



	The Energy-Culture Connection:Iceland	Monitor/Feedback
Created by	Concepcion Marin	
Schools Participating	Ingunnarskoli and Nordlingskoli (Reikjavik-Icelandia) Craig Middle School- Indianapolis (USA)	
Subject and grade level	Science, Social Studies, Spanish Language Arts, Technology 7 th grade	
State Standards addressed and related units	<p>Indiana's Academic Standars: Science:6.1.1,6.1.6,6.1.9,6.2.9,6.3.11,6.3.12,6.3.13,6.3.14,6.3.15, Social Studies:6.1.1,6.1.6,6.1.9,6.2.9,6.3.11,6.3.12,6.3.13,6.3.15,6.3.16. Language Arts:6.2.3,6.2.4,6.3.1,6.3.7,6.3.8,6.5.4,</p> <p>In 6th Grade Science students learn about matter and energy, energy resources, Earth and the processes that shape it, technology, communication skills ,inventions and the world in spatial terms.</p> <p>In 6th Grade Social Studies students learn about Historical Knowledge, Places and Regions, Physical Systems, Economics, Environment and Society, Individuals, Society, and Culture.</p> <p>Students Learn a multicultural lesson about how energy sources shape civilizations</p>	
Technology Equipment	<p>Access to Internet and library research materials Assorted presentation and desktop publishing software Assorted art/craft supplies Globe or world maps Relief maps showing geographic features of the Atlantic and Pacific ocean floors, available online at: www.nationalgeographic.com/resources/ngo/maps/physmaps/pacificcb.html and www.nationalgeographic.com/resources/ngo/maps.physmaps/atlanticcb.html Photographs of island types taken from space http://earth.jsc.nasa.gov/categories.html Encyclopedias, textbooks Videos, interviews and cassette recordings:Video "Iceland's Favourite Places" www.profilm.is Use available technology, electronic mail and CD -Roms Use a variety of Adobe software products- Adobe Presenter and Acrobat Connect (formerly Macromedia Breeze) to communicate with other schools in Iceland eTwinning (See attachment) www.northiceland.com</p>	
Activity Type	Technology Hands on	

<p>Introduction</p>	<p>The students will have a “Big Question” like “Why does Iceland’s geology that makes its landscape so dramatic also provides a measure of energy independence?” and through active exploration the students will be able to use critical, logical, and creative thinking to answer questions of personal interest about Iceland. I want for the students to choose a course of action and carry out the procedures of the investigation. They need to gather and record data through observation and instrumentation to draw appropriate conclusions about Iceland and its sources of energy through the history of this specific area of the world. We will start with a hands-on experience and later make sense of the experience. I need for the students to be actively engage, to explore, to explain and elaborate and then be evaluated.</p> <p>This interdisciplinary unit will encourage the students to use communication, manipulation, and problem-solving skills to increase their awareness and interest in Science and Social Studies as part of every society and culture. Success in learning can best take place when the students are actively and thoughtfully immersed in the learning process, and when we have authentic learning in mind.</p> <p>Some of the behaviors that I expect to observe are:</p> <ul style="list-style-type: none"> • Students acting as researchers and investigators. • Students taking responsibility for their own learning. • Students working in groups • Students using higher-order thinking skills. • Students showing interest in science and social studies. • Students making decisions as to how to communicate and present their work. • Students demonstrating their science and social studies understandings and abilities in a variety of forms. <p>The students will be evaluated on: Knowledge, comprehension, application, analysis and synthesis of the interdisciplinary materials researched.</p>	
<p>Problems</p>	<p>eWtwinning is only for European countries. I emailed the Ministry of Education in Iceland and they gave me the e-mail for the school</p>	

