (July 30, 2008), p.41.

²⁸ *Ibid.*, p.42

- Associated Truck Traffic

According to FarmTech’s own traffic and noise assessments, at least 140 heavy trucks will arrive daily at the proposed facility.²⁹ This translates into 280 trips per day (entrance and exit trips combined). On June 16, 2008, in response to questions by the City of Oshawa’s Development Services Committee, FarmTech indicated that these trips will occur between 8:00 a.m. and 5:00 p.m. local time. This means that there will be a heavy truck trip at the facility at the rate of one every two minutes throughout the major daylight hours.

Despite this high volume of on-site and off-site vehicular traffic, it appears that truck traffic was not identified or assessed as a potential contaminant source in the proponent’s initial “screening-level” air quality study.³⁰ This is also true in relation to the above-noted ESDM Report.³¹

It must be further noted that the entrance way to the facility would run directly and closely (within 5 metres to 10 metres) along part of the southern boundary of the SMWA. This boundary is also the location of a stretch of the Waterfront Trail that traverses part of the SMWA.

The amount of, and proximity of, heavy truck noise would likely (and severely) degrade the enjoyment/experience of visitors to the SMWA. Indeed, it would render it virtually impossible to visit the site during daylight hours, without encountering a substantial level of pervasive and disruptive noise.

In addition to noise impacts, exhaust fumes are associated with the continuous heavy truck traffic. This would likely have an additional negative impact on visitors to the SWMA and would be, for all practical purposes, impossible to effectively mitigate.

In addition, various species of birds use the grasslands and shrub areas immediately to the north and northeast of the FarmTech entrance road as nesting and/or feeding areas. This includes migratory waterfowl that raise their hatchlings in the marsh. There are concerns about the effects of the persistent traffic noise on these various species.

Further, there are grave concerns about the effects of this noise on the several species of marsh birds that breed along the west side of the marsh.

In this regard, it should be noted that the initial “screening-level” noise study prepared for FarmTech only utilized the same three residential receptors which were used in the above-noted air quality study.³² This appears to suggest that no noise receptor locations within or near the SMWA have been identified or evaluated by FarmTech to date.³³

²⁹ J.L. Richards, *FarmTech Ethanol Plant: Traffic Impact Study* (January 2008), Appendix H; Jacques Whitford, *Acoustical Assessment Report* (July 30, 2008), p.4.

³⁰ Jacques Whitford, *Screening Level Air Quality Study* (January 23, 2008), p.6.

³¹ Jacques Whitford, *Emission Summary and Dispersion Modelling Report* (July 30, 2008), p.1.

³² Jacques Whitford, *Screening-Level Noise Study: Proposed FarmTech Ethanol Facility* (March 3, 2008), pp.8-9.

³³ See Figure 4.4 of the EA Report Volume 1, which depicts “critical” receptor points to the west of the subject lands, rather than to the east within the adjoining SMWA.

This noise study further states that noise impacts on wildlife “is a relatively new area of study, with little scientific research applied to mammals or amphibians.”³⁴ In the absence of such scientific work, the study’s “qualitative assessment” of noise impacts on wildlife appears to amount to little more than unsubstantiated conjecture at best,³⁵ and should not be relied upon by the RA’s.

The above-noted deficiencies in the initial noise study were not adequately addressed by the Acoustical Assessment Report submitted to MOE in support of the section 9 application.³⁶

We further note that the EA Report (Volume 1, page 70) indicates that there is no existing noise data within the study area, but FarmTech does not appear to have inventoried or summarized existing sources of noise in this Report, contrary to the direction provided in the AAFC screening guidelines.³⁷

- Light Pollution

According to FarmTech, the proposed facility will operate 24 hours per day and 7 days per week. The lighting required to keep such a facility in operation poses potential problems.

These include potential negative impacts on sensitive wildlife species that utilize the west side of the marsh. These impacts, among others, include the disruption of breeding activities of various amphibian species due to extra ambient light in their breeding zones.

In addition, the extra light from the ethanol plant would likely make it impossible to carry on the astronomy programs for the general public that are periodically conducted by local astronomy clubs and FSM near the southwest corner of the SMWA.

