



1
00:00:02,560 --> 00:00:04,280



2
00:00:04,360 --> 00:00:07,080

>>Imagine living in a
modern metropolis

3
00:00:07,200 --> 00:00:08,800

full of opportunities,

4
00:00:09,240 --> 00:00:10,600

endless sunshine,

5
00:00:10,920 --> 00:00:12,520

Hollywood celebrities

6
00:00:13,520 --> 00:00:15,400

and fancy cars...

7
00:00:16,360 --> 00:00:18,760

That was the American dream.

8
00:00:19,720 --> 00:00:23,680

That was Los Angeles
in the early 1940's.

9
00:00:25,400 --> 00:00:29,040

But in the morning of
July 26 1943,

10
00:00:29,440 --> 00:00:31,560

in the middle of World War II,

11
00:00:32,240 --> 00:00:34,960

the sun didn't rise
over the city.

12
00:00:35,960 --> 00:00:39,840

A throat-burning noxious gas covered the sky.

13

00:00:40,880 --> 00:00:44,040

Entire city blocks faded away.

14

00:00:45,160 --> 00:00:50,400

A thick fog that made people's eyes sting and their noses run

15

00:00:50,880 --> 00:00:53,240

had taken hold of the city.

16

00:00:53,920 --> 00:00:56,040

They were under attack!

17

00:00:57,880 --> 00:01:00,320

Or so they thought at the time...

18

00:01:12,880 --> 00:01:21,720

■

19

00:01:21,760 --> 00:01:25,200

But the "attack" didn't come from the outside...

20

00:01:26,520 --> 00:01:29,080

Massive wartime production facilities,

21

00:01:29,160 --> 00:01:31,200

a high increase in population

22

00:01:31,280 --> 00:01:33,320

and the exhaust fumes of cars,

23

00:01:33,440 --> 00:01:35,800

combined with the geography

of the valley,

24

00:01:35,920 --> 00:01:38,680

made the city a trap
for air pollution.

25

00:01:42,880 --> 00:01:44,560

The day after the first event,

26

00:01:44,720 --> 00:01:47,120

city officials tried to
control the damage

27

00:01:47,200 --> 00:01:50,720

by restricting emissions from
power plants and industry.

28

00:01:53,000 --> 00:01:55,720

But, while these efforts helped
reduce air pollution,

29

00:01:55,880 --> 00:01:58,520

smog episodes
continued to occur.

30

00:02:03,080 --> 00:02:06,000

Scientists discovered that
volatile compounds,

31

00:02:06,120 --> 00:02:09,360

like the gases produced
due to evaporation of gasoline

32

00:02:09,360 --> 00:02:11,000

during the refining process

33

00:02:11,080 --> 00:02:13,040

and Nitrogen oxides generated

34

00:02:13,040 --> 00:02:15,240
during the combustion
inside car engines,

35

00:02:15,480 --> 00:02:19,680
both reacted with sunlight,
creating a highly toxic gas...

36

00:02:20,040 --> 00:02:21,160
...Ozone!

37

00:02:22,960 --> 00:02:26,960
And Sunlight isn't something
Southern California lacks!.

38

00:02:30,880 --> 00:02:33,400
But this wasn't a
localized phenomenon.

39

00:02:33,760 --> 00:02:38,240
Other US cities also experienced
high ozone concentration levels.

40

00:02:39,680 --> 00:02:41,960
These cases made society aware

41

00:02:41,960 --> 00:02:44,560
of the importance of keeping
track of emissions

42

00:02:44,720 --> 00:02:47,200
and lead politicians to
implement policies

43

00:02:47,320 --> 00:02:50,600
to improve the quality
of the air we all breathe.

44

00:02:52,320 --> 00:02:54,600
>>Air quality is a serious

global problem.

45

00:02:54,680 --> 00:02:56,320

More than 7 million people

46

00:02:56,320 --> 00:02:57,560

die per year

47

00:02:57,560 --> 00:02:58,720

due to the effects

48

00:02:58,720 --> 00:02:59,720

of air quality.

49

00:02:59,800 --> 00:03:01,200

>>There's many economies

50

00:03:01,200 --> 00:03:02,200

that are growing

51

00:03:02,920 --> 00:03:05,080

and what the United States

52

00:03:05,080 --> 00:03:06,840

has seen is that your
economy can still grow

53

00:03:06,840 --> 00:03:08,880

while your air pollution
levels are decreasing

54

00:03:09,080 --> 00:03:11,320

but it takes some effort
to do that.