<p>Overview</p>	<p>principals.</p> <p>This unit combines Earth Science, Historical and Physical Features, Reading and writing broad fields. Students will acquire an understanding of Iceland’s Land Formation, Geography, History, culture and how technological inventions affect people and cultures through the ages, and will compare it with the situation in the USA.</p> <p>In the unit, students will evaluate economic, political, and social impacts that are leading USA to a near critical energy situation, and how other countries in Europe, in this case Iceland, are coping with their own energy resources. The students will learn about Iceland’s methods of energy production, they will research different energy resources and determine the differences between fossil fuels and renewable resources. By doing so, students will gain and understanding of the different trade offs that are made at many levels, from personal to national, as people grapple with tough issues. The lesson focuses on how decisions are made on many levels and how those decisions involve trade-offs of economic costs and social values. The students will need to predict the impact of using alternative energy sources in the future</p> <p>While students perform their analysis, they have to keep in perspective other unspoken factors that are impacting the situation: the world’s high reliance on fossil fuels limited resources, relatively modest funding for research into alternative fuels and energy efficiency; current legislation in the USA that prohibits oil exploration in sensitive ecosystems, and our nation’s increases reliance on foreign nations for our fossil fuel needs.</p>	
<p>Time Suggested.</p>	<p>The unit lesson can take 5 or 10 days. Estimated Time: 50 minute class periods plus additional time for eTwinning classroom connections and presentation to parents and administration</p> <ul style="list-style-type: none"> • eTwinning is part of the European Commission’s Lifelong Learning Program. It is a framework for schools to collaborate on the internet with partner schools in other European countries. • It provides school collaboration in Europe through the use of information and communication technologies by providing support, tools and services to make it easy for schools to form short or long term partnerships in any subject area. • www.etwinning.net/ww/en/pub/etwinning/index2006.htm 	

Objectives

Objectives:

Students will demonstrate their ability

- To show on a world map where Iceland is located
- To explain the different types of terrain Iceland is made up of like it is a volcanic island and how volcanic processes differ at convergent and divergent plate boundaries. Recognize basic types of environments and describe basic landforms and climate zones
- To Investigate some parts of Iceland's culture and basic facts
- To Acknowledge that Iceland produces the most electricity per capita in the world without using coal, oil, gas or nuclear fuel in its power plants.
- To research what Energy Resources do power plants in Iceland use? What are the many uses for hot water? What new source of energy is Iceland planning to use? How would you define renewable energy? What is the significance of using renewable energy resources? To identify advantages and disadvantages of the assigned resource
- Identify goods and services necessary to the economy
- To predict which type of resources they think would be better to use and why, and to think if renewable resources will become more important in years to come.
- To write essays about how the environment and personal lifestyle would be impacted by the change in energy resources
- To navigate the internet to utilize relevant resources on Iceland
- Demonstrate a basic understanding of the country by interacting with particular educational websites and students from Iceland
- Apply previous knowledge about Iceland while on the computer
- Draw conclusions based on their technology research, and apply them to their classroom studies of Iceland

To research major fuel corporations to learn what research, if any, they are conducting on alternative energy sources and/or e Common essential Learning Foundational Objectives Which Should Be Emphasized:

Common Essential Learning Foundational Objectives Which Should Be Emphasized

1. Provide evidence of Iceland location and physical features.
 - Locate on a World Map, Iceland. Read and interpret basic maps to locate a geographic location
 - Explain how Iceland came to be and the types of people that live there.
 - Know and understand how the earth's physical and human systems are connected and interact. I want the children to learn how Iceland received it's name and how it is related to the world (Sagas)

- Knows and understands how to apply geography to interpret the past. I want the children to learn how the past of Iceland is related to how it was named and created and some of the occurrences that have happened on the country.

2. Describe the History of Iceland and its relationship with North America

- Christopher Columbus marks the starting point of the mass migration of Europeans to America. However, who was the first European to set foot in the New World?
- Exploration of new lands west of Greenland by Leif Erikson and posterior arrival to North America
The first European settlement in N. America

3.Scandinavian inventions and contributions to the progress of civilization

- Nordic scientist and inventors have contributed enormously to the progress of civilization with inventions we use daily and that we could not live without them like:
- Ball bearings, Celsius thermometer, coca-cola bottle, dynamite, forestry and paper, healthy foods, gas turbine, pacemakers, paper clips, sound for the movies, telephony, tetra pack, zippers

4.Sweden and Iceland will be the first oil-free countries in the world by 2020

- Will they make it?
- Good for the environment, good for the economy.
- Commitment to a cleaner environment by these countries
- Possible environmental problems that they have: corporations searching for cheap energy and destruction of ecosystems
- What can be done to solve them?
- Is theirs a path to follow?