- Visual Impacts

The SMWA is routinely described by visitors as a “gem” and a “jewel” in terms of its aesthetic value.

Accordingly, our client is greatly concerned that the presence of a large, dust-generating, emission-spewing industrial complex such as the proposed FarmTech facility could only serve to degrade this important value.

The proposed ethanol facility is of such extensive size, in terms of building dimensions and site dimensions, that it is impossible for visitors to the SMWA to view the area in all but a few select directions without being forced into a visual encounter with this large industrial complex and any visible emissions or plumes from the facility.

³⁴ *Ibid.*, p.8.

³⁵ *Ibid.*, p.13.

³⁶ Jacques Whitford, *Acoustic Assessment Report* (July 30, 2008).

³⁷ AAFC, *supra*, p.18.

This visual degradation would have negative impacts on the experience of any recreational, educational or interpretive activities occurring on either side of the SMWA.

This would include activities associated with the proposed Great Lakes Wetlands Centre, as described above. This educational institute is to be located east of the marsh. Visiting students and tourists using the viewing trails and platform would have a direct line of sight to the FarmTech facility. Indeed, the potential negative effect on visitorship would be so severe as to make the establishment of the centre a very questionable endeavour.

(d) Decommissioning

FarmTech's EA Report (Volume 1, page 42) fails to provide reasonable particulars regarding decommissioning of the facility and remediation of the site. Instead, FarmTech merely proposes to "sell off" the facility once it reaches the end of its unspecified lifespan, and to defer the decommissioning details until that time.

As noted above, it is our submission that a vague plan to make a plan does not satisfy CEAA's clear requirements to identify, evaluate and mitigate the environmental effects of decommissioning the site, buildings, infrastructure, and other structures. Since these requirements have not been satisfied by FarmTech, the RA's cannot conclude that the proponent has put forward a viable or technically sound approach for decommissioning the facility.

(e) Other Relevant Matters

As noted above, subsection 16(1)(e) of CEAA requires consideration of other matters which the RA's deem relevant to the project being assessed through the screening process.

Our client submits that the RA's should consider the following matters as relevant when preparing the Screening Report in relation to the FarmTech project:

- to date, the proponent has not obtained the rezoning approval and official plan amendment which are necessary to allow this proposed activity to be lawfully carried out on the subject lands;
- to date, the proponent has not obtained other statutory approvals (i.e. air approval under Ontario's *Environmental Protection Act*, stormwater management approval under the *Ontario Water Resources Act*, etc.) that are necessary to lawfully construct and operate the proposed facility on the subject lands;
- since its incorporation in 2007, FarmTech appears to have no ownership experience or operational track record in constructing and running ethanol facilities, particularly one in such a sensitive and ecologically significant setting as the proposed waterfront location;
- there is no demonstrable public need to site the ethanol facility at its proposed waterfront location, particularly given the availability of other industrial lands in Durham Region well away from the waterfront;

- other ethanol facilities have been planned or constructed elsewhere in Ontario and other North American jurisdictions without access to a deep-water port;³⁸
- contrary to FarmTech’s assertions in the EA Report (Volume 1, page 11), the Ontario government has recently decided against increasing the ethanol content in gasoline to 10% by 2010, thereby undermining FarmTech’s predicted demand for ethanol;
- even if there is market demand for ethanol, it does not necessarily follow that the FarmTech facility must inevitably be located on the Oshawa waterfront in close proximity to the ecologically significant SMWA;
- given that FarmTech contends that the project is being designed as a zero discharge facility (i.e. no process water discharges into Lake Ontario), and given that most (if not all) of the incoming corn and outgoing ethanol will be transported by truck rather than ship or rail, FarmTech has failed to demonstrate that its waterfront location is integral or even necessary;
- numerous scientific studies have concluded that corn-based ethanol production “does not provide a net energy balance,³⁹ is not an economical energy source, is not an economical fuel, and its production and use contributes to air, water and soil pollution and global warming.” In addition, “growing large amounts of corn necessary for ethanol production occupies cropland suitable for food production and raises serious ethical issues”;⁴⁰
- FarmTech’s claimed environmental or energy “benefits” of ethanol production and use are dubious at best (EA Report Volume 1, page 12), and cannot be relied upon by the RA’s as the rationale for funding the project in the face of significant adverse environmental effects, especially if FarmTech continues to propose siting this facility at the waterfront location;
- FarmTech does not own the subject lands, and it is unclear whether FarmTech will acquire long-term tenure at the property in light of the Hon. David Crombie’s recent recommendation that such lands be returned to the City of Oshawa.