55

00:03:11,880 --> 00:03:16,800

■

56

00:03:16,800 --> 00:03:19,640

The good news is that pollution levels around the world

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00:03:19,640 --> 00:03:21,160

are gradually decreasing.

58

00:03:22,200 --> 00:03:25,680

>>In fact, Air Quality trends have improved in the last decade

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00:03:25,680 --> 00:03:28,040

as a result of policies developed to reduce

60

00:03:28,040 --> 00:03:29,480

air pollution.

61

00:03:30,560 --> 00:03:32,160

>>Back in the 1950's

62

00:03:32,160 --> 00:03:35,280

Los Angeles had a really awful air quality problem.

63

00:03:35,520 --> 00:03:36,960

>>So when the Clean Air Act began

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00:03:36,960 --> 00:03:38,960

it was a commitment to cleaning up the air,

65

00:03:39,280 --> 00:03:41,440

but the actual legislation and the differences

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00:03:41,440 --> 00:03:43,400

took a long time to put into place.

67

00:03:43,560 --> 00:03:46,280

And so here in Asia we're at
the beginning of that process.

68

00:03:46,520 --> 00:03:49,560

>>These nations that
are still increasing

69

00:03:49,560 --> 00:03:51,400

in their standard of living

70

00:03:51,400 --> 00:03:53,160

and increasing their
pollution levels

71

00:03:53,360 --> 00:03:56,600

can learn from what's happened
in the industrialized nations...

72

00:03:56,800 --> 00:03:59,960

We can have a more rapid
decrease in pollution levels.

73

00:04:00,120 --> 00:04:03,160

>>Now we know how to put together

74

00:04:03,160 --> 00:04:05,280

effective policies to
control air quality.

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00:04:06,640 --> 00:04:09,680

>>Understanding that economic
growth and industrial development

76

00:04:09,680 --> 00:04:11,280

bring air quality problems

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00:04:11,280 --> 00:04:13,520

and knowing how to deal
with it in the future,

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00:04:13,720 --> 00:04:16,960

is vital for us to keep
progressing as a society.

79

00:04:17,760 --> 00:04:22,000

Now we have better tools, better
technology and more knowledge...

80

00:04:22,240 --> 00:04:24,920

We can act faster
and more efficiently

81

00:04:24,920 --> 00:04:26,600

to address pollution issues.

82

00:04:30,120 --> 00:04:33,120

>>KORUS-AQ is an international
cooperative field campaign

83

00:04:33,120 --> 00:04:36,160

between NASA and the
Korean National Institute

84

00:04:36,160 --> 00:04:37,480

for Environmental Research.

85

00:04:37,720 --> 00:04:39,440

>>Ministry of environment of Korea

86

00:04:39,440 --> 00:04:41,880

has put a great deal of effort

87

00:04:41,880 --> 00:04:43,480

into improving air quality.

88

00:04:43,640 --> 00:04:46,280

>>By working with our
Korean colleagues,

89

00:04:46,280 --> 00:04:49,760

we've been able to design a
campaign that is very specific

90

00:04:49,760 --> 00:04:51,840

to their knowledge of
the air quality problem

91

00:04:51,840 --> 00:04:53,240

for the past decades.

92

00:04:53,440 --> 00:04:55,000

>>And a joint venture with NASA

93

00:04:55,000 --> 00:04:58,600

has provided us with
many research opportunities.

94

00:05:00,440 --> 00:05:02,040

>>The air in our planet

95

00:05:02,040 --> 00:05:05,120

does not know of national
borders or countries.

96

00:05:07,840 --> 00:05:10,160

A worldwide effort is needed

97

00:05:10,160 --> 00:05:12,480

so that what we do
in the name of progress

98

00:05:12,480 --> 00:05:15,280

does not have a negative
impact on our health

99

00:05:15,520 --> 00:05:18,120
and helps preserve the
only home we know...

100
00:05:18,440 --> 00:05:19,400
Earth.

101
00:05:21,560 --> 00:05:24,320
>>KORUS-AQ combines
satellite type observations,

102
00:05:24,480 --> 00:05:27,120
with ground observations
and airborne observations

103
00:05:27,120 --> 00:05:29,040
to create the most complete
picture of air quality

104
00:05:29,040 --> 00:05:30,560
we've ever created.

105
00:05:31,280 --> 00:05:32,600
>>Explore with us...

106
00:05:32,800 --> 00:05:36,000
Take a deep breath and
join us on an expedition