5.The U.S faces major energy problems

- What are the major factors that caused the crisis?
- What evidence suggests that the U.S is having major energy problems?
- What is the difference between “renewable” and finite” energy?
- Why do you think North Americans consume so much energy?
- Should the U.S. focus on oil exploration to meet its energy needs?
- What are the social impacts of these decisions?
- What are the possible economic impacts?
- How does politics impact the situation?
- What steps can the U.S take to remedy this crisis?
- Should we turn to renewable energies to meet our power needs?

	<p><u>6. Recognize how inferences are made.</u></p> <ol style="list-style-type: none"> 1. Explain how History and Scientific evidence can be used to make inferences about different countries and cultures. 2. Explain and write how inferences about Iceland Energy are made. 	
<p>Procedure</p>	<p>Pre-lesson or sponge activity: introducing Iceland (day 1)</p> <ul style="list-style-type: none"> • I will ask the students to write down any words that come to their minds when they hear the word Iceland. What exactly is Scandinavia? What are the Nordic Countries? Is there any difference? • Brainstorm where do they think it is located in the world, in which continents, northern, southern, eastern or western part of the continent?, which oceans surround Iceland • Why do you think it got its name? • Locate Iceland in the world map and ask Why it is located in the North, but not near the Arctic circle? <p>Day 2 and 3:</p> <p>We are located and we see in the map different land formations. The students see that Iceland is an island but, what kind of island-coral, volcanic?</p> <p>Students need to investigate using the Internet what kind of island is Iceland, describe the island geography, explain when and how the island formed and also explain how the species has adapted to life in the island.</p> <p><u>Starting Questions:</u></p> <p>If global warming continues, what effect do you think it will have on Iceland? On the plants and animals living in the island? How can you explain the difference in diversity in such a small island? What are three geological features that account for most volcanoes on Earth? How can you explain boiling water coming from the ground? How can sand be black and not polluted? Why has Iceland got so many waterfalls?</p>	

Rubric will be attached

Day 4:

Let's look at the past and ask our friends in Iceland (contact via webcam the other school)

While they are visiting Iceland, they should know about Icelandic names. The students should ask the students in Iceland their names and ask them questions relevant to their names to get familiarize with them.

Ask the Icelandic students,

Who was Leif Erickson and what do they know about sagas, if they know anything? How can we compare the sagas to our story telling?

Why is Leif Erickson related to the history of North America?

What do the people in Iceland think of this relationship? Are they aware? Do they celebrate Erickson day as we celebrate Columbus Day?

Do they call Iceland the same as we do or do they have another name in Icelandic?

Where do they think this language originated?

Why is Iceland on two continents?

Looking at the past, present and future, what kind of inventions do you think people from Scandinavia provide to the world?

Day 5:

Once we are situated in relationship to Europe and the world:

You and your group will be responsible for researching and introducing information on how to prepare for an exchange study period abroad in Iceland during the summer or a back to back exchange program.

What features of country information, studying abroad, culture shock and cross-cultural communication will you present to your fellow students to prepare them for their time abroad?

you think people from Scandinavia provide to the world?

Each member of the group will have a specific topic to research, basic country information, cultural differences, language spoken using Internet or any resources available.

Before we start searching individually, brainstorm as a group and prioritize your questions thinking about the ones that will be most important for the topic.

After preparing your individual topics, you must decide as a group, based on the information learned from the links, which questions do you want to ask the students in the other school in Iceland about stereotypes, truths, myths etc, and how are you going to prepare a report, brochure, and a persuasive letter to parents and administration on cultural considerations when leaving to study in Iceland.

Please do not write only facts, think what it is important for you and for your parents to know under the circumstances. What are the difficulties, possible problems and why they should send you to study abroad.

Day 6

Geologically Iceland is the world's youngest country. Sitting on top of a fault in the Atlantic Ocean, this island nation is the result of thousands of years of volcanic eruptions. The people who live there have develop a culture as unique as their island home.

I will have a set of pictures and a video for the students to browse and watch. After the activity, I will ask the students to get together and ask themselves questions that they want to be able to research and ask the Icelandic students that still were not answered last week.

Day 7

With all their basic questions answered, the students need to prepare a report for an American scientist sent by the American government that is going to work in a lab and in the field in Reykjavik researching new energy resources used in Iceland that can be implemented later in the USA.