³⁸ See, for example, Kawartha Ethanol Inc.’s facility in Havelock, Ontario, which may target the same corn suppliers in southern or southeastern Ontario identified by FarmTech as its source of corn feedstock: see www.kawarthaethanol.ca.

³⁹ In essence, corn-based ethanol production requires significantly more fossil fuel energy than the ethanol fuel produces.

⁴⁰ Pimentel et al., “Ethanol Production Using Corn, Switchgrass, and Wood; Biodiesel Production Using Soybean and Flower”, *Natural Resources Research* (Vol. 14, No.1, March 2005), p.66 (available at: <http://petroleum.berkeley.edu/papers/Biofuels/NRRethanol.2005.pdf>). See also Fargione et al., “Land Clearing and Biofuel Carbon Debt”, *Scienceexpress Report* (February 7, 2008) (available at: http://www.nature.org/initiatives/climatechange/files/land_clearing_and_the_biofuel_carbon_debt.pdf); and Samson et al., *Analyzing Ontario’s Biofuels Options: Greenhouse Gas Mitigation Efficiency and Cost* (January 18, 2008, Final Report) (available at http://www.reap-canada.com/online_library/grass_pellets/BIOCAP_REAP_bioenergy_policy_incentives08Jan18-Final.pdf), which found that compared to solid biofuels and renewable energy sources, corn-based ethanol is more expensive and has only a limited effect in mitigating climate change.

On this latter point, it should be noted that the subject lands – known locally as the Gifford Farm Lands – are currently under the ownership of the Oshawa Harbour Commission (“OHC”). Significantly, the above-noted report by the Hon. David Crombie recommended that ownership of OHC lands be vested in the City of Oshawa, subject to various conditions precedent (e.g. governance reforms, rehabilitation efforts, etc.). This Report further concluded that:

The so-called Gifford Farm Lands provide a valuable physical barrier separating and, in effect, containing the industrial activities of the Port of Oshawa to the west from the environmentally sensitive marshlands to the east, known as Second Marsh.

The City should be mindful of the importance of the buffer-zone role in preserving a balanced waterfront when considering the possible benefit of future development of these lands.⁴¹

Our client submits that when considering the FarmTech’s proposal, the RA’s should be equally mindful of the “buffer-zone role” played by the presently undeveloped subject lands, particularly since they lie immediately to the west and south of portions of the SMWA.

On a more fundamental level, our client submits that in carrying out their screening obligations under CEAA, the RA’s should have regard for, and comply with, overarching policy commitments made by the Government of Canada in relation to wetlands protection.

For example, the *Federal Water Policy* states that “the federal policy is to conserve and enhance Canada’s wetlands through short- and long-term actions”, such as “reviewing and seeking to minimize the negative impact of federal policies, programs and activities on wetlands” and “encouraging appropriate land-use practices, integrated land and water resource planning, and application of environmental assessment processes and practices to mitigate undesirable effects on existing wetlands.”⁴²

Similarly, in the *Federal Policy on Wetland Conservation*, the Government of Canada commits to “promote the conservation of Canada’s wetlands to sustain their ecological and socio-economic functions, now and in the future.” Among other things, this Policy states that the federal government will strive to achieve “maintenance of the functions and values derived from wetlands throughout Canada”, and ensure “recognition of wetland functions in resource planning, management and economic decision-making with regard to all federal programs, policies and activities (emphasis added).” In addition, this Policy expressly commits “all federal departments to the goal of no net loss of wetland functions: (i) on federal lands and waters; (ii) in areas affected by the implementation of federal programs where the continuing loss or degradation has reached critical levels, and (iii) where federal activities affect wetlands designated as ecologically or socio-economically important to a region.”⁴³

⁴¹ *Ibid.*

⁴² *Federal Water Policy* (1987), Policy Statement 10: Wetlands Preservation.

