



TOWN OF HINTON REQUEST FOR DECISION

DATE: August 12, 2015

TO: **REGULAR MEETING OF COUNCIL OF AUGUST 18, 2015**

FROM: Wendy Jones, Director of Planning and Development

REVIEWED BY: Denise Parent, Director of Corporate Services

APPROVED BY: Mike Schwartz, Town Manager

**RE: Alberta Innovates – Energy and Environment Solutions
– Geothermal Energy Development in Alberta**

Recommendation:

That Council approves commissioning the study in partnership with the University of Alberta and Alberta Innovates and other participating municipalities and invests in Hinton specific for a cost not to exceed \$90,000.

Concluding Statement

Council directed Administration to provide a Letter of Intention by August 1, 2015 with details worked out on either full or partial partnership and bring the matter back to Council for a decision to proceed forward with the proposal.

Conformance of recommendation to existing laws and Hinton Council plans

Conforms with:	Yes/No/Partial	Comments
Municipal and Provincial Laws	N/A	
Community Sustainability Plan	Yes	Respecting the natural environment and resources by meeting the needs of the present without compromising the long-term viability for future generations and actively pursuing opportunities for diversification. Providing proactive leadership through governance.
Municipal Strategic Plan	Yes	Growing and diversifying while attracting new investment and expansion of current enterprise.
Long Term Capital Plan or Adopted budget	Yes	These are funds are not budgeted for in 2015. It is proposed that Council approve the funds to be taken from the Automatic Traffic Enforcement (ATE), reserve and the Council Contingency Fund.

Background / Introduction

In a Standing Committee of Council on June 23, 2015, Jonathan Banks, PhD Research Associate with the University of Alberta by way of delegation presented to Council a proposal that identified the

opportunity to participate in a study that would seek to determine the volume of energy available through geo-thermal energy. Thermal energy is extracted from water and is used directly as heat or converted to electricity. The presentation identified that Hinton is sitting on top of the best geothermal properties in Alberta and that there are ten identified reservoirs in Alberta and five are located around Hinton.

To commission the study and determine the volume of thermal energy, Mr. Banks identified the cost is approximately \$129,000. The project could start in January, 2016 and is estimated to take one year to complete the report and present the findings.

At time of the presentation, Mr. Banks identified that he was in the process of presenting the opportunity to surrounding municipalities to participate in the study. The options presented are:

1. If one municipality funded the entire study (estimated cost of \$129,000), the project would be tailored to that specific municipality. The University of Alberta would fund one-half share at ~\$65,000 with the municipality funding an equal share of ~\$65,000.
2. If more than one municipality funded the entire study, the project would remain with one-half share being fund by the University of Alberta at ~\$65,000 with the remaining `65,000 being shared amongst the participating municipalities. (Estimated ~\$20-25,000.)

Administration in communication and follow-up with Mr. Banks reported that Grand Prairie County has committed to participating for ~\$20-25,000. The Town would be able to participate for the originally proposed \$20~25,000. (There remains the possibility of one other municipality considering the proposal).

The deliverables for participating in the study with other municipalities are:

1. A 3-D picture of all geothermal reservoirs in our area (5 in total)
2. A calculation as to how much total energy (GWh) is available; and
3. A predication as to how much total power can be produced (MW)

This would be accompanied by an economic, environmental and regulatory assessment. The project would remain on schedule to start in January, 2016.

Since the initial presentation another option has been presented. Hinton can invest in the above study for ~\$20-25,000, obtain that information and fund an additional ~\$65,000 to commission a study specific of the 5 reservoirs starting as early September, 2015 and completed in January, 2016. This would result in all of the work above being completed and the Town would obtain the following information:

1. Identify the best sites and end-users
2. Create reservoir production models for one or more of the best sites
3. Source and price major power plant components
4. Create a complete financial pro-forma for the operation of a demonstration plant.

Upon reaching this point, Hinton would be ready to drill and be about 18-24 months away from having a working plant.

It has further been identified that by commissioning this study there is opportunity to apply for \$25,000 grant through the Natural Sciences and Engineering Research Council of Canada. The grant will be followed up should Council move forward with participating in the study.

Options

Council could:

1. Accept to commission the study in partnership with the University of Alberta and Alberta Innovates and other participating municipalities for a cost of ~\$20-25,000.
2. Accept to commission the study in partnership with the University of Alberta and Alberta Innovates solely and focus its findings to specific to Hinton for a cost of ~\$65,000.
3. Accept to commission the study in partnership with the University of Alberta and Alberta Innovates and other participating municipalities and invest in Hinton specific for a cost of ~\$85,000-90,000.
4. Refer the Request for Decision to a Standing Committee meeting for further discussion.
5. Choose not to proceed with any of the above.

Funding to commission this study will be absorbed by the Council Contingency and the Automatic Traffic Enforcement reserve.

Administration Assessment of Options and Conclusion

Council's strategic plan defines establishing opportunity for growth and development in Hinton. An opportunity to investigate utilizing a natural resource and converting same to energy has been presented and cannot be further evaluated without undertaking an initial capital investment.

Administration supports commissioning the full study with the University of Alberta and Alberta Innovates – Energy and Environment Solutions and other participating municipalities for the 10 reservoirs and further investigation into the 5 reservoirs surrounding Hinton.

In the simplest of terms, if we don't invest we will not know what opportunity exists or is lost. If the results are positive, we have new avenues and opportunities to explore. If the results are not favorable, we have gained valuable knowledge and learning's that can be used to support future decision making.

Town Manager Comments

As represented in the report this is an opportunity to explore the possibilities of Geo Thermal Energy in our region. It also represents a partnership opportunity that may lead the way to subsequent opportunities. Unfortunately opportunities like this require upfront investment that may or may not pay off upon completion. The question becomes are we interested in investing municipal dollars into this exploration?