Overview:

The students need to research and discuss:

- Their ideas and opinions related to energy conservation and the efforts that could directly impact their school experience
- Read articles related to energy costs and consumption
- Use computation skills to determine the economic effects of rising energy cost on average households in Indianapolis and in Reikjavik
- Participate in a class discussion of key terms related to energy including fossil fuels, renewable and non-renewable resources, greenhouse gasses, and global warming
- Teach parents and administration about specific alternative/renewable energy sources, advantages and disadvantages that can be use in the community using a model, experiment, diagram or multimedia display.

1. Questions to start talking among students could be:

1. How would you feel if you were no longer able to go on school field trips or participate in extracurricular activities because of the high cost of transportation
2. How would you feel if we go only 4 days with longer hours,

3. How would you feel about having fewer bus routes resulting in longer commutes?
4. How would you feel about having less days in school but longer hours and few more weeks in school during summer?
5. How would you think that learning will be affected if the classroom temperature is kept lower?

2. Once we have discussed the questions and we have some answers from students in both countries,

- the students will pretend to be 15 year old or 18 (in Europe) and calculate how much gas they will need in a month and the cost (gas is more expensive in Europe)
- How much was the cost of heating the house and the school last year, and how much it is now? What impact is causing the raise in your family and in the school?
- The students will create Venn Diagrams and data tables to look at data alike and differences.
- What are the students and the administration in Iceland doing at home and at school to lower the expenses? What are we doing here?

3. Students will use the Internet and resources available to research renewable and non-renewable resources and come up with an answer to

- The name of the alternative energy source. For Iceland I would like the students to focus on hydro and geothermal reserves.
- Description
- Advantages/disadvantages
- Reasons why we should or not be using the energy source
- Suitability for Indiana or Iceland
- Location of place where it is currently being use
- Will people live near the energy sources or are there any long term health hazards related to this form of energy?
- Which do you think need to be considered for our future energy needs
- If all of these resources are available, why aren't they being more widely used to power our country? Cost, reliability, access?
- What are some of renewable resources that they are using in Iceland that generate power for vehicles, schools, homes etc.

<p>Wrap up/Culminating Activity</p>	<p>4. Now that the students have a basic understanding of the differences between renewable and nonrenewable resources and some of the U.S energy needs and consumption, the students will be paired up or work in groups trying to find ways to solve the hypothetical energy crisis being faced by the U.S , how we can meet the demands of the population without an extremely high price or further damage to the environment</p> <p>5. Once research is completed, students must create models for a Energy Fair, and a multimedia presentation for the community. Students should use their persuasive speaking skills to convince classmates and community that the sources of energy/power are better than the current fossil fuels being use, what can we do to cut our own energy consumption, what are we doing or can do to conserve energy? We can invite to join us a panel of local energy experts to discuss our findings and let us know how accurate or wrong they can be.</p> <p>6. The students should create bpamphlets, daily in school TV announcements, skits etc and start an energy awareness campaign in the school to encourage all students to learn more about energy conservation and alternative energy sources</p> <p>.As a culminating activity, students will be ask to make an oral presentation to the other classes and to write a report on how Science, History and Technology are all related and are the bases for society and culture.</p> <p>Personal and Social Values and Skills: In a project like this students work cooperatively with others. They learn how to research individually and later share responsibility for the work done. Also the students interact with students from another country, continent, different language, culture and perspectives.</p>	
<p>Further questions for discussion</p>	<ul style="list-style-type: none"> • How the culture of the people studied changed with the introduction of the alternate energy source? • What do Costa Rica and Iceland have in common? 	
<p>Evaluation/assessment</p>	<p>Assesment: The students will be evaluated on: Knowledge, comprehension, application, analysis and synthesis of the interdisciplinary materials researched Past scientific knowledge should be viewed in its historical context and not be degraded on the basis of present knowledge</p> <p>Informal and formal Assessment:</p> <ul style="list-style-type: none"> • Anecdotal records. • Informally observing the children during the presentation • Discussions held with the students about Iceland and their 	

	<p>energy resources</p> <ul style="list-style-type: none">• Pre-assessing students informally by having them write what they already know about Iceland• A rubric listing specific criteria.• Independent student investigations.• Student Portfolio interpreting progress.• Oral Presentation● Written report with illustrations, slides, pictures, power point etc <p>See Rubrics</p>	
--	--	--