⁴³ *Federal Policy on Wetland Conservation* (1991), pp.5-7.

In light of these important federal policy commitments, it is submitted that the RA's in this case must ensure that the federal funding program for ethanol facilities is not implemented in a manner which impairs or threatens the wetland functions and long-term sustainability of the SMWA, particularly given the alarming loss of Great Lakes wetlands to date. Put another way, a departmental funding program designed to assist ethanol facilities cannot trump the overriding policy commitment of the Government of Canada to safeguard significant wetlands such as the SMWA.

In our opinion, the easiest and most effective approach to achieve this result is to simply avoid funding the FarmTech project at its present waterfront location beside the SMWA. Not only would this avoidance strategy advance the public interest by protecting the SMWA, but it would also be consistent with the above-noted federal policy statements as well the federal commitments to sustainable development and the precautionary principle, as reflected in the preamble and purposes of CEAA.

PART III – SUMMARY AND CONCLUSIONS

For the foregoing reasons, our client submits that:

1. Based on the screening level EA documentation submitted by FarmTech to date, there is insufficient evidence to conclude that after taking mitigation measures into account, the FarmTech project is unlikely to cause significant adverse environmental effects.
2. To the contrary, after taking mitigation measures into account, there is good reason to believe that the FarmTech project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances.
3. In the alternative, there is considerable uncertainty about whether the FarmTech project is likely to cause significant adverse environmental effects, or whether such effects can be justified in the circumstances. Similarly, there are considerable public concerns about the FarmTech project. Thus, this matter warrants a referral to a review panel under CEAA if the RA's do not otherwise undertake a course of action under subsection 20(1)(b) of the Act.

In particular, our client submits that the Screening Report prepared by the RA's should conclude that:

- FarmTech's screening level EA documentation does not satisfy the screening requirements of CEAA or AAFC's own EA guidelines for screening ethanol facilities;
- the data gathering, modelling and analysis within the screening level EA documentation is generally incomplete and inadequate for the purposes of identifying and evaluating baseline conditions, environmental effects, and cumulative effects;

- numerous conclusions within the screening level EA documentation regarding environmental effects are not technically sound, scientifically defensible, or properly supported;
- the screening level EA documentation has failed to demonstrate that the likely environmental effects can be fully mitigated or contained on-site;
- the screening level EA documentation fails to prescribe an appropriate follow-up program to monitor environmental effects and to verify the assumptions and predictions made by the proponent; and
- the screening level EA documentation has failed to demonstrate any compelling need for this project to be located at the proposed waterfront location, and has failed to identify and evaluate alternative (and less risky) locations.

In our client's view, these are fundamental deficiencies that cannot be rectified by merely requiring FarmTech to prepare and file an addendum report.

Moreover, in the absence of adequate justification for the FarmTech project at the waterfront location, our client concludes that it is not in the public interest for the RA's to provide financial assistance to enable the project to be carried out in close proximity to the SMWA. Simply put, if there is no demonstrable need for the FarmTech project at this sensitive location, then it is not in the public interest to incur the risk of environmental harm within the SMWA by funding the project.

In closing, our client submits that not only would a funding refusal by the RA's make sound environmental sense, but it would also safeguard the millions of dollars in public, corporate and private funds invested to date in the restoration and protection of the SMWA.

We trust that these comments will be taken into account as the two RA's prepare their Screening Report in relation to the FarmTech project.

Please direct all future notices or correspondence regarding this matter to the undersigned, and please contact me if you have any questions about this preliminary submission.

Yours truly,

CANADIAN ENVIRONMENTAL LAW ASSOCIATION



Richard D. Lindgren
Counsel

cc. Hugh Peacock and Brian Brasier, FSM