Rubric A

Report Rubric

Criteria	Novice Score 2	Apprentice Score 3	Accomplished Score 4	Exceeds Standards Score 5
Purpose	May only state topic and rarely convey author's intent.	States a focus, but may not unify report. Focus may be general.	The reason you're writing is stated or implied. Focuses your report.	Meets criteria listed for Accomplished and uses strategies not always thought of for reporting.
Organization	Shows little or no evidence of purposeful organization.	Writing uses a predictable pattern and contains a clear beginning, middle and end.	Writer stays on topic and does not jump around. Has a catchy opening, body gives information and ending summarizes points.	May show unusual pattern to present information.
Stance	Writer does not seem to be concerned with informing readers.	Stance is one of wanting to give information but may not be most important to topic.	Writer knows the topic and shares information that is important to topic.	The writer may reflect on the meaning of the information.
Audience's Needs	Seems unaware of reader's concerns or needs.	Sense of audience in vague.	The reason and importance of writing is clear.	Shows exceptional awareness of readers' needs and concerns.
Coherence	May lack coherence; no transitions.	Uses some transitions to move from topics.	Writing makes sense when it moves from one topic to another.	May use an unusual pattern or framework in which to embed info.
Elaboration and Details	Random, disconnected, and/or unfocused opinions with some scattered facts.	General information that is not supported with concrete examples. Some info may be irrelevant.	Writing cites references as needed, Writing provides a depth of information.	Writer is selective in presenting information. Including relevant information and excluding irrelevant information.

Rubric B

Travel Brochure Rubric

Criteria: Incorporating gained knowledge of a particular European country into a thoughtful and informative project.	Still in Indiana (Does not achieve the standard)	Exploring Iceland (Nearly Achieves the Standard)	World Traveler (Achieves the Standard)	Travel Writer Extraordinaire (Achieves the standard with Honors)
Accuracy 1. Contains introduction to the country. 2. Contains a map of the country. 3. Contains five major tourist attractions. 4. Contains information on currency exchange. 5. Highlights places to stay (hotels, cities, towns) 6. Contains pictures. 7. Highlights important events for the traveler to be aware of off. (festivals, wars, elections, etc.)	Does not answer questions accurately or fails to address questions. Missing essential facts and details.	Answers at least three questions. Answers are vague or in need of more detail. No specific examples are given.	Answers all seven questions. Gives accurate detail and complete information on the country. Provides appropriate information for someone traveling to their chosen country.	Answers all questions with high quality, extra attention to detail. Information is current and provides a traveler with excellent assistance to travel in the country of choice.
Appearance: 1. How readable s the brochure? 2. Is it easy to understand? 3. Is it creative?	Brochure is sloppy and hard to read and understand.	Brochure is understandable, but lacks the appropriate wording. Missing creative elements.	Brochure is easy to read and understandable. It is creative and informative.	Brochure is easily readable and understandable. Superb creativity allows us to look at the country in a "new light".

Rubric C

Presentation Rubric

Demonstrates his/her understanding of concept through:	Just Starting Out (Below the Standard)	Experience the Culture (Nearly meets the Standard)	Culture Guru (Achieves the Standard)	Hosts Travel Show (Exceeds the Standard)
<p>Presentation Style</p> <p>1. Is the presentation well thought out?</p> <p>2. Does the presentation give correct information?</p> <p>3. Can presenter be heard well?</p> <p>4. Does the presenter make eye contact?</p>	<p>Presentation demonstrates poor planning and preparation.</p> <p>Presentation gives false, incorrect and/or appropriate information.</p> <p>Presenter speaks in a voice too soft to hear</p> <p>Presenter never makes eye contact</p>	<p>Presentation is nearly developed but lacks the extra initiative.</p> <p>Presenter gives required information but has some inaccuracies.</p> <p>Presenter make speaks in a voice that is difficult to hear at times or directs voice in a specific direction</p> <p>Presenter makes eye contact with the audience in an infrequent manner.</p>	<p>Presentation is well developed. Presenter uses interesting and creative ways to keep the audiences' attention.</p> <p>Presenter gives the correct and accurate information.</p> <p>Presenter speaks in a voice that is easily heard and speaks to an entire audience.</p> <p>Presenter makes constant eye contact with audience.</p>	<p>Presentation is imaginative, interesting and insightful to watch.</p> <p>Correct and accurate facts are presented. Exceeds the required information.</p> <p>Speaks in a clear, concise tone.</p> <p>Makes constant eye contact with various people.</p>
<p>Appearance and Quality</p>	<p>Presentation is sloppy and unprepared.</p>	<p>Presentation is understandable but hard to follow. Missing essential elements.</p>	<p>Presentation is easy to understand, creative and informative. It is presented in an effective manner.</p>	<p>Presentation is easily understandable and has superb creativity. Extra information on culture is included.</p>
<p>Presentation Content</p>	<p>Presentation contains none of the required elements.</p>	<p>Presentation contains few (4-5) of the required elements.</p>	<p>Presentation includes all required elements.</p>	<p>Presentation has all required elements and includes additional insightful information.</p>

Rubric D

Learning Advise

The Report and Presentation should include the following information.

1. A general overview of the country

Containing information such as:

- Capital
- Location
- Map
- Physical Geographic Features
- Political Geographic Features

2. A description of the culture of your chosen country:

Containing information such as:

- Type of Government
- Type of Language
- Leader
- Religion
- Foods
- Currency
- Traditions
- Rituals
- Economic Systems
- Industries
- Type of Homes
- Climate
- History
- Population

3. You may also discuss other important events, activities, attractions or something you find interested in exploring. Please see Mrs. Marin to discuss what they are but feel free to include them.

Rubric E

Assessing Your Work

Student Name-----

	Exceeds Expectations	Meets Expectations	Does Not Meet Expectations	Score
Points Earned	3	2	1 or 0	
Factual Information	All information correct	Most information correct	Little or not information correct	
Argument	Clear argument	Adequate argument	Inadequate or missing argument	
Scientific Context	Excellent scientific context/development	Adequate scientific context/development	Poor sense or missing scientific context/development	
Variety of Sources	Excellent variety of sources; excellent use of relevant materials	Adequate number of sources; adequate use of relevant materials	Inadequate number of sources, inadequate use of relevant materials.	
Discussion/Detail	Excellent discussion/detail	Adequate discussion/detail	Vague/shallow discussion/detail	
Depth of Insight/Analysis	Impressive depth of insight/analysis	Adequate depth of insight/analysis	Unexceptional insight/analysis	
Form and Style	Effective introduction	Adequate introduction	Weak or missing introduction	
Transitions	Smooth transitions	Adequate transitions	Awkward or missing transitions	
Organization	Clear organization	Adequate organization	Confusing or weak organization	
Spelling and Grammar		Correct grammar, no spelling mistakes	Incorrect grammar; many spelling mistakes	
References in footnotes and Bibliography		Correctly credits references	Incorrectly credits references	
Conclusions	Effective conclusion	Adequate conclusion	Weak or missing conclusion	
			Total Score	

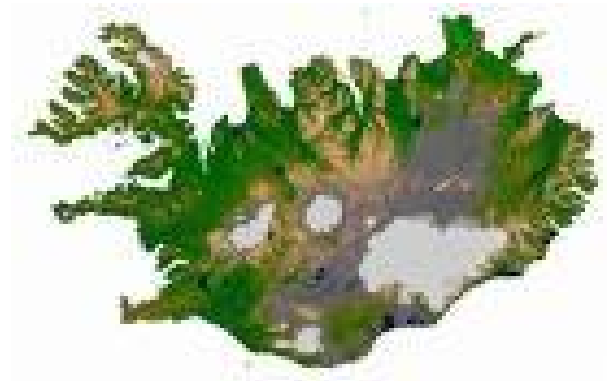
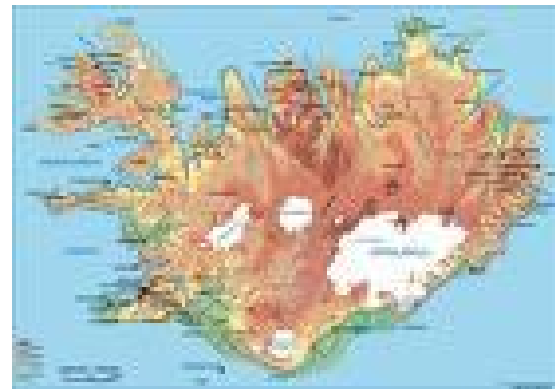
Rubric F- Pictures



Iceland Flag



Iceland





Leif Erikson



Keflavick Airport

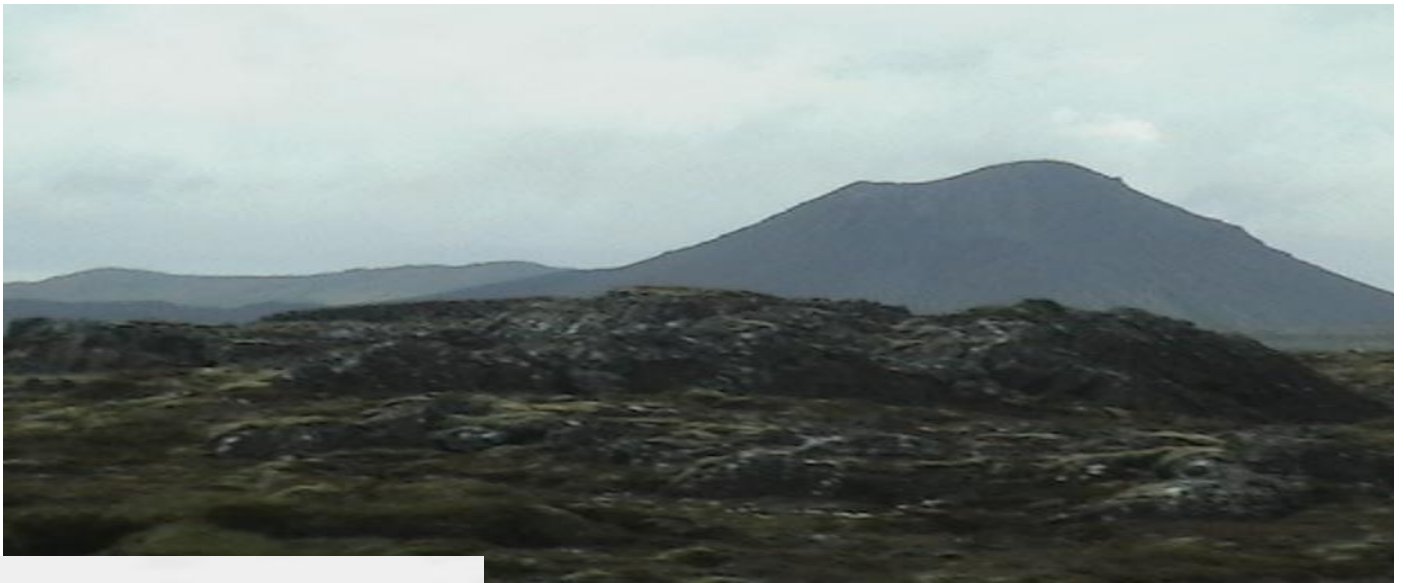


Reikjavik



Lava and volcanoes







Trolls



Troll field



Lava and Earth Ridges





Iceland not Mars





Grass Plateau

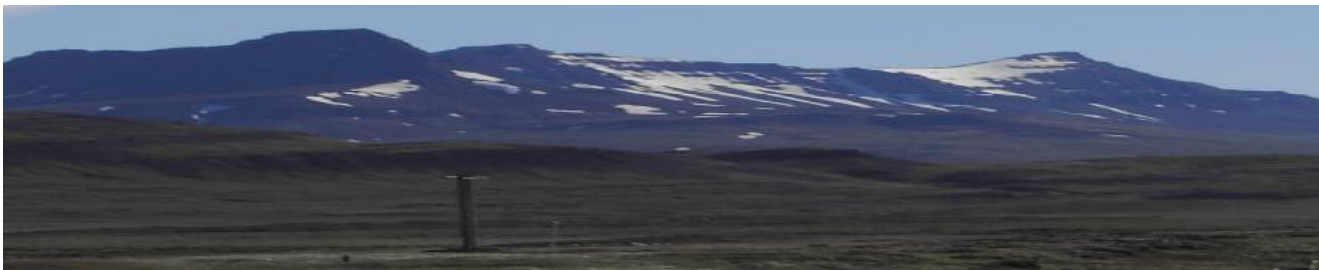




Glaciers



Erosion



Geothermal Energy- Nesjavellir Power Plant

www.or.is











Mountains and Glaciers



Blue Lagoon- Minerals and underground heat



Blue Lagoon



USA_URRSS Summitt Place



A very